



**Tweed Coast
Comprehensive Koala Plan of Management**

January 2015

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Published by

Tweed Shire Council
Tumbulgum Road
MURWILLUMBAH NSW 2484

PO Box 816
MURWILLUMBAH NSW 2484
Tel: (02) 6670 2400
Fax: (02) 66702429
Email: tsc@tweed.nsw.gov.au
Website: www.tweed.nsw.gov.au

For further information contact:

Senior Program Leader - Biodiversity Policy

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Anneliese Simke, Tanya Fountain, Scott Hetherington

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Acknowledgements

In consultation with the Tweed Coast Koala Advisory Group, Tweed Shire Council (TSC) engaged the services of Biolink Ecological Consultants (Dr Steve Phillips and Douglas Jardine) to prepare a Comprehensive Koala Plan of Management for the Tweed Coast. To this end, Biolink convened a number of workshops with key stakeholders and provided a draft of this Plan which was subsequently refined by Council's Planning and Natural Resource Management staff in close consultation with the Tweed Coast Koala Advisory Group.

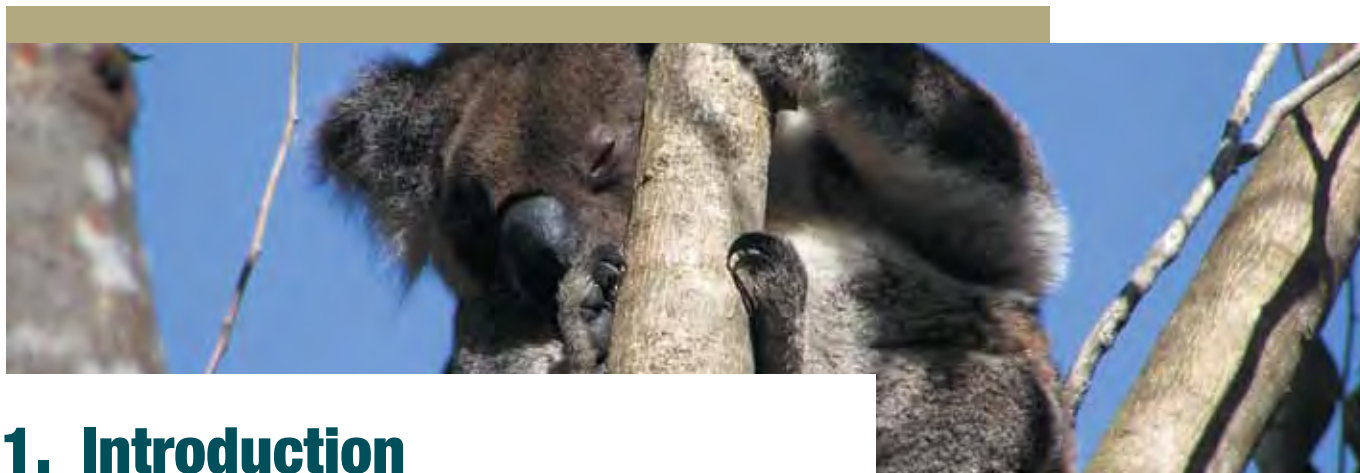
The Tweed Coast Koala Advisory Group included the following: Cr Dot Holdom (Chair to Sept. 2012), Cr Katie Milne (from Sept 2012), Dr Mark Kingston (TSC Biodiversity Program Leader, Chair from Sept. 2012), Sandy Pimm (TSC Biodiversity Planner to Sept 2012), Iain Lonsdale (TSC Planning Reforms Coordinator, from Sept. 2012), John Turbill (Office of Environment and Heritage), Steve Jensen (NSW Planning and Environment), Lorraine Vass (Friends of the Koala Inc.), Anita Mudge (Community Representative), Rhonda James (Community Representative), Ralph Kraemer (Community representative) and Jen Hayes (Team Koala Inc.).

Further input into the Plan was provided by Alan Goodwin (Office of Environment and Heritage), Zofie Lahodny-Gecso (Rural Fire Service), Angus Underwood (Byron Shire Council), Dr Damian Licari (Lismore City Council), Tamara Prentice and

Jim Clark (NSW Planning and Environment), and numerous Tweed Shire Council staff including: Marama Hopkins (Biodiversity Planner), Sally Jacka (Koala Connections Project Manager to Oct. 2013), Scott Hetherington (Koala Connections Project Manager from Oct. 2013), Tanya Fountain (Koala Connection Project Officer), Pamela Gray (Pest Management Program Leader), John Turnbull (Bushland Officer), Lindsay McGavin (Development Assessment Manager), Colleen Forbes (Development Assessment Coordinator) Denise Galle (Development Assessment Coordinator), Matt Zenkteler (Strategic Planner) Ray Clark (Traffic Engineer), David Oxenham (Director of Community and Natural Resources), Vince Connell (Director of Planning and Regulation), David Hannah (Senior Environmental Scientist).

The preparation of the Plan has been informed by the scientific background contained in the Tweed Coast Koala Habitat Study, prepared for Tweed Shire Council in 2011 by Biolink Ecological Consultants. This Plan should be read in conjunction with the Habitat Study.

This Plan has also benefited, and "borrows" various provisions, from a number of other koala plans of management, particularly those prepared (or in preparation) for Byron Shire Council, Lismore City Council, Kempsey Shire Council, Coffs Harbour City and for Koala Beach, Black Rocks and Kings Forest on the Tweed Coast.



1. Introduction

1.1 The Tweed Coast Koala Habitat Study

The Tweed Coast Koala Habitat Study (Phillips et al. 2011) which is the main supporting document to this Plan revealed that the Tweed Coast koala population has declined by approximately 50% within the last decade and are now effectively confined to three subpopulations centred on the Cudgen Lake/Kings Forest, Round Mountain/Koala Beach and Pottsville/Black Rocks areas. The extent of the decline means that the remaining koala numbers are now so low (around 144 animals) that mortalities due to fire, cars and domestic dog attack are no longer sustainable by the population over the long-term. If nothing is done, there is a very real risk that koalas could disappear from the Tweed Coast within the next 15 – 20 years.

The Habitat Study identified five key issues, all of which must be addressed in order to reverse the trend of koala population decline on the Tweed Coast.

1. **Bush fire** - According to the Habitat Study, the impact of high intensity bush fires during 2004 and 2009 was the major contributor to the recent decline in the koala population on the Tweed Coast. Accordingly, urgent measures must be undertaken with support of all relevant stakeholders to protect koalas from both planned and unplanned bush fire.
2. **Incidental mortalities** - In addition to bush fire, the Habitat Study observed that in many areas of the Tweed Coast koalas are being lost to road strike, dog attack and disease, all of which are exacerbated by increasing urbanisation. As koalas are relatively slow to reproduce, even small increases in mortality (e.g. 2-3% per year) from these factors can dramatically increase extinction probabilities in small isolated populations already reduced by habitat loss and bush fire. Assertive measures are needed to deal with these sources of koala mortalities.
3. **Habitat loss** - Although there have not been major losses of koala habitat on the Tweed Coast over the last 20 years, the habitat that remains is fragmented, underutilised and insufficient to sustain a minimum viable population of about 170 koalas. The Habitat Study estimates a minimum area of approximately 2,400 ha of well-connected koala habitat is required to sustain this many animals. Currently however, the cumulative area of connected bushland patches in the central portion of the Tweed Coast currently amounts to less than 2,300 ha. This indicates a clear need for a co-ordinated program of habitat restoration works to improve the area, quality and connectivity of koala habitat.
4. **Standards for ecological assessment** - At present there are no clear standards that need to be met in support of Development Proposals relating to koalas. Such information would greatly assist planners to determine whether or not a Development Proposal is consistent with the relevant planning controls.
5. **Land use planning controls** - Considering the pressures on the koala population from past habitat loss and fragmentation, bush fire and mortalities from road strike, dogs and disease, the prospect of substantial urban expansion on the Tweed Coast over the coming decades

is daunting. Land use planning controls must ensure that impacts on koalas are not only mitigated but that all new development positively contributes to koala recovery.

1.2 The Tweed Coast

The Tweed Local Government Area (LGA) is one of the most rapidly growing areas of NSW. Between 1991 and 2006 the population of the Tweed LGA grew from 55,869 to 79,321. The NSW Government's Far North Coast Regional Strategy makes provision for an additional 19,100 dwellings to 2031 in the Tweed. This growth is to be accommodated within existing urban-zoned and urban release areas which will result in an additional population of over 35,000 to take the overall human population to approximately 120,000 over the timeframe of this Plan.

The majority of the population growth and urban expansion in the Tweed LGA will take place on the Tweed Coast (Fig. 1). This includes in the vicinity of the three remaining koala sub-populations (Kings Forest/Cudgen Lake, Round Mountain/Koala Beach and Pottsville/Black Rocks), and north of the Tweed River where only a very few koalas remain and the potential for recovery is highly compromised by lack of habitat and intense urbanisation.

While there are important areas of koala habitat in public ownership including National Parks such as Cudgen Nature Reserve, the greater proportion of koala habitat is privately owned.

1.3 Statutory Context

Community, political and scientific interest in the management of koalas is reflected by a range of Commonwealth and State-based legislation which is generally intended to minimise impacts upon the koala and its habitat.

In exercising its planning, operational and land management responsibilities Council has an important role in natural resource management, including responsibilities for the protection and management of koalas and their habitat.

Some key legislation and planning policies that have influenced the preparation of this Plan include the following:

State Environmental Planning Policy No. 44 - Koala Habitat Protection (SEPP 44)

SEPP 44 is made under the *Environmental Planning and Assessment Act 1979* with the following aim:

...to encourage the proper conservation and management of

areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline:

- a) *by requiring the preparation of plans of management before development consent can be granted in relation to areas of core koala habitat, and*
- b) *by encouraging the identification of areas of core koala habitat, and*
- c) *by encouraging the inclusion of areas of core koala habitat in environment protection zones*

Under Part 2 of SEPP 44, a development application involving a landholding of more than one hectare triggers the need to prepare an individual koala plan of management if the development is on land that is Core Koala Habitat. SEPP 44 is reproduced in Appendix A.

Part 3 of SEPP 44 provides for the preparation of both Individual Koala Plans of Management (IKPoMs) which are prepared for a specific site or development, and Comprehensive Koala Plans of Management (CKPoM) such as this Plan, which may be prepared for all or part of a Local Government Area. If a CKPoM has been prepared for an area, then individual development applications do not need to be supported by an IKPoM (although this option remains, subject to Council and State approval), provided the proposal is consistent with the requirements of the CKPoM.

Koala Plans of Management must be prepared in accordance with the Director's Guidelines which are included as Section 2 of Department of Urban Affairs and Planning Circular No 35 (DUAP, 1995; reproduced in Appendix A). Further to this guideline, in 1999, the National Parks and Wildlife Service in consultation with DUAP prepared further guidance entitled, Items that should be addressed in a Koala Plan of Management for Compliance under the Provisions of SEPP 44 (NPWS, 1999; reproduced in Appendix A).

Part 4 of SEPP 44 encourages Councils to protect Core Koala Habitat under an LEP by environmental protection zoning or other mechanisms and control development in or near Core Koala Habitat through a development control plan.

Threatened Species Legislation

The koala is listed as a vulnerable species throughout NSW for purposes of both the NSW *Threatened Species Conservation Act 1995* and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

Both pieces of legislation require individuals and/or Council to determine whether or not their actions are likely to have a significant impact on koalas or their habitat based on specific criteria. Where a significant impact is likely, further approval is required.

In addition, the Tweed – Brunswick Coast Population of the koala has been nominated by Tweed Shire Council, for listing as an endangered population under the NSW *Threatened Species Conservation Act 1995*. At the time of writing, the NSW Scientific Committee had placed a Preliminary Determination to list the population on public exhibition. If successful, this nomination will provide additional formal recognition of the problems faced by koalas on the Tweed (and Brunswick) Coast.

Companion Animals Act 1998

The *Companion Animals Act 1998* and the Companion Animals Regulation 2008 provide for the identification and registration of cats and dogs, how they are managed and the duties and responsibilities of their owners in NSW. In particular, pet owners must ensure that their dog (or cat) does not threaten or harm a person or animal (such as a koala) and is prevented from straying or causing other nuisance.

The *Companion Animals Act 1998* also provides for Council to prohibit dogs and cats on public land for the purpose of protecting wildlife.

Local Government Act 1993

Responsibility for nature conservation is firmly embedded in the NSW *Local Government Act 1993* by way of the Council Charter, which includes the following requirement:

to properly manage, develop, protect, restore, enhance and conserve the environment of the area for which it is responsible, in a manner that is consistent with and promotes the principles of ecologically sustainable development.

The *Local Government Act 1993* also requires Council to have in place an Integrated Planning and Reporting Framework to ensure Council operations and strategic planning are meeting the needs of the community. Within this framework, Council's Delivery Program 2013/2017 and Operational Plan 2013/2014 commits to preparation of a Comprehensive Koala Plan of Management.

Tweed Local Environmental Plan 2014

The Tweed Local Environmental Plan 2014 which is made under the *Environmental Planning and Assessment Act 1979* provides

the statutory planning framework for Council to regulate development and protect important aspects of the natural and built environment.

One of the particular aims of the Tweed Local Environmental Plan 2014 is:

(j) to provide special protection and suitable habitat for the recovery of the Tweed Coast koala.

1.4 Community Consultation

The preparation of this Plan has benefited from extensive community consultation involving landholders, state agencies, industry and environmental interest groups as well as the broader community.

In particular, the preparation of the Plan was guided by the Tweed Coast Koala Advisory Group which was formed in 2010 to provide advice and guidance of the preparation of this Plan. The group consisted of one councillor, two council officers, representatives from the Department of Planning and Environment and the Office for Environment and Heritage, one representative from a koala care/welfare group, one representative from a koala conservation/environment group and three representatives from the general community.

Apart from the preparation of this Plan, the Koala Advisory Group has also provided advice to Council on numerous relevant planning and other issues including the protection of koala feed trees under Council's Tree Preservation Order, environmental protection zoning under Council's Local Environmental Plan, and the nomination of the Tweed – Brunswick Coast Population of the koala for listing as an endangered population under the NSW *Threatened Species Conservation Act 1995*. The Koala Advisory Group was also instrumental in supporting a number of external grants aimed at restoring koala habitat (e.g. Koala Connections Project, \$2.2.M) and initiating better coordination and improved procedures to protect habitat and manage bush fire in areas occupied by koalas.

Having endorsed the draft Plan, the Koala Advisory Group convened a workshop with Council (August 2014) and subsequently recommended it to Council who resolved to place it on public exhibition for a period of 30 days commencing (21 October 2014).

Include public exhibition details here including:

- Internal and State Agency consultation
- Public submissions
- Consideration of submissions
- Adoption by Council
- Approval by DP&E

1.5 The Challenge of Koala Recovery

To provide a long-term future for koalas on the Tweed Coast this Plan moves beyond simply limiting the damage by controlling development to a more holistic approach that focuses on the full suite of actions that promote population recovery. Many of these actions have more to do with our stewardship of the environment than the impacts of specific developments.

The Habitat Study makes it abundantly clear that the future for the Tweed Coast koalas is bleak unless a concerted, coordinated and multi-disciplined approach is taken. This Plan meets that challenge.

1.6 Scope of this Plan

The scope and content of this Plan, together with the supporting Tweed Coast Koala Habitat Study (Phillips et al. 2011), has been prepared in accordance with SEPP 44 and the associated Departmental guidelines (See Appendix A). Accordingly, this Plan covers a wide range of issues including development control, strategic planning, koala habitat restoration, managing threats from roads, dogs, fire and disease, community engagement, implementation, and ongoing monitoring, reporting and review. The Plan also has relevance to a wide range of stakeholders.

If you are preparing a development application (DA) to develop land, Part 5 of this Plan provides guidance on how you will need to address potential impacts on koalas or their habitat in your development application. These sections of the Plan also provide Council with a set of transparent and consistent processes and guidelines for assessing DAs.

If you are a landholder, Part 7 of the Plan commits Council to taking a lead role in koala habitat restoration and identifies a range of non-regulatory opportunities and benefits for landholders wanting to preserve and/or enhance koala habitat on their land. Of course, participation in this program is entirely voluntary. Landholder support is also vital in the areas of fire management (Part 10) and the management of wild and domestic dogs (Part 9).

If you have a more general interest in the future of koalas, this Plan includes non-regulatory management activities to help protect and enhance the Tweed Coast koala population, including support for koala care groups (see Part 11), opportunities for public involvement with koala habitat restoration and engagement with the broader community (see Part 12), provision of monitoring information and ongoing

input into the management process (see Part 13) and overall implementation of the Plan (see Part 14).

The Plan also requires Council itself to ensure that it implements the provisions of this Plan in the discharge of its responsibilities (see Part 4) for strategic planning (e.g. LEPs and DCPs), management of council controlled land, operational functions such as road upgrades, compliance and communications (Part 6).

In relation to SEPP 44, the Plan itself has been prepared in accordance with Part 3 of SEPP 44 and addresses the aims and objectives of SEPP 44 (Part 1 of the SEPP) through both the regulatory and non-regulatory provisions. Part 5 of this Plan represents the regulatory component of the Plan and satisfies the development control provisions of Part 2 of SEPP 44. Consistent with the provisions of Part 4 of SEPP 44, Part 6 of this Plan makes recommendations for the development control provisions (Part 5 of this Plan) to be incorporated in Council's DCP and also recommends environmental protection zoning and other protections for Core Koala Habitat under Council's LEP. Appendix B contains further detail on the manner in which this Plan addresses the SEPP 44 departmental guidelines.

Consistent with the SEPP 44 guidelines, this Plan represents an overarching environmental strategy which will be used to inform Council's response to all aspects of koala conservation and management across all areas of its jurisdiction.

1.7 Plan Interpretation

This Plan adopts a number of formatting conventions to aid its interpretation.

Contextual information such as contained in this introduction and the overviews for individual parts of the Plan is presented in plain text. Specific provisions (or clauses) of this Plan are listed under the relevant numbered heading and formatted as shown in the following example:

- i) This document is called the Tweed Coast Comprehensive Koala Plan of Management 2014 (hereafter referred to as "the Plan" or "this Plan").

Explanatory notes, as shown in the following example, are included throughout the Plan to provide additional contextual information related to individual provisions:

The purpose of this clause is to ensure that ...

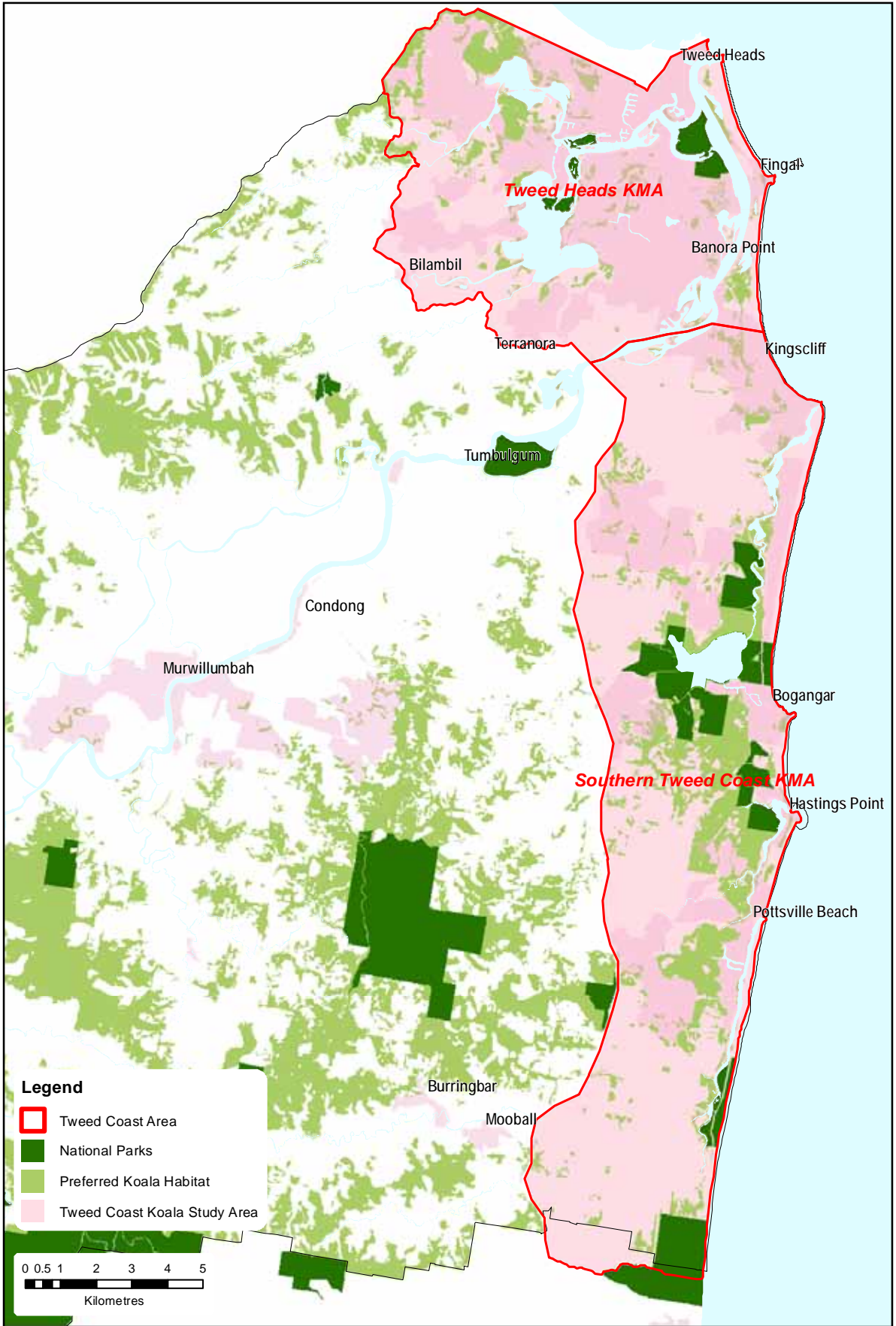
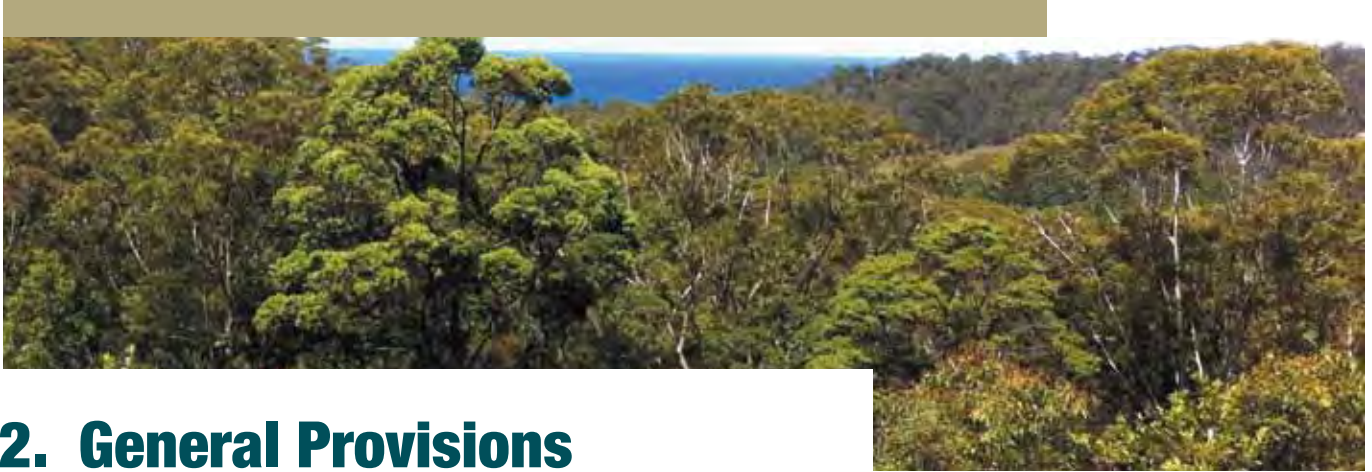


Figure 1 Tweed Coast



2. General Provisions

2.1 Overview

This Part sets out a number of preliminary matters including the:

- name of the Plan
- land to which the Plan applies
- making and commencement of the Plan
- duration of the Plan
- vision and outcomes of the Plan

2.2 Name of the Plan

- i) This document is called the Tweed Coast Comprehensive Koala Plan of Management 2014 (hereafter referred to as “the Plan” or “this Plan”).

2.3 Land to which the Plan applies

This Plan adopts the Study Area defined in the Tweed Coast Koala Habitat Study (Phillips et al. 2011). This area (hereafter referred to as the “Tweed Coast”) consists of approximately 21,200 ha extending southwards from the Queensland/NSW border encompassing the mostly urban areas of Cobaki, Tweed Heads, Bilambil Heights, Terranora, Banora Point and thereafter extending along the coast generally east of the Pacific Motorway for approximately 37 km to the Tweed Shire boundary (Fig. 1).

- i) This Plan applies to land identified by Figure 1 but does not apply to National Parks or Nature Reserves administered by the NSW Office of Environment and Heritage.
- ii) This Plan does not over-ride the planning provisions of any Individual Koala Plan of Management approved under SEPP 44.

2.4 Making and Commencement of the Plan

This Plan has been prepared consistent with both Part 3 and Part 4 of SEPP 44. Part 3 of SEPP 44 provides for the preparation of Comprehensive Koala Plans of Management which must be consistent with the guidelines and approved by the Director of the Department of Planning and Environment. Part 4 of SEPP 44, encourages Councils to give effect to the aims of SEPP 44 by preparing a Development Control Plan for land that is or adjoins Core Koala Habitat.

Further details of this Plan’s compliance with SEPP 44 are provided in Appendix B.

- i) This Plan was adopted by resolution of Council on DATE, 2014.
- ii) For the purposes of Council’s Development Control Plan this Plan was adopted by resolution of Council on DATE, 2014, and came into effect on DATE.
- iii) For the purposes of a Koala Plan of Management made under Part 3 of SEPP 44, this Plan was endorsed by the Department of Planning and Environment on DATE.

2.5 Duration of the Plan

- i) The Plan is to remain in effect for a period of twenty (20) years unless amended or superseded.
- ii) The Plan is to be reviewed at five yearly intervals; however the Plan may be reviewed at any time at the discretion of Council.

Part 13 of the Plan contains further provisions relating to the monitoring and review of the Plan.

2.6 Vision, Aims and Outcomes

2.6.1 Vision and Aims

- i) In accordance with the objectives of SEPP 44 and the approved NSW Koala Recovery Plan, the overarching vision of this Plan is that the Tweed Coast koala population will be recovered to more sustainable levels over the next two decades.
- ii) This vision is intended to be articulated by way of the following aims.
 - a) To recover the Tweed Coast population of the koala to at least 200 - 250 koalas over the next three koala generations (15 - 20 years).
 - b) To increase the total area of Preferred Koala Habitat to at least 2,600 ha in priority areas and linkages.
 - c) To ensure that future development on the Tweed Coast takes place in a manner that encourages the proper conservation and management of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline consistent with SEPP 44 and other relevant development controls.
 - d) To provide information on the status of Tweed Coast koalas and actions required of the community in a regular and accessible format over the life of the Plan.

2.6.2 Outcomes

- i) The vision and aims of this Plan will be realised through the following outcomes.
 - a) **A landscape scale management framework** - to guide decision making and ensure that both the planning and management responses properly reflect priorities relevant to koalas and their ecology. Apart from influencing the nature of development, this framework will guide priorities for strategic habitat restoration, improvements in connectivity, and the reduction of threats from bush fire management, road mortality, dogs and disease. Part 3 of this Plan sets out such a framework.
 - b) **Coordinated action across all areas of Council governance** - including strategic planning, development control, compliance, operations, asset management and communications. Tweed Shire

Council is the lead agency under this Plan and its provisions affect all areas of its responsibility.

- c) **Best practice planning controls** - to ensure that any future development affecting koalas or their habitat mitigates any impacts and contributes positively to koala recovery. Part 5 and Part 6 provide detailed guidance on the planning standards required under this Plan.
- d) **The commitment and active participation of the entire community** - Council is only one stakeholder and does not have the authority to compel all actions necessary for this Plan to be successful. Other key stakeholders include landholders, property developers, community interests and State agencies. Part 4 details the roles and responsibilities for implementing this Plan.
- e) **Resourcing** - Adequate resources need to be made available to accommodate the commitments made in this Plan. This includes resources, not only for Council to coordinate the implementation of the Plan and carry out many of its actions, but also human and other resources from landholders, land management agencies, property developers and the broader community. Ongoing financial assistance from the State and Commonwealth governments will also be essential.
- f) **A habitat restoration program** - to increase the quality and extent of Preferred Koala Habitat and improve connectivity between koala populations (see Part 7).
- g) **Measures to reduce koala mortalities from road strike and dog attack** (see Part 8 and Part 9).
- h) **A coordinated approach to bush fire management** - to ensure that the strategic and operational management of bush fire does not compromise koala populations (see Part 10).
- i) **Active koala welfare and care support** - in partnership with Friends of the Koala Inc. (see Part 11).
- j) **Education and communication strategies** - to inform and engage all sectors of the community in the process of koala recovery (see Part 12).
- k) **Ongoing monitoring** - of the Tweed Coast koala populations to determine the success (or otherwise) of our efforts (see Part 13).



3. Koala Management Framework

Overall Objective: To provide a management framework used throughout the Plan to prioritise, integrate and direct actions aimed at providing a long term future for the Tweed Coast koala population.

3.1 Overview

To address the objective above, this Part:

- 1) outlines the guiding principles which underpin the operation of this Plan
- 2) establishes key concepts of Preferred Koala Habitat and Core Koala Habitat that are essential to the development control and strategic planning components of this Plan and
- 3) defines and describes a number of landscape scale koala management areas and precincts that reflect priorities relevant to koalas, their ecology and their recovery

3.2 Guiding Principles of the Plan

- i) The following principles underpin the preparation and the approach taken to implementing this Plan.
 - a) **Ecologically sustainable development.** This Plan embraces the principles of ecologically sustainable development namely: the conservation of biodiversity, user/polluter pays, intergenerational equity and the precautionary principle.
 - b) **Science-based management.** The management framework and scope of this Plan are based on the best information available at the time of its preparation.

- c) **Responsiveness and flexibility.** The provisions of this Plan provide for ongoing monitoring and adaptive management to ensure flexible planning and management responses where a better outcome is likely.
- d) **Risk management and efficient use of resources.** Management actions and planning provisions have been prioritised to maximise benefits to koalas given the risks to their survival and their recovery potential. In relation to development control, both the assessment requirements and planning provisions are scaled on the basis of the size of the development and the likely risk to koalas.
- e) **Public interest.** The scope and content of the Plan reflects the public interest as expressed through legislation and planning policies at all levels of government including substantial local community concern for koalas particularly with respect to the potential impact of future development.
- f) **Individual rights.** This Plan does not take away or diminish any individual or property rights. While the active participation of landholders is encouraged, the Plan relies on voluntary participation. It does not and cannot compel participation. In relation to possible future development, this Plan does not directly affect permissibility or zoning but it is consistent with, and contributes to, the normal statutory and strategic planning processes (such as the preparation of an

Local Environmental Plan (LEP)) used to determine future land use.

- g) **Future urban footprint.** This Plan accepts the future urban footprint and projected population as determined by current State and Council adopted plans and strategies such as the Tweed Local Environmental Plan 2014, the Far North Coast Regional Strategy 2006 and the Tweed Urban Land Release Strategy 2009. However, this Plan does seek (in accordance with legislation and policy) to ensure that, where relevant, the needs of koalas are properly considered in the detailed planning of these areas.
- h) **Cost sharing.** While the principles of ecologically sustainable development dictate that the costs of mitigating development impacts should be borne by the proponent, the cost of recovering the koala population beyond their current numbers must be shared across the community. The expectation of this Plan is that Council, landholders, community interests, property developers and land management agencies must all contribute to these costs.
- i) **Offsetting and habitat compensation.** Offsets are measures that compensate for residual adverse impacts of development. Offsets are only considered when all options to avoid or mitigate impacts on koalas and koala habitat are considered and confirmed as unachievable. Because of inherent risks, time lags and administrative impediments, this Plan provides very few circumstances for which offsetting is appropriate. With a few notable exceptions any offsetting under this Plan must be carried out on or adjacent to the development site.
- j) **Planning certainty.** Unlike much of the existing planning framework which involves extensive assessment costs with little certainty of the outcome, the development control and strategic planning provisions of the Plan apply consistent assessment standards and result in clearly defined outcomes.
- k) **Integrated planning.** Although the Plan is embedded in existing planning framework under SEPP 44, there are also numerous other legislation and planning policies to be considered. This Plan seeks to provide for an integrated approach to a range of statutory considerations such as threatened species considerations.

- l) **Transparency.** Wherever possible, explanatory notes are used to ensure that users are aware of the rationale behind specific provisions of the Plan.
- m) **Community participation.** The preparation of this Plan has involved extensive community input. Community input through ongoing community engagement and an advisory group will be a continuing feature of the Plan's implementation.
- n) **Koala welfare.** Actions carried out under this Plan, must be consistent with contemporary koala welfare practices and carried out by appropriately qualified individuals in accordance with any relevant koala welfare protocols.

3.3 Preferred Koala Habitat

Under SEPP 44, *potential koala habitat* means areas of native vegetation where the trees of the types listed in Schedule 2 constitute at least 15% of the total number of trees in the upper or lower strata of the tree component.

The vegetation mapping work of Kingston et al. (2004) provided the basis for koala habitat classifications used in this Plan.

Vegetation communities were categorised in accord with the definitions detailed below from Phillips (2000) and collectively defined as Preferred Koala Habitat:

- Primary Habitat – areas of forest and/or woodland wherein primary food tree species comprise the dominant or co-dominant (i.e. $\geq 50\%$) overstorey tree species. These areas are capable of supporting high densities of koalas (≥ 0.75 koala/ha).
- Secondary (Class A) Habitat – areas of forest and/or woodland wherein primary food tree species are present but not dominant or co-dominant and usually (but not always) growing in association with one or more secondary food tree species. These areas are capable of supporting medium densities of koalas (between 0.1 and 0.75 koala/ha.)

Although these categories represent areas with differing densities of koala food trees it was clear from the Habitat Study (Philips et al. 2011) that the spatial distribution of the extant koala sub-populations (i.e. existing population) is not closely correlated with the spatial distribution of Primary Habitat on the Tweed Coast. While there are likely to be numerous reasons for this, this observation clearly indicates that a habitat categorisation based on the literal definition of potential koala habitat would grossly underestimate the actual distribution of

koalas on the Tweed Coast. It appears that on the Tweed Coast, all types of koala habitat are necessary for their continued survival.

This approach is also consistent with the categorisation methods recommended in the Recovery Plan for the Koala (DECC, 2008).

- i) For the purposes of this Plan, Preferred Koala Habitat consists of Primary, Secondary (Class A) and Secondary (Class B) Habitat as defined in Appendix II of the Habitat Study (Phillips et al. 2011).
- ii) Preferred Koala Habitat is shown on Figure 2a, b and c of this Plan but may be updated from time to time to reflect changes in the landscape and mapping updates.

3.4 Core Koala Habitat

Under SEPP 44, *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.

From this definition it is apparent that Core Koala Habitat is not confined to extant populations of koalas but may extend to areas where there have been “recent sightings” or “historical records”. Although this potentially broadens the field to include almost any area on the Tweed Coast, the overall aim of SEPP 44 is also relevant:

This Policy aims to encourage the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline:...

Taking this aim into account it is clear that any areas designated as Core Koala Habitat should contain sufficient habitat to reverse population decline and ensure a *permanent free-living population over their present range*.

In relation to this Plan, the Habitat Study (Phillips et al. 2011) reveals that:

- The current koala population, estimated at 140 animals is below a minimum viable population of about 170 koalas.
- The present range is effectively confined to the central area of the Tweed Coast.
- A minimum area of approximately 2,400 ha of well-connected koala habitat is required to sustain a permanent free living koala population.

- The cumulative area of connected vegetated patches in the central portion of the Tweed Coast currently amounts to less than 2,300 ha but much of the habitat that remains is fragmented and underutilised.
- Koala recovery in the Tweed Heads area does not appear feasible due to lack of habitat and ongoing urban intensification.

Under these circumstances and for the purposes of this Plan, the following areas are regarded as Core Koala Habitat:

- *Preferred Koala Habitat within a Koala Activity Precinct (KAP)* – These areas, which are defined in Section 3.5.2.1 below, support known koala activity and provide optimal opportunities for increasing the amount and quality of koala habitat.
- *Preferred Koala Habitat within a Koala Linkage Precinct (KLP)* - These areas, which are defined in Section 3.5.2.2 below, link KAPs and provide optimal opportunities for increasing connectivity between existing koala sub-populations thus improving their long term viability.
- *Any other areas where koalas are present.*

- i) For the purposes of this Plan, Core Koala Habitat includes:
 - a) Preferred Koala Habitat within a Koala Activity Precinct
 - b) Preferred Koala Habitat within a Koala Linkage Precinct
 - c) any other area where koalas are present

3.5 Management Areas and Precincts

Consistent with the recommendations of the Habitat Study, this Plan divides the Tweed Coast into management areas and precincts which reflect fundamentally different management challenges in different parts of the landscape. For example, the need to maintain koala habitat and very carefully manage bush fire will need to be a key focus in areas where there are existing koala populations, but may not be a strong focus in areas where there are no koalas and little prospect for their long term survival. Similarly, between areas currently occupied by koalas, measures to improve connectivity and retain existing unoccupied habitat quality while at the same time limiting the impacts of road strike and dogs will be a key focus.

3.5.1 Koala Management Areas

Two separate Koala Management Areas (KMAs) are recognised

for the purposes of this Plan; the Tweed Heads KMA representing the broader Tweed Heads area north of the Tweed River; and the Southern Tweed Coast KMA representing the rest of the Tweed Coast (Fig. 1).

The future management of these two areas differ in their recovery potential. North of the Tweed River, the Habitat Study showed evidence of a highly depleted population on the brink of local extinction, the recovery of which does not appear possible due to lack of suitable habitat to support a long term population and ongoing urban intensification. On the other hand, the Habitat Study concluded that recovery was possible in the Southern Tweed Coast KMA provided an expeditious and assertive response was undertaken by the entire community.

The management objectives below reflect the different management emphasis necessary in these KMAs.

3.5.1.1 Tweed Heads KMA Management Objectives

- i) The following management objectives will be used to guide this Plan in relation to the Tweed Heads KMA.
 - a) To minimise harm to remaining animals through habitat retention and other protective measures.
 - b) To ensure that any development affecting koala habitat contributes to koala recovery being undertaken elsewhere on the Tweed Coast.
 - c) To periodically review the management intent for this area in the event that koala numbers are observed to increase.

3.5.1.2 Southern Tweed Coast KMA Management Objectives

- i) The following management objectives will be used to guide this Plan in relation to the Southern Tweed Coast KMA.
 - a) To actively reduce threats to existing koalas and unoccupied koala habitat.
 - b) To increase the area, quality and connectivity of koala habitat in the vicinity of existing koala populations sufficient to support a viable population of koalas.
 - c) To ensure that any development affecting koalas or their habitat mitigates any impacts and contributes positively to koala recovery within the KMA.
 - d) To ensure that the community is fully engaged in the task of koala recovery.

3.5.2 Koala Management Precincts

This Plan further recognises a number of koala management precincts within the Southern Tweed Coast KMA (Fig 2; see mapping section at <http://www.tweed.nsw.gov.au> for further detail). These precincts reflect, at the landscape-scale, priority areas for management and planning relevant to koalas and their ecology. Three types of precinct are recognised:

- Koala Activity Precincts (KAPs)
- Koala Linkage Precincts (KLPs)
- Individual Koala Plan of Management Precincts (IKPoMs).

Non precinct areas represent the balance of the Tweed Coast (including the Tweed Heads KMA).

3.5.2.1 Koala Activity Precincts

A Koala Activity Precinct (KAP) is a mapped area associated with known significant koala activity. A KAP generally also includes the areas of Preferred Koala Habitat adjacent to areas of significant koala activity.

In accordance with Section 3.4 all Preferred Koala Habitat within a KAP is regarded as Core Koala Habitat.

Together with the Koala Linkage Precincts and IKPoMs defined below, KAPs define a sufficiently large and connected area of land to support a localised free-ranging koala population.

KAP Management Objectives

- i) The following management objectives will be used to guide this Plan in relation to the Koala Activity Precincts.
 - a) To actively reduce threats to koalas and Core Koala Habitat.
 - b) To increase the area and quality of Core Koala Habitat in the vicinity of existing koala populations.
 - c) To ensure that new developments within a KAP minimise impacts on koalas, whether or not they are currently present on site, through the retention and protection of Core Koala Habitat and the application of rigorous development controls.
 - d) To ensure that any development affecting koalas or their habitat within a KAP contributes positively to koala recovery within the KAP.
 - e) To ensure that planning for future development within a KAP positively contributes to koala recovery within the KAP.

- f) To encourage all stakeholders, including private landholders and the community, to positively contribute to koala recovery within the KAP.

Cudgen Lake KAP

The Cudgen Lake KAP is approximately 190 ha (775 ha including Cudgen Nature Reserve). This KAP includes lands to the east of Kings Forest, between Cudgen Nature Reserve and Tweed Coast Road, extending south to Clothiers Creek Road and west to include the contiguous areas of koala habitat in the Durambah locality that connects with habitat in Cudgen Nature Reserve and Kings Forest.

This KAP supports parts of the northern and central koala metapopulations and in conjunction with Cudgen Nature Reserve, provides for expansion and connectivity between the two. Appropriate management of fire and reduction of road strike on Clothiers Creek Road and Tweed Coast Road are the key management considerations in this precinct.

Round Mountain KAP

The Round Mountain KAP is approximately 893 ha (1041 ha including Cudgen Nature Reserves). This KAP extends from Clothiers Creek Road in the north to Koala Beach in the southeast. The majority of the Round Mountain koala metapopulation and its supporting habitat is located within this KAP.

Maintaining connectivity with the Cudgen Lake KAP to the north, across Clothiers Creek Road, is one of the key management issues for this KAP, as is appropriate management of fire and the positive contribution to koala recovery by future development in the Tanglewood urban release area.

Koala Beach KAP

The Koala Beach KAP is approximately 180 ha. (302 ha including Cudgen Nature Reserve) This KAP adjoins the Koala Beach estate on its northern, eastern and southern boundaries. This KAP contributes to the connectivity provided by protected bushland areas within Koala Beach estate by maintaining habitat for future expansion of the Koala Beach metapopulation cells.

Re-establishing koala occupancy between Seabreeze estate and Pottsville and managing the risk of road strike on Pottsville Road is essential within this KAP for meaningful population connectivity with the Pottsville KAP to the south.

Pottsville KAP

The Pottsville KAP is approximately 331 ha, consisting mostly

of the Council-managed Pottsville Wetlands. Adjoining lands containing Preferred Koala Habitat and significant koala activity areas also occur within this precinct.

The key management focus for this KAP is to build on the availability of high-quality koala habitat through restoration works in suitable areas to allow for population expansion. Managing the impact of vehicle strike on Kellehers Road will be a key future management consideration as the Dunloe Park urban release area is developed.

Black Rocks KAP

The Black Rocks KAP is approximately 271 ha in size and encompasses the Tweed Coast's southern-most area of significant koala activity. The precinct extends from Kellehers Road in the north, surrounds the Black Rocks IKPoM area and includes lands adjacent to Mooball Creek and the northern portion of Wooyung Nature Reserve. A large proportion of this KAP is cleared, however high quality food resources occur as remnant and regenerating patches, as well as scattered paddock trees in the south.

Maintaining and improving opportunities for koala movement south towards the Wooyung KLP and KAP is the key focus of this precinct, in order to re-establish north-south connectivity into the Byron Shire.

Wooyung KAP

Wooyung KAP is approximately 140 ha (316 ha including Nature Reserves) and includes lands containing high quality koala habitat within and adjacent to Billinudgel Nature Reserve. The precinct is bounded in the north by Wooyung Road and extends to the southern local government area boundary.

Management focus within this precinct is retention of habitat and appropriate management of fire in order to maintain its availability for re-colonisation by koalas either from the north or south.

3.5.2.2 Koala Linkage Precincts

A Koala Linkage Precinct (KLP) is a mapped area adjacent to one or more KAPs that provide optimal opportunities for improved habitat management and connectivity.

In accordance with Section 3.4, all Preferred Koala Habitat within a KLP is regarded as Core Koala Habitat.

KLPs are integral to establishing a sufficiently large and connected area of land to support a localised free-ranging koala population.

KLP Management Objectives

- i) The following management objectives will be used to guide this Plan in relation to the Koala Linkage Precincts.
 - a) To actively reduce threats to existing koalas and their habitat.
 - b) To increase the area and quality of Core Koala Habitat with a focus on improving connectivity between existing koala populations and KAPs.
 - c) To ensure that new developments within a KLP minimise impacts on koalas, whether or not they are currently present on site, through the retention and protection of Core Koala Habitat and the application of rigorous development controls.
 - d) To ensure that any development affecting koalas or their habitat within a KLP contributes positively to koala recovery within the KLP through improved connectivity of koala habitat.
 - e) To ensure that planning for future development within a KLP positively contributes to koala recovery within the KLP through improved connectivity of koala habitat.
 - f) To encourage all stakeholders, including private landholders and the community, to positively contribute to koala recovery within the KLP.

Cudgen KLP

Cudgen KLP is approximately 227 ha including Nature Reserves and includes lands on both sides of Cudgen Creek from the vicinity of Kings Forest in the south through to Kingscliff in the north. The precinct contains significant areas of preferred koala habitat and provides a critical north south linkage for remaining koalas in the northern extent of the Tweed Coast Koala Study Area.

Management focus within this precinct is retention of habitat and appropriate management of fire in order to maintain and improve its viability as a linkage for koalas either from the north or south.

Duranbah KLP

Duranbah KLP is approximately 581 ha, consisting of the lands between the Pacific Highway in the west, Kings Forest to the north and east and the Cudgen Lake KAP to the south. The precinct includes critical connectivity measures under the Pacific Highway in the vicinity of Eviron Road and includes

areas of preferred koala habitat and mapped koala populations amongst agricultural and small lot land uses.

Management focus within this precinct is retention and extension of habitat with a specific focus on creating viable movement corridors that link to the available connectivity measures under the highway.

Round Mountain KLP

Round Mountain KLP is approximately 351 ha, consisting of the lands between the Pacific Highway in the west, Round Mountain KAP to the north and east and non-precinct areas to the south. The precinct includes critical connectivity measures under the Pacific Highway, including a high priority bridge crossing in the vicinity of Kaners Road. Significant areas of preferred koala habitat, including with connection to habitat within the Round Mountain KAP are present.

Management focus within this precinct is retention and extension of habitat with a specific focus on creating viable movement corridors that link to the available connectivity measures under the highway.

Dunloe Park KLP

Dunloe Park KLP is approximately 428 ha, consisting of the lands between the Pacific Highway in the west, Pottsville KAP to the north, Black Rocks KAP to the east and non-precinct areas to the south. The precinct includes critical connectivity measures across the Pacific Highway, including the fauna overpass south of the Pottsville interchange and a bridge crossing under the highway at Sleepy Hollow Road.

Management focus within this precinct is retention and extension of habitat with a specific focus on creating viable movement corridors that link the adjoining KAPs to highly significant habitat west of the highway.

Wooyung KLP

Wooyung KLP is approximately 186 ha including Nature Reserves and includes lands on both sides of Mooball Creek from the Wooyung KAP in the south to the Black Rocks KAP in the north. The precinct contains significant areas of preferred koala habitat and provides a critical north south linkage for koalas in the southern extent of the Tweed Coast Koala Study Area.

Management focus within this precinct is retention of habitat and appropriate management of fire in order to maintain and improve its viability as a linkage for koalas either from the north or south.

3.5.2.3 IKPoM Precincts

An Individual Koala Plan of Management (IKPoM) Precinct is a mapped area over which there is a pre-existing IKPoM approved under SEPP 44.

Within the Tweed Coast, IKPoMs are in place for the following:

- Kings Forest Estate
- Koala Beach Estate
- Black Rocks Estate

IKPoM Precincts are integral to establishing a sufficiently large and connected area of land to support a localised free-ranging koala population.

IKPoM Management Objectives

- i) The following management objectives will be used to guide this Plan in relation to the IKPoM Precincts.
 - a) To recognise the operation of existing Individual Koala Plans of Management (IKPoM) approved under SEPP 44.
 - b) To ensure that any necessary revisions of IKPoMs complement and are consistent with the provisions of this Plan.
 - c) To assist, where appropriate, with actions to reduce threats to koalas and their habitat within these areas.

Kings Forest IKPoM

The Kings Forest IKPoM was prepared in 2011 for Stage 1 of the proposed Kings Forest residential development. Kings Forest is located in the north of the Tweed Coast Koala Habitat Study area and extends from the Pacific Highway in the west through to Tweed Coast Road in the east. It adjoins Cudgen Nature Reserve along the eastern and southern boundaries and is approximately 870 ha.

The plan proposes management strategies to conserve and extend existing Core Koala Habitat. Enclave development is proposed to enable koalas' safe access to habitat, restrict koalas from accessing the development area and provide a buffer for koala habitat from the residential precincts.

Koala Beach IKPoM

The Koala Beach IKPoM applies to the 380 ha site located between Pottsville and Hastings Point. Significant areas of occupied koala habitat were retained under the plan, which also acknowledges the importance of the site in relation to proximal koala populations in the Cudgen Lake – Round Mountain area to

the north and Pottsville Wetlands to the south.

Koala Beach is a koala friendly style development where existing habitat is retained and management strategies, including exclusion of domestic cats and dogs, aim to ensure the impacts of residential development are minimised. Habitat restoration, protection of values by way of covenant, vehicle speed restriction, ongoing monitoring, application of a special rate on landowners and the establishment of a stakeholder management committee to oversee implementation are key features of the plan.

Black Rocks IKPoM

The Black Rocks by the Sea IKPoM was prepared in 2004 and applies to a 42 ha residential development south of Pottsville. The site is adjacent to Pottsville Wetlands and contained limited koala habitat at the time of plan preparation.

The plan seeks to ensure threats to koalas are avoided through an enclave style development. This involves the use of management strategies including fauna exclusion fencing, limitation on the size of dogs allowed in the residential precinct and traffic management in the sportsfield area that is not within the enclave.

3.5.2.4 Non Precinct Areas

Non precinct areas are areas not covered by the precincts defined above (including the Tweed Heads KMA).

Isolated individuals and remnant koala populations are known to occur outside of the defined precincts. It is important to manage and support these animals and their habitat where they exist.

Non Precinct Area Management Objectives

- i) The following management objectives will be used to guide this Plan in relation to the Non Precinct Areas.
 - a) To actively reduce threats to koalas and their habitat where they exist.
 - b) To ensure that new developments minimise impacts on koalas, where they are present, through the retention and protection of koala habitat and the application of rigorous development controls.
 - c) To ensure that new developments that affect koala habitat, where koalas are not present, contribute to koala recovery in precinct areas.

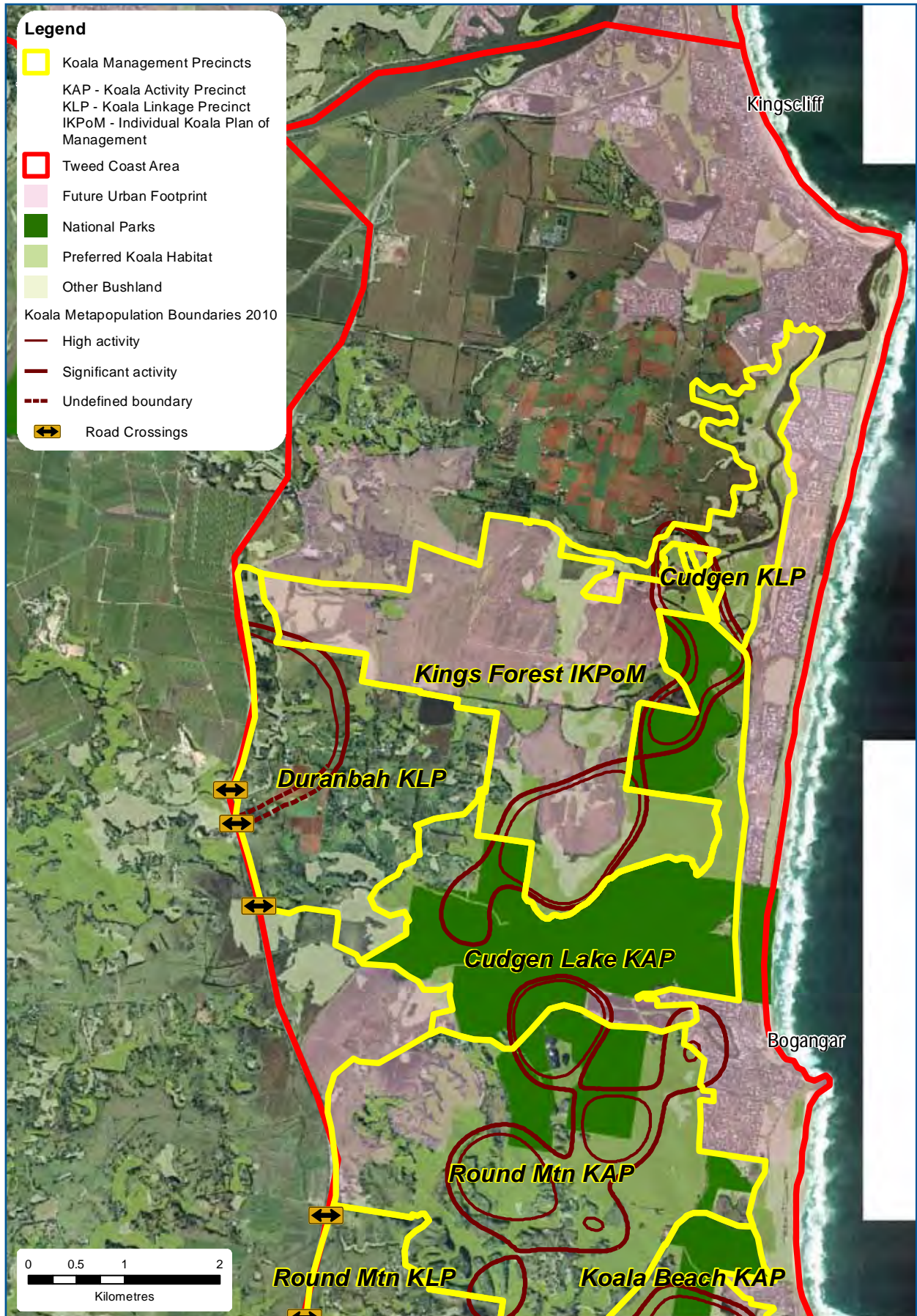


Figure 2a Southern Tweed Coast Koala Management Area and Precincts

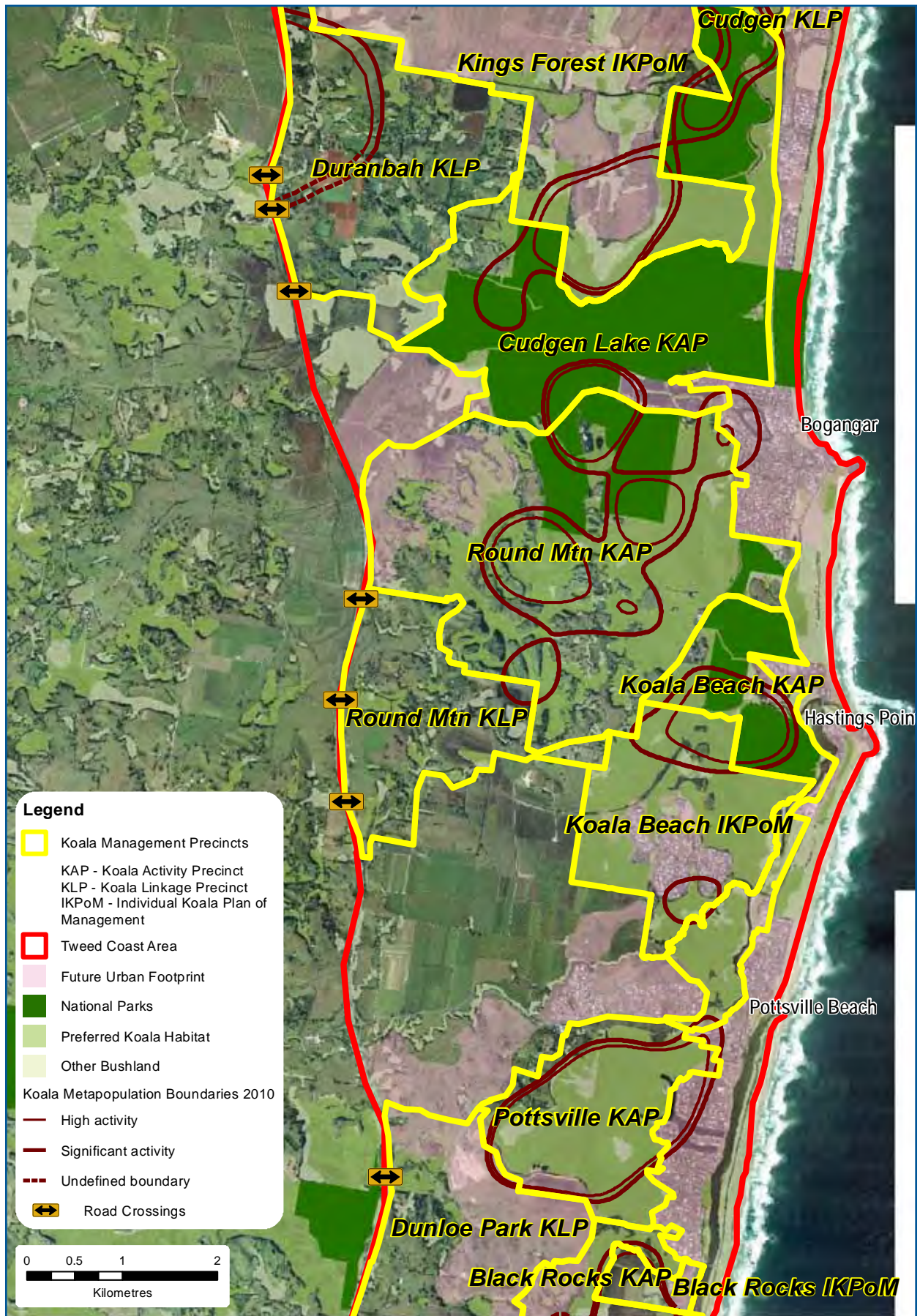


Figure 2b Southern Tweed Coast Koala Management Area and Precincts

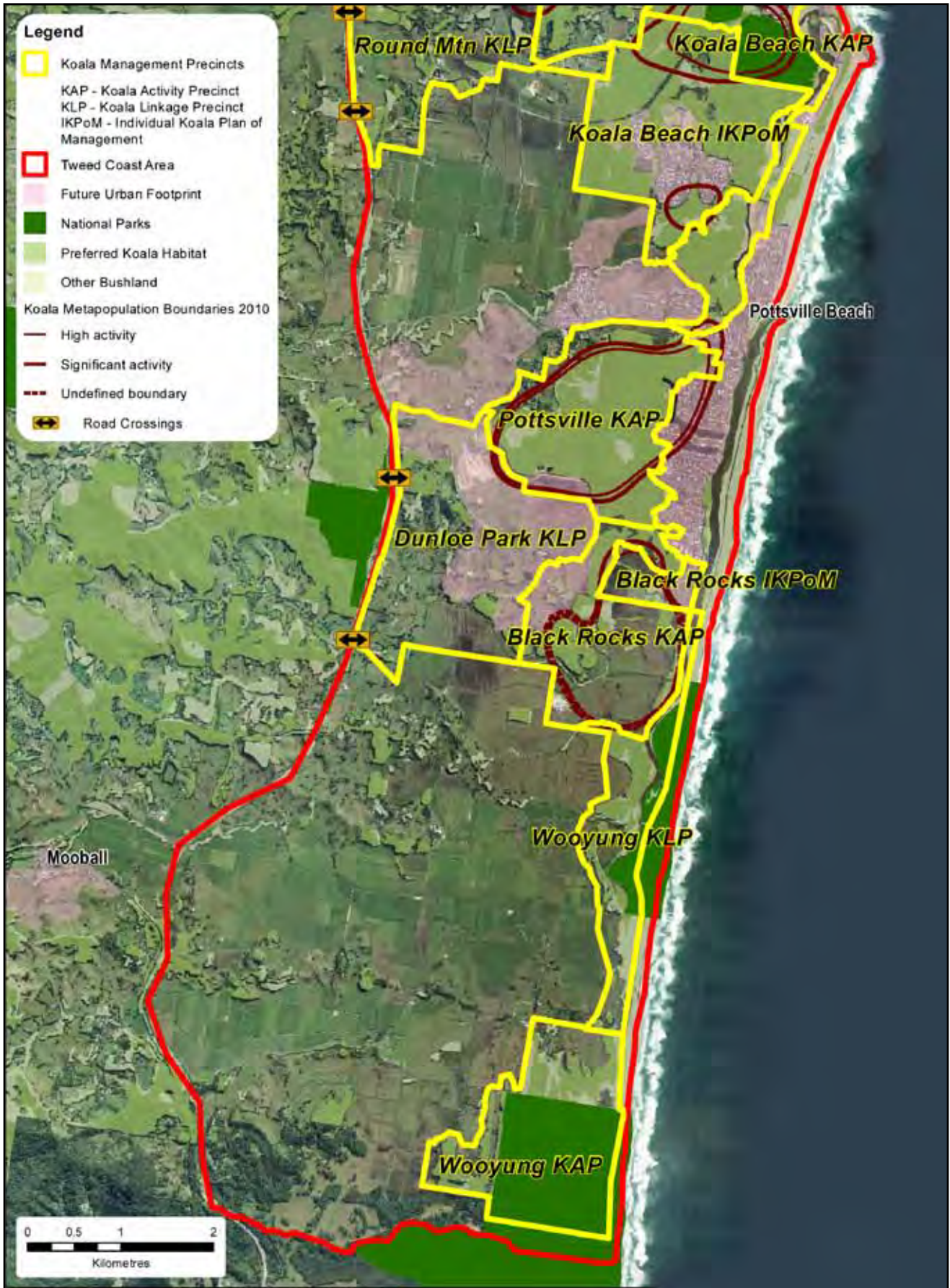


Figure 2c Southern Tweed Coast Koala Management Area and Precincts



4. Roles and Responsibilities

Overall Objective: To create a framework for coordination and integration of the actions of all stakeholders involved in, or with responsibilities affecting koala recovery. This should include broad community representation and inter-agency involvement.

4.1 Overview

Responsibilities for the management of koalas and their habitat are widely distributed across the community. Whilst the statutory focus of SEPP 44 is on ensuring that new development takes proper account of the issues faced by koalas, many of the activities that affect koalas are not regulated by it. For the vision of the Plan to be achieved it will take the active cooperation of all stakeholders including landholders, property developers, community interests and government agencies.

Each party must take a share in ensuring effective implementation of the Plan with a lead agency to facilitate this commitment. To achieve this, the Plan identifies the following roles and responsibilities:

4.2 Tweed Shire Council

As the lead agency Tweed Shire Council will coordinate the implementation of this Plan. A schedule of management provisions under this Plan is presented in Part 14.

- i) Tweed Shire Council will be the lead authority to champion the koala recovery process by:
 - a) ensuring that the provisions of this Plan are integrated into all relevant areas of Council governance including strategic planning, development control (including Part 5 EP&A Act approvals), compliance, operations, asset management and communications

- b) providing appropriate training for personnel dealing with koala related issues
 - c) undertaking and supervising habitat restoration works and threat reduction actions
 - d) monitoring koala populations and the effectiveness of the Plan
 - e) preparing and implementing education programs
 - f) supporting Friends of the Koala Inc.
 - g) supporting landholders and community interests participating in the implementation of this Plan
- ii) Council will seek the support of State and Federal government agencies in recovering the Tweed Coast koala population, particularly in respect of those elements of the Plan which fall outside Council's responsibility.

4.3 Government Agencies

- i) Government agencies with responsibilities that affect koalas and their habitat are encouraged to:
 - a) use this Plan in the discharge of their responsibilities
 - b) consult with Council on issues of mutual concern

4.4 Landholders

- i) Landholders with an interest in koalas and their

conservation are encouraged to:

- a) ensure that their land management practices do not further exacerbate key threats to koalas and/or their habitat from land clearing, weeds, dogs, cars or bush fire
- b) review their land management practices in light of the Plan and examine the potential of their holdings to assist with the koala recovery process and/or habitat restoration
- c) liaise with Council on any relevant issues of concern, or if assistance is required

Council is active in the delivery of a number of internal and externally funded grant programs to assist landholders to better manage koalas and their habitat.

For further details see:

<http://www.tweed.nsw.gov.au/environment>

or contact Council on (02) 6670 2400

or email tsc@tweed.nsw.gov.au

4.5 Property Developers

- i) Property developers are required to ensure that any relevant Development Proposal is consistent with the development assessment and strategic planning provisions of this Plan (i.e. Parts 5 and 6 respectively).
- ii) Property developers are encouraged to:
 - a) seek best practice measures to accommodate and/or assist koala recovery in the context of Development Proposals
 - b) ensure that their day to day land management actions do not further exacerbate key threats to koalas and/or their habitat from land clearing, weeds, dogs, cars or bush fire
 - c) liaise with Council on issues relevant to the operation of this Plan

4.6 The Tweed Community

- i) Community groups and individuals are encouraged to:
 - a) become more actively involved with the recovery effort through participation in habitat restoration and threat reduction programs
 - b) become better informed about the koala recovery process
 - c) ensure that their day to day actions do not contribute

to the key threats to koalas and/or their habitat from land clearing, weeds, dogs, cars or fire

- d) support koala welfare and wildlife care organisations such as Friends of the Koala Inc. and Tweed Valley Wildlife Carers
- e) contact Council on any relevant issues of concern

Tweed Shire Council can be contacted on (02) 6670 2400

or by email: tsc@tweed.nsw.gov.au.

See also <http://www.tweed.nsw.gov.au/environment>

Friends of the Koala Inc. is the primary organisation licensed to care for sick, injured or orphaned koalas in Tweed Shire.

Phone: (02) 6622 1233

Email: info@friendsofthekoala.org

Web: <http://www.friendsofthekoala.org>

4.7 Koala Management Committee

To ensure broad community representation and inter-agency involvement in the processes of implementation and recovery, a Koala Management Committee (KMC) will be established.

- i) Council shall establish a Koala Management Committee (KMC) to advise and assist Council with implementation and review of the Plan, including any contiguous IKPoMs.
- ii) Within three months of commencement of the Plan, Council shall adopt Terms of Reference for the KMC, and arrange for the first meeting.
- iii) The Terms of Reference for the KMC shall include one Councillor, two Council officers, one representative each from Office of Environment and Heritage, Rural Fire Service, Friends of the Koala, a Koala Conservation/ Environmental Group and three representatives from the Tweed Coast community.
- iv) The term of the KMC shall be concurrent with the term of Council.
- v) The chairperson shall be elected from amongst the members and shall retain that position for a period of no greater than 12 months.
- vi) The KMC shall meet at least four times a year for the first five years of the Plan, and thereafter as required but no less than twice a year.



5. Development Assessment

Overall Objective: To protect, manage and enhance koala populations and their habitat through the application of rigorous and consistent development assessment standards in the context of the imperatives for koala conservation and recovery on the Tweed Coast.

5.1 Overview

The provisions of this Part are “triggered” when Council receives a Development Proposal on the Tweed Coast, however there are certain exclusions including:

- Exempt or Complying development and
- Development affected by a pre-existing individual Koala Plan of Management under SEPP 44.

Additionally, Minor Developments on small lots or within an existing Development Envelope will not generally be subject to this Section of the Plan (see Section 5.6).

For other developments, the provisions set out in this Part of the Plan depend on the scale or type of development, where it is on the Tweed Coast (i.e. Koala Management Area and/or Precinct; see Figs 1 and 2; see mapping section at <http://www.tweed.nsw.gov.au> for further detail) and whether or not koalas are present on the site.

For these larger scale developments the provisions set out in this Part of the Plan include:

- standards for the assessment of koala habitat
- requirements for koala habitat protection and restoration
- guidance on development layout and design.

The provisions of this Part of the Plan also allow for other approaches to be considered where a better outcome for koalas

can be assured.

Figure 3 shows how this Part applies to specific Development Proposals.



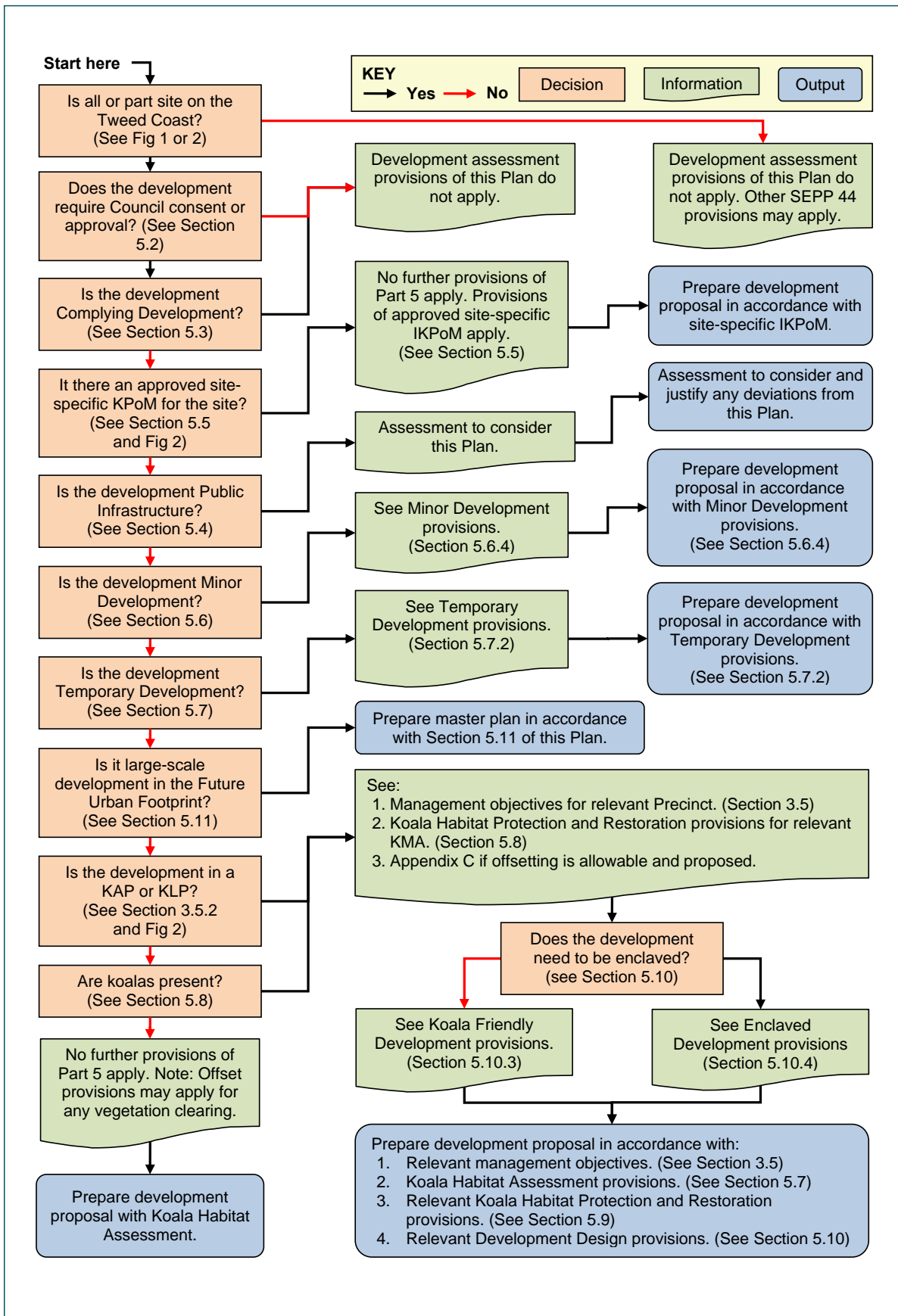


Figure 3 Development Assessment Pathway

5.2 Application

- i) The provisions of this Part of the Plan apply to Development Proposals within the Tweed Coast that require consent or approval of Council. This includes but is not limited to:
 - a) development consent under Part 4 of the EP&A Act
 - b) activity approval under Part 5 of the EP&A Act
- ii) Development Proposals within the Future Urban Footprint shall be considered under Section 5.11 of this Plan.

The purpose of the clause above is to ensure that a number of strategic “master planning” considerations are addressed for larger scale developments within the defined Future Urban Footprint area prior to the application of many of the other standards set out in this Part.

See Figure 2 for the potential extent of the urban footprint. Note however the definition of the Future Urban Footprint at Section 5.11.2 (i) which involves undeveloped lands that have been formally identified for future urban purposes.

- iii) The provisions of this Plan shall be used to inform comment and Council input into Development Proposals within the Tweed Coast for which Council is not the consent authority. This includes but is not limited to State Significant Development and development assessed by the Joint Regional Planning Panel.

The purpose of the clause above is to ensure that any Council input into a proposed development where it is not the consent authority, seeks to achieve outcomes consistent with this Plan.

- iv) Apart from advice, any resourcing provided by Council to implement this Plan shall not be used to fulfil any conditions of development consent or approval.

5.3 Exempt and Complying Development

- i) The provisions of this Part of the Plan do not apply to development regarded as Exempt or Complying development under any environmental planning instrument.

The scope and application of Exempt and Complying Development is largely determined by the State (e.g. SEPP (Exempt and Complying Development Codes) 2008).

While most instances of Exempt or Complying Development are unlikely to affect koalas, the Strategic Planning provisions contained in Part 6 of this Plan require Council to seek opportunities to improve the current planning framework consistent with the objectives of this Plan.

- ii) For the purposes of the fencing provisions contained in SEPP (Exempt and Complying Development Codes) 2008, the “relevant council policy” shall be taken as a reference to the Wildlife Infrastructure Guidelines presented in Appendix D of this Plan or other Council approved contemporary design.

Sections 2.34, 2.36 and 2.38 of SEPP (Exempt and Complying Development Codes) 2008, requires fencing “located in a core koala habitat or potential koala habitat within the meaning of State Environmental Planning Policy No 44-Koala Habitat Protection or in a movement corridor used by koalas - be constructed or installed in accordance with any relevant council policy or guideline under that Policy”. The clause above is included to assist in the interpretation of the SEPP (Exempt and Complying Development Codes) 2008.

5.4 Public Infrastructure

- i) The provisions of this Part of the Plan do not apply to development to which any of the following apply:
 - a) State Environmental Planning Policy (Infrastructure) 2007
 - b) Clause 7.11 - Council Infrastructure Development under Tweed LEP 2014 or any similar such clause in another, subsequent or amended relevant LEP.
- ii) Notwithstanding (i) above, Council shall, in assessing development referred to in (i) above, consider and justify any potential inconsistencies with this Plan.

Almost all infrastructure work carried out by public authorities (such as Council) is assessed under the provisions of State Environmental Planning Policy (Infrastructure) 2007 which overrides this Plan.

Clause (ii) above aims to ensure, as a matter of Council policy, that when Council carries out any necessary environmental

assessment for public infrastructure works the provisions of this Plan are considered. This may also mean that in some circumstances a merit based approach to assessing koala habitat may be acceptable given the difficulties in provisioning linear public infrastructure development under the Plan.

In justifying any deviations from this Plan it expected that the relevant objectives and provisions of this Plan are balanced against the public benefit of the planned infrastructure.

5.5 Individual (site-specific) Koala Plans of Management

- i) Development proposals affected by an Individual Koala Plan of Management approved under SEPP 44 (e.g. Koala Beach, Black Rocks and Kings Forest; see Fig 2) must be prepared and implemented in accordance with the relevant Individual Koala Plan of Management.

See Part 6 for provisions relating to the long-term integration of individual KPoMs with this Plan.

5.6 Minor Development

5.6.1 Overview

The purpose of this section is to provide a streamlined assessment process and development provisions for small-scale developments on small lots or within an existing Development Envelope that are unlikely to adversely affect koalas, their habitat and/or recovery.

Examples include new dwellings, alterations and additions, swimming pools, pontoons and boat ramps, sheds, demolition, commercial/industrial activities on previously subdivided urban land or other land within an existing Development Envelope.

Unlike larger-scale development proposals, minor developments are not required to have a Koala Habitat Assessment or a Koala Activity Assessment (see Section 5.8 below) carried out by a professional consultant.

However, to ensure that such development does not adversely impact the koala population, Council officers will determine if any Preferred Koala Food Trees or Preferred Koala Habitat proposed to be removed are actively used by koalas.

Provisions relating to retention of Preferred Koala Food Trees and Preferred Koala Habitat are assessed on a case by case

basis dependent on the location and nature of the development site in the koala planning landscape.

Other provisions relating to bush fire and swimming pools seek to limit indirect impacts of the proposed development on koalas.

In the absence of a koala plan of management such as this, it should be noted that the Minor Development provisions of this Plan would not normally be applicable under Part 2 of SEPP 44, due to the global exclusion of land less than one hectare. However, due to the precarious status of the koala population on the Tweed Coast this Plan seeks to simplify the assessment process and minimise the development control provisions for small-scale developments but does not automatically ignore Core Koala Habitat on lands less than one hectare.

5.6.2 Application

- i) Minor Development includes any of the following:
 - a) development on land that, either singly or together with any adjoining land in the same ownership, has an area less than 1ha (whether or not the Development Proposal applies to the whole or only part of the land)
 - b) new dwellings, or alterations to existing dwellings, where the proposed Development Envelope does not include Preferred Koala Habitat
 - c) development on land that is consistent with a current previous approval granted over the same land in accordance with the provisions of this Plan
 - d) boundary adjustments that do not provide the opportunity for intensification of development
- ii) Despite (i) above, Minor Development does not include Development Proposals that involve subdivision or the potential for further subdivision.
- iii) Notwithstanding (i) above Minor Development does not include Development Proposals that cannot meet the Minor Development provisions set out in Section 5.6.4 below.

5.6.3 Minor Development Assessment

- i) A Development Proposal for Minor Development shall include a description of the existing trees and vegetation including the following:
 - a) A plan of the site showing the location of the trees

and vegetation proposed for removal, isolation (fenced), lopping or pruning and their position in relation to any proposed:

- dwelling or other building
- road or driveway
- bush fire asset protection zone
- or within 20 m of any of the above

b) Species and trunk diameter at 1.4 m above the ground of each of the trees identified on the above plan.

ii) On receipt of the information in (i) above, a Suitably Qualified Council officer will inspect any Preferred Koala Food Trees for evidence of koala activity.

5.6.4 Minor Development Provisions

- i) The removal of Preferred Koala Food Trees is not permitted where actively used by koalas.
- ii) The removal of Preferred Koala Habitat within a Koala Activity Precinct or a Koala Linkage Precinct is not permitted except where both of the following apply:
- a) it is within an *existing* Development Envelope, and
 - b) it is within an bush fire Inner Protection Zone as defined by Planning for Bushfire Protection 2006 (RFS, 2006)
- iii) The proposed removal of any Preferred Koala Food Trees or Preferred Koala Habitat under (i) or (ii) above, shall be assessed on a case by case basis and if permitted will be conditioned to offset the loss in accordance with the Offset Requirements detailed in Appendix C.
- iv) Buildings, driveways and other structures should be designed to avoid damage to (or from) any retained Preferred Koala Food Tree(s) or Preferred Koala Habitat.
- v) Bush fire asset protection zones shall not encroach on existing or proposed koala habitat.
- vi) In cases where approval is sought for a swimming pool, koala-proof pool fencing (see Appendix D) is to be installed if the Development Envelope is in or adjacent to a Koala Activity Precinct or Koala Linkage Precinct (see Fig 2; see mapping section at <http://www.tweed.nsw.gov.au> for further detail) or if there is evidence of koala activity.

vii) Minor Development shall not otherwise result in or permit disturbance to koalas or their habitat.

Offsets are only considered when all options to avoid or mitigate impacts are considered and confirmed as unachievable. The offsetting provisions of this Plan (Appendix C) are based on the Australian Government's Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy. However, because of inherent risks, time lags and administrative issues, it is anticipated that the use of offsets will rarely be cost effective especially where attempted offsite. Council may be able to assist proponents to meet the offsetting provisions of this Plan for small-scale offsetting associated with minor development. See Appendix C for details.

5.7 Temporary Development

5.7.1 Overview

Temporary developments vary significantly in their nature, scope and potential to affect the environment. This makes it difficult to anticipate the sort of specific provisions that may be necessary to mitigate any adverse impacts. The temporary use of land is regulated under clause 2.8 of Tweed LEP 2014, which outlines a number of relevant considerations. To ensure that issues relevant to koala conservation are addressed, the following provision seeks to ensure that any temporary development is consistent with the provisions of this Plan.

5.7.2 Temporary Development Provisions

i) For development on the Tweed Coast to which clause 2.8 of Tweed LEP 2014 applies, Council shall not grant consent unless the development can be appropriately conditioned having considered the provisions of this Part (Part 5), the aims of the Plan (Section 2.6) and the Koala Management Framework set out in Part 3.

5.8 Assessment of Koala Habitat

5.8.1 Overview

The purpose of this Section is to ensure that potential and occupied koala habitat is correctly identified and to provide a mechanism to ensure that Development Proposals are compliant with this Plan.

There are several components to the assessment of koala habitat.

- A survey of koala habitat in and around the proposed development site to identify the extent (if any) of Preferred Koala Habitat or Preferred Koala Food Trees.
- A koala activity survey to determine if and how koalas are using the site. This assessment is only required if Preferred Koala Habitat or Preferred Koala Food Trees have been identified in the koala habitat survey above.
- A Habitat Restoration Plan if required under the relevant provisions for koala habitat restoration and management.
- An analysis of any potential sources of residual impact that are not accounted for under the standard provisions of this Plan.
- An audit to demonstrate how the proposed development addresses the relevant requirements of the Plan
- Any recommendations for variations to the provisions of this Part that provide an improved outcome for koalas or their habitat.

5.8.2 Application

- i) This section (Section 5.8) applies to all Development Proposals to which this Part applies but does not apply to any of the following:
 - a) Exempt or Complying development (see Section 5.3)
 - b) Minor Development (see Section 5.6)
 - c) development affected by an Individual Koala Plan of Management (see Section 5.5)

5.8.3 Koala Habitat Assessment

- i) A Koala Habitat Assessment shall be prepared for an area of land consisting of the property (or properties where more than a single property is involved) on which the development is proposed (including any envisaged infrastructure, easements, bush fire asset protection zones and the like) and any contiguous road or waterway reserves.
- ii) In the case of a Development Proposal for an area of land not contained within an allotment (e.g. road or waterway reserve), the area to be surveyed for the Koala Habitat Assessment shall extend 200 m beyond the proposed Development Envelope including any envisaged infrastructure, easements, bush fire asset protection

zones and the like.

- iii) Koala Habitat Assessment shall include the following as a minimum.
 - a) A map showing the land and development site in relation to the distribution of Preferred Koala Habitat within 2.5 km of the land as depicted in Phillips et al. (2011) or as updated from time to time (see mapping section at <http://www.tweed.nsw.gov.au> for further detail).
 - b) A map of each vegetation community on the land being assessed highlighting the distribution of Preferred Koala Habitat and any areas of scattered or isolated Preferred Koala Food Trees on otherwise cleared land.
 - c) A description of the structure and floristics of each vegetation community on the land. Vegetation descriptions should include details of the underlying substrate, condition, weed status, and Koala Habitat Category (see Appendix II of Phillips et al. (2011) and biodiversity section at <http://www.tweed.nsw.gov.au> for further detail). Mapping codes should be related to vegetation codes used in the Tweed Vegetation Management Strategy 2004 (Kingston et al. 2004; see biodiversity section at <http://www.tweed.nsw.gov.au> for further detail) and the Office of Environment and Heritage Vegetation Type Database (<http://www.environment.nsw.gov.au/biobanking/vegtypedatabase.htm>). A clear explanation of survey effort and method should also be included. All native and exotic plant species recorded at the site should be presented as a list of plant species for each vegetation community and should include scientific name, common name, life form, relative abundance in each stratum and conservation or weed status (if applicable).
 - d) In cases where the survey of koala habitat carried out in accordance with (b) and (c) above identifies Preferred Koala Habitat or Preferred Koala Food Trees anywhere on the land to which the Koala Habitat Assessment applies, a Koala Activity Assessment must be carried out in accordance with the methodology outlined in Appendix E of this Plan to determine the level of site usage (if any) by koalas.
 - e) A detailed survey that includes and maps the precise location, identity and size (diameter at 1.4 m) of all preferred koala food trees to be removed or retained

inside or within 20 m of the proposed Development Envelope (including any envisaged infrastructure, easements, bush fire asset protection zones and the like). Such a survey shall clearly identify any areas of native vegetation proposed to be removed.

- f) A Habitat Restoration Plan if required under the relevant provisions for koala habitat protection and restoration (see Section 5.8) which shall be prepared in accordance with Council's Habitat Restoration Plan Preparation Guideline (see website).
- g) Any Habitat Restoration Plan required under Section 5.9 shall pay particular attention to measures necessary to minimise the risk to koalas from bush fire including hazard reduction burning. Such measures should be consistent with Part 10 of this Plan and/or any subsequently prepared guidance from Council.
- h) Consideration of any potential sources of residual impact that are not accounted for under the standard provisions of this Part.
- i) An audit to demonstrate how the proposed development addresses the relevant requirements of this Plan
- j) Any recommendations for site-specific variations to the provisions of this Part that provide an improved outcome for koalas and their habitat.
- k) The Koala Habitat Assessment shall be undertaken by a Suitably Qualified Person.

5.8.4 Consideration of a Koala Habitat Assessment

- i) Unless there are clear and significant residual impacts of the Development Proposal not anticipated by this Part, a Development Proposal prepared in accordance with, and which demonstrates compliance with, this Part shall not be refused on the basis of potential impacts on koalas or their habitat.
- ii) Council may have any Koala Habitat Assessment peer-reviewed at its discretion.

See also Section 5.13 which indicates that although

the statutory assessments under the state and federal threatened species legislation will need to be addressed in any Development Proposal, it is considered highly unlikely that a Development Proposal that is consistent with the provisions of this Plan will trigger further assessment under the NSW Threatened Species Conservation 1995 or the Federal Environment Protection and Biodiversity Conservation Act 1999.

5.9 Koala Habitat Protection and Restoration

5.9.1 Overview

The purpose of this section is to ensure that new development positively contributes to the retention, protection, restoration and ongoing management of koala habitat consistent with the planning intent for the relevant Koala Management Area.

Specific provisions for the protection and restoration of koala habitat detailed in this section depend on:

- the scale of the development
- the Koala Management Area in which the Development Proposal is located (see Fig. 2; see mapping section at <http://www.tweed.nsw.gov.au> for further detail), and
- whether or not koalas are present on the proposed development site

5.9.2 Application

- i) This Section (Section 5.9) applies to Development Proposals:
 - a) within a Koala Activity Precinct (see Fig. 2)
 - b) within a Koala Linkage Precinct (see Fig. 2)
 - c) elsewhere on the Tweed Coast where koalas are present
- ii) Despite (i) above, this Section (Section 5.9) does not apply to any of the following:
 - a) Exempt or Complying development (see Section 5.3)
 - b) Minor Development (see Section 5.6)
 - c) development affected by an Individual Koala Plan of Management (see Section 5.5)
- iii) For Development Proposals not referred to in (i) or (ii) above (i.e. not in a KAP or KLP and no koalas present),

the proposed removal of Preferred Koala Food Trees or Preferred Koala Habitat, shall be assessed on a case by case basis and if permitted will be conditioned, to offset the loss, in accordance with the Offset Requirements detailed in Appendix C.

Offsets are only considered when all options to avoid or mitigate impacts are considered and confirmed as unachievable. The offsetting provisions of this Plan (Appendix C) are based on the Australian Government's Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy. However, because of inherent risks, time lags and administrative issues, it is anticipated that the use of offsets will be rarely cost effective especially where attempted offsite. See Appendix C for details.

5.9.3 Retention of Koala Habitat

- i) The removal of any Preferred Koala Food Tree is not permitted if actively used by koalas.
- ii) The removal of any Preferred Koala Food Tree is not permitted for trees with a trunk diameter greater than or equal to 250 mm at 1.4 m above the ground.
- iii) The removal of any Preferred Koala Food Tree with a trunk diameter less than 250 mm at 1.4 m above the ground shall be assessed on a case by case basis and if permitted will be conditioned, to offset the loss, in accordance with the Offset Requirements detailed in Appendix C.
- iv) The removal of Preferred Koala Habitat is not permitted except where both of the following apply:
 - a) it is within an *existing* Development Envelope, and
 - b) it is within an bush fire Inner Protection Zone as defined by Planning for Bushfire Protection 2006 (RFS, 2006)
- v) Any removal of Preferred Koala Habitat in accordance with (iv) above will be conditioned, to offset the loss, in accordance with the Offset Requirements detailed in Appendix C.

Offsets are only considered when all options to avoid or mitigate impacts are considered and confirmed as unachievable. The offsetting provisions of this Plan (Appendix C) are based on the Australian Government's Environment Protection and

Biodiversity Conservation Act 1999 Environmental Offsets Policy. However, because of inherent risks, time lags and administrative issues, it is anticipated that the use of offsets will be rarely cost effective especially where attempted offsite. See Appendix C for details.

5.9.4 Restoration and Management of Koala Habitat

- i) For Development Proposals within a Koala Activity Precinct or any other area where koalas are present, a minimum of ten (10) per cent of the land area of the proposed Development Envelope (including any envisaged infrastructure, easements, bush fire asset protection zones and the like) must be revegetated to create additional Preferred Koala Habitat. Such areas shall:
 - a) be within the property (or adjacent properties in the same ownership) to which the development is proposed but outside of the Development Envelope and any land used for offsetting under Section 5.9.3(iii) or retained under Section 5.9.3 (iv), and
 - b) be optimally located with respect to any existing Preferred Koala Habitat
- ii) For Development Proposals within a Koala Linkage Precinct without evidence of koala usage, connectivity for koalas must be enhanced by the planting of Preferred Koala Food Trees or the creation of additional Preferred Koala Habitat. Such areas shall:
 - a) be within the property (or adjacent properties in the same ownership) to which the development is proposed but outside of the Development Envelope (including any envisaged infrastructure, easements, bush fire asset protection zones and the like), any land used for offsetting under Section 5.9.3 (iii) or retained under Section 5.9.3 (iv), and
 - b) be optimally located to improve koala habitat connectivity

The requirements under (i) and (ii) above are designed to ensure that developments in priority areas (KAPs, KLPs or where koalas are present) properly account for indirect impacts that cannot easily be mitigated on site (e.g. cumulative contributions to road mortality, bushfire propensity, disease, exotic species and habitat degradation from increasing human population growth)

and thus make a positive contribution to koala conservation and recovery consistent with the overall management framework of this Plan (see 3).

In the case of (ii) above the planting of Preferred Koala Food Trees may include scattered trees, windbreaks, riparian or fence line plantings where appropriate.

The creation of additional Preferred Koala Habitat off-site as compensation is not encouraged but may be acceptable where a better outcome for koalas is assured.

- iii) Council may waive the requirements of (i) or (ii) above where the proponent can demonstrate that they have voluntarily created an equivalent amount of koala habitat on the same property (or adjacent properties in the same ownership) on which the development is proposed prior to the submission of the Development Proposal. Any areas utilised under this clause cannot be used again to satisfy the requirements of (i) or (ii) above under another future Development Proposal.

This clause serves to ensure that landholders who voluntarily make a positive contribution to koala conservation are not “penalised” if they later seek to realise a development opportunity on their land.

- iv) The following areas shall be restored and managed in perpetuity in accordance with an approved Habitat Restoration Plan:
- a) any areas of Preferred Koala Habitat retained in accordance with Section 5.9.3(iv), that are within 100 m of the proposed Development Envelope (including any envisaged infrastructure, easements, bush fire asset protection zones and the like) and on the property (or properties where more than a single property is involved)
 - b) any areas to be revegetated in accordance with (i) or (ii) above
 - c) any areas previously revegetated in accordance with (iii) above
 - d) any areas used to offset the loss of Preferred Koala Food Trees in accordance with Section 5.9.3(iii)

The purpose of a Habitat Restoration Plan is to ensure that the ongoing impacts of the development are properly mitigated and

that the development makes a positive contribution to koala recovery consistent with the objectives of this Plan.

- v) The Habitat Restoration Plan referred to in (iii) above is to be prepared in accordance with Council’s Habitat Restoration Plan Preparation Guideline (see website).
- vi) The Habitat Restoration Plan referred to in (iii) above shall pay particular attention to measures necessary to minimise the risk to koalas from bush fire and hazard reduction burning. Such measures should be consistent with Part 10 of this Plan and/or any subsequently prepared or endorsed guidance from Council.

5.9.5 Protection of Koala Habitat

- i) Council will require one or more restrictive covenants under Part 6 (Division 4) of the *Conveyancing Act 1919* to ensure any Preferred Koala Food Trees, any offset areas, any retained Preferred Koala Habitat and any revegetation areas referred to in Section 5.9.4 above are appropriately protected from future development and managed for the ongoing benefit of koalas and their habitat.

5.9.6 Dedication of Lands for Koala Habitat Conservation

- i) Council may, at its discretion, accept dedication of land, on request of the landowner, for the purpose of nature conservation including koala habitat conservation where it is considered in the public interest to do so.

While this Plan is concerned with the conservation of koalas and their habitat, in many cases where this Plan will apply there are likely to be other elements of the environment that will need to be conserved and managed. The reference to “nature conservation including koala habitat conservation” in the clause allows a more integrated approach to the issue of dedication.

- ii) Notwithstanding (i) above, Council will only accept dedication of land for the purpose of nature conservation including koala habitat conservation where suitable arrangements have been made for the proponent and/or the operation of the development itself to fund the implementation, in perpetuity, of any approved Habitat Restoration Plan referred to in Section 5.9.4 above.

There are a number of possible arrangements to ensure the ongoing management of areas set aside for koala conservation. These include lump sum payments by the developer(s) from funds raised from a “surcharge” on each lot sold, Body Corporate contributions for the management of land under community title and special purpose rate levies. In most cases a Voluntary Planning Agreement under s93 of the EPA Act or similar legally binding agreement will be necessary to formalise such funding arrangements.

- iii) Whatever the ownership or funding arrangement referred to in (ii) above, Council will require the proponent to manage and fund the establishment period set out in the approved Habitat Restoration Plan referred to in Section 5.9.4 above.

The establishment period includes any initial planting, and restoration work necessary to permit the area to be maintained by routine management.

- iv) Despite clauses (ii) and (iii) above, Council may accept dedication of land for the purpose of nature conservation including koala habitat conservation for subdivisions of five (5) lots or less where it is considered in the public interest to do so. In such cases, the proponent will be required to fund the establishment period set out in the approved Habitat Restoration Plan and at least five (5) years of maintenance.

This provision allows Council to optionally absorb the cost of ongoing management for smaller scale developments.

- v) Any dedication of land to Council for the purpose of nature conservation including koala habitat conservation shall occur as soon as practical after approval of the Development Proposal for the relevant stage of the development.
- vi) Council will accept responsibility for ongoing management in accordance with the maintenance period obligations set out in the approved Habitat Restoration Plan referred to in Section 5.9.4 above, for of any lands to be dedicated once:
- all the approved establishment period works have been satisfactorily completed by the proponent
 - any necessary maintenance period works (e.g. under clause (iv)) have been satisfactorily completed by the proponent

- c) any required funding agreements or other arrangements have been finalised

- d) title to the land has been transferred to Council

In the case that any of the conditions (a - d) are not met, the proponent will remain responsible for implementation of the approved Habitat Restoration Plan.

- vii) Council may approve the dedication of land for the purpose of nature conservation including koala habitat conservation to another government agency where there is agreement between the agency and proponent to do so, and suitable arrangements are made to ensure the land is appropriately protected and managed in perpetuity.

5.10 Development Layout and Design

5.10.1 Overview

The purpose of this section is to ensure that the layout and design of new development minimises any impact on koalas and their habitat consistent with the planning intent for the relevant Koala Management Precinct .

The specific development layout and design provisions of this Part depend on:

- the scale of the development;
- the Koala Management Precinct in which the Development Proposal is located (see Fig. 2; see mapping section at <http://www.tweed.nsw.gov.au> for further detail);
- whether or not koalas are present on the proposed development site.

To address the factors above and to make the most efficient use of land set aside for urban purposes, this Plan provides for two styles of development; Enclaved Development and Koala Friendly Development.

Enclaved Development involves a suite of provisions that seek to ensure that koalas cannot access the development area and that dogs (if they are to be allowed at all) cannot access koala habitat. This style of development is most suited to high density urban development in close proximity to koalas, their habitat or priority areas for koala recovery.

Koala Friendly Development involves a suite of provisions that seek to minimise the construction and on-going impacts on

koalas of the development without the need for enclaving. This style of development is most suited to low density urban and rural developments in close proximity to koalas, their habitat or priority areas for koala recovery.

For developments located away from koalas, their habitat or priority areas for koala recovery the provisions of this section are not mandatory, however some of the provisions may be appropriate to address other nature conservation issues.

5.10.2 Application

- i) This section (Section 5.10) applies to Development Proposals:
 - a) within a Koala Activity Precinct (see Fig. 2)
 - b) within a Koala Linkage Precinct (see Fig. 2)
 - c) elsewhere on the Tweed Coast where koalas are present
- ii) Despite (i) above, this Section (Section 5.10) does not apply to any of the following:
 - a) Exempt or Complying development (see Section 5.3)
 - b) Minor Development (see Section 5.6)
 - c) development affected by an individual Koala Plan of Management (see Section 5.5)
- iii) Notwithstanding (i) and (ii) above, the Enclaved Development provisions of Section 5.10.4 apply to urban developments consisting of, or capable of subdivision into, ten (10) or more urban lots, smaller than 750 m², where the Development Envelope (including any envisaged infrastructure, easements, bush fire asset protection zones and the like) is adjacent to any of the following over at least half of its perimeter:
 - a) land subject to a Habitat Restoration Plan required under Section 5.9.4 (iv)
 - b) Preferred Koala Habitat on adjacent land under different ownership
- iv) The Koala Friendly Development provisions of Section 5.10.3 apply to other development to which this section (Section 5.10) applies.

The provisions set out under Section 5.10 are directed mostly at rural and urban residential developments including subdivisions. While these types of development will be the most common types of development captured under this section, there may be other types of development such as tourist resorts, private

recreation ventures and rural industries that will need to be considered on a case by case basis. Provisions under Section 5.12 allow Council to condition the development where the general and specific objectives of this Plan are met (see Section 5.12 for further details).

5.10.3 Koala Friendly Development

5.10.3.1 Building Envelopes

- i) Building envelopes are to be shown on development plans for the subdivision of residential allotments greater than 1000 m².
- ii) Where considered necessary to avoid future koala management issues, Council may require building envelopes to be defined by restrictive covenant under Part 6 (Division 4) of the *Conveyancing Act 1919* for residential allotments greater than 1000 m².

The purpose of this provision is to ensure that the future construction of dwellings and the like on larger allotments (e.g. rural lots) are appropriately located to avoid future koala management issues.

5.10.3.2 Management of Koala Food Trees

- i) All Preferred Koala Food Trees shall be managed in accordance with the requirements of *Australian Standard 4970-2009 Protection of Trees on Development Sites*.
- ii) For subdivisions (including Community Title), the development design is to include the planting of Preferred Koala Food Trees on public or community land including low use roadsides, where practical and ecologically appropriate, within the Development Envelope. The minimum number of trees to be planted shall be not less than the number of allotments and:
 - a) be distributed throughout the Development Envelope excluding high use roads (see section 5.10.3.5)
 - b) be located to prevent future management conflicts with footpaths, infrastructure and driveways
 - c) not located within 2.5 m of any planned infrastructure
 - d) be planted in conjunction with root barriers, installed directly adjacent to any infrastructure (kerbs, footpaths, driveways etc) within 6 m of a tree planted in accordance with this clause

To satisfy provision (ii) above, the creation of wider than normal road reserves may be required, with Preferred Koala Food Trees on one side and footpaths and infrastructure on the other.

- iii) Plantings referred to in (ii) above shall be maintained by the developer with the prompt replacement of any losses for a minimum period of 5 years, or as otherwise agreed, and thereafter by Council.
- iv) For subdivisions (including Community Title), the development layout shall ensure that any retained Preferred Koala Food Trees or Preferred Koala Habitat is not located on privately-owned allotments less than or equal to 1000 m² or within a building envelope referred to in Section 5.10.3.1.
- v) The development layout shall ensure koalas can safely move between any Preferred Koala Food Trees or Preferred Koala Habitat within the Development Envelope.

The purpose of (iv) and (v) above is to minimise future koala management conflicts in the immediate vicinity of dwellings and similar structures but still allow the movement of koalas through the development.

5.10.3.3 Fencing

This section does not prohibit or limit fencing of small lots or defined building envelopes for privacy, security or other purposes.

Fauna exclusion fencing requirements in relation to road design are addressed in Section 5.10.3.5 below.

- i) Council will require a restrictive covenant under Part 6 (Division 4) of the *Conveyancing Act 1919* to ensure that any fencing is designed to allow free movement of koalas outside of any privately-owned allotments less than or equal to 1000 m², or building envelope referred to in Section 5.10.3.1.
- ii) The design of fencing referred to in (i) above shall be consistent with the fauna friendly fencing guidelines presented in Appendix D or other Council approved contemporary design.

The purpose of provisions (i) and (ii) above is to ensure that rural and other fencing in these areas (KAPs, KLPs or where koalas are present) does not prevent the movement of koalas through the landscape.

- iii) Council will require a restrictive covenant under Part 6 (Division 4) of the *Conveyancing Act 1919* to ensure that any safety fencing required around swimming pools shall be constructed to prevent access by koalas (See koala proof pool fencing guidelines in Appendix D).

The purpose of provision (iii) above is to prevent koalas from accessing and potentially drowning in swimming pools.

5.10.3.4 Dogs

- i) For urban zoned allotments, Council will require a restrictive covenant under Part 6 (Division 4) of the *Conveyancing Act 1919* to ensure that domestic dogs are not kept or otherwise brought on to the allotment.

This Plan cannot (and does not seek to) prohibit assistance animals as defined in the Companion Animals Act 1998.

- ii) For non-urban zoned residential allotments, Council will require a restrictive covenant under Part 6 (Division 4) of the *Conveyancing Act 1919* prohibiting the keeping or bringing of domestic dogs onto the allotment unless any of the following apply and the dog is securely housed (in a manner that also prevents access by koalas) and not permitted to roam beyond the curtilage of an approved dwelling or other approved structure at all times:
 - a) the allotment is one created in accordance with this Section (Section 5.10.3) on which there is an existing lawful dwelling where an existing dog resides
 - b) the dog is a working dog as defined by the *Companion Animals Act 1998*

The Companion Animals Act 1998 defines a working dog as a dog used primarily for the purpose of droving, tending, working or protecting stock, and includes a dog being trained as a working dog.

- iii) For urban subdivisions (including Community Title), developments, clearly visible “No Dog” signage shall be installed at all entry points and in any areas of public open space within the development.
- iv) Any development consent or approval shall be conditioned to ensure that dogs are not brought on to a development site to which this Part applies.
- v) Council will prohibit dogs from all public parks, reserves and recreational areas in areas affected by Section 5.10.3.

5.10.3.5 Roads

- i) On low use roads (less than 1500 car movements per day) a 40 km/h speed limit shall be implemented and appropriate traffic calming devices installed to effectively restrict motor vehicles to a maximum speed of 40 km/h.
- ii) On high use roads (1500 car movements per day or more) underpasses, grids and fauna exclusion fencing shall be installed in any areas that traverse or are adjacent to Preferred Koala Habitat or areas subject to a Habitat Restoration Plan prepared in accordance with Section 5.9.4.
- iii) The design of roads and associated infrastructure referred to in (i) and (ii) above shall be consistent with the Wildlife Infrastructure Guidelines presented in Appendix D or other Council approved contemporary design.
- iv) Any wildlife infrastructure required under this Part shall be maintained by the developer with prompt repair where necessary for a minimum period of 5 years, or as otherwise agreed, and thereafter by Council.
- v) Where possible the design and layout of the development shall include perimeter roads between urban development and Preferred Koala Habitat or areas subject to a Habitat Restoration Plan prepared in accordance with Section 5.9.4.
- vi) Wildlife and road speed signage should be installed at appropriate locations to highlight wildlife hazards and the need to maintain speed limits.

5.10.3.6 Bush Fire Asset Protection Zones

- i) Any new bush fire asset protection zones shall not encroach on any existing Preferred Koala Habitat or areas subject to a Habitat Restoration Plan prepared in accordance with Section 5.9.4.

5.10.3.7 Management of Construction Impacts on Koalas

- i) Construction is to be carried out such that koalas are able to safely move between any retained Preferred Koala Food Trees or Preferred Koala Habitat.
- ii) Clearing of native vegetation and/or earthworks carried out as part of any development approval or consent from Council must be temporarily suspended within a range of 25 m from any tree which is concurrently occupied by a koala and must not resume until the koala has moved

from the tree of its own volition.

- iii) Any clearing of land must not commence until the area proposed for clearing has been inspected for the presence of koalas and approval given in writing by a Suitably Qualified Person.
- iv) Approval to proceed with the clearing of vegetation in accordance with this Section (Section 5.10.3.7) is only valid for the day on which the inspection has been undertaken.
- v) The person referred to in (iii) above, or a nominated representative, must remain on site during any approved clearing of vegetation.

5.10.3.8 Education and Community Awareness

- i) For subdivisions (including Community Title), the importance of the site to koalas and other significant flora and fauna shall be communicated to prospective landholders by the developer through the production of a brochure or similar publication. Such a publication shall be pre-approved by Council and clearly indicate the rights and responsibilities of landholders under this Plan and what they can do to support koala conservation within the development and on the Tweed Coast.
- ii) For subdivisions (including Community Title) - involving urban land, the developer shall install appropriate interpretive signage at appropriate locations on public land within the development. Such signage shall be pre-approved by Council and should highlight the importance of the site to koalas and/or other significant flora and fauna.

5.10.4 Enclaved Development

Enclaved development involves a suite of provisions that seek to ensure that koalas cannot access the Development Envelope and that dogs cannot access koala habitat. This style of development is most suited to high density urban development in close proximity to koalas, their habitat or priority areas for koala recovery.

See Section 5.10.2 for the precise details on the application of Enclaved Development.

5.10.4.1 Layout

- i) The layout of the enclaved area shall ensure koalas can safely move between any of the following:

- a) retained Preferred Koala Food Trees
- b) Preferred Koala Habitat within or adjacent to the site
- c) areas subject to a Habitat Restoration Plan prepared in accordance with Section 5.9.4

The purpose of (i) above is to ensure that the design of the enclaved area does not contribute to further fragmentation of koala habitat

- ii) Where possible, the design and layout of the development shall include perimeter roads between urban development and any:
 - a) Preferred Koala Habitat within or adjacent to the site
 - b) areas subject to a Habitat Restoration Plan prepared in accordance with Section 5.9.4

5.10.4.2 Fauna Exclusion Fencing

- i) Koala and dog proof fencing, grids, gates and/or other approved structures shall be installed to ensure that koalas are not able to enter the enclaved area (Development Envelope) and dogs are not able to access koala habitat.
- ii) The design and precise location of fauna exclusion fencing referred to in (i) above must make provision for a functional maintenance zone each side of the fencing in order to allow sufficient room for replacement and maintenance of the infrastructure.
- iii) The design of wildlife infrastructure referred to in this Section (Section 5.10.4.2) shall be consistent with the Wildlife Infrastructure Guidelines presented in Appendix D or other Council approved contemporary design.
- iv) Wildlife infrastructure referred to in this Section (Section 5.10.4.2) shall be constructed and operational prior to the commencement of bulk earthworks.
- v) Any wildlife infrastructure required under this Section (Section 5.10.4.2) shall be maintained by the developer with prompt repair where necessary for a minimum period of 5 years, or as otherwise agreed, and thereafter by Council.

5.10.4.3 Dogs

- i) Where dogs are to be permitted in an Enclaved Development, provision must be made for securely fenced off leash dog exercise area(s) within the enclaved area.

5.10.4.4 Management of Koala Food Trees

- i) Council will require a restrictive covenant under Part 6 (Division 4) of the *Conveyancing Act 1919* to ensure that Preferred Koala Food Trees are not planted on any allotment within an enclaved area.
- ii) The development design should not include the planting of Preferred Koala Food Trees on roadsides or other public land within an enclaved area.

The purpose of (i) and (ii) above is to minimise the possibility of “attracting” koalas into the enclaved area where they are likely to come into contact with dogs and motor vehicles.

5.10.4.5 Management of Construction Impacts on Koalas

- i) Construction is to be carried out such that koalas are able to safely move between any retained Preferred Koala Food Trees or Preferred Koala Habitat.
- ii) Clearing of native vegetation and/or earthworks carried out as part of any development approval or consent from Council must be temporarily suspended within a range of 25m from any tree which is concurrently occupied by a koala and must not resume until the koala has moved from the tree of its own volition.
- iii) Any clearing of land must not commence until the area proposed for clearing has been inspected for the presence of koalas and approval given in writing by a Suitably Qualified Person.
- iv) Approval to proceed with the clearing of vegetation in accordance with this Section (Section 5.10.4.5) is only valid for the day on which the inspection has been undertaken.
- v) The koala specialist referred to in (ii) above, or a nominated representative, must remain on site during any approved clearing of vegetation.

5.10.4.6 Bush Fire Asset Protection Zones

- i) Any new bush fire asset protection zones shall not encroach on any existing Preferred Koala Habitat or areas subject to a Habitat Restoration Plan prepared in accordance with Section 5.9.4.

5.10.4.7 Education and Community Awareness

- i) The importance of the site to koalas and other significant

flora and fauna shall be communicated to prospective landholders by the developer through the production of a brochure or similar publication. Such a publication shall be approved by Council and clearly indicate the rights and responsibilities of landholders under this Plan and what they can do to support koala conservation within the development on the Tweed Coast.

- ii) Permanent signage shall be erected at:
 - a) regular intervals along the fauna exclusion fencing within the enclaved area to inform people about the purpose of the fauna exclusion fencing and the importance of its maintenance
 - b) any access points (grids, gates etc) to, and at strategic locations within any areas subject to protection under Section 5.9.5, advising that dogs are prohibited in such protected koala habitat areas

5.10.4.8 Roads Through or Adjacent to Environmental Areas

Under the provisions of Section 5.9 clearing of existing areas of koala habitat in a KAP, KLP or where koalas are present is not permitted, however there may be situations where such roads may be constructed without the requirement for clearing. The purpose of this subsection is to provide guidance on the standards required to minimise road mortality where roads are planned in close proximity to existing or future environmental areas.

- i) On low use roads (less than 1500 car movements per day) that traverse or are adjacent to Preferred Koala Habitat or areas subject to a Habitat Restoration Plan prepared in accordance with Section 5.9.4, the road design shall include the following:
 - a) a maximum 40 km/h speed limit
 - b) appropriate traffic calming devices to effectively restrict motor vehicles to a maximum speed of 40 km/h
 - c) lighting at sufficient intervals to enhance night time sight distances
 - d) wildlife and road speed signage at appropriate locations to highlight wildlife hazards and the need to maintain speed limits
- ii) On high use roads (1500 car movements per day or

more) that traverse or are adjacent to Preferred Koala Habitat or areas subject to a Habitat Restoration Plan prepared in accordance with Section 5.9.4, the road design shall include the following:

- a) koala and dog proof fauna exclusion fencing, grids, gates and/or other approved structures to ensure that koalas are not able to enter the Development Envelope and dogs are not able to access koala habitat
 - b) fauna underpasses installed at intervals sufficient to allow unimpeded movement by wildlife including koalas across roads
- iii) The design of wildlife infrastructure referred to in this Section (Section 5.10.4.8) shall be consistent with the Wildlife Infrastructure Guidelines presented in Appendix D or other Council approved contemporary design.
 - iv) Wildlife infrastructure referred to in this Section (Section 5.10.4.8) shall be constructed and operational prior to the commencement of bulk earthworks.
 - v) Any wildlife infrastructure required under this Section (Section 5.10.4.8) shall be maintained by the developer with prompt repair where necessary for a minimum period of 5 years, or as otherwise agreed, and thereafter by Council.

5.10.4.9 Additional Provisions Outside of the Enclaved Area

- i) Building envelopes are to be shown on development plans for the subdivision of residential allotments greater than 1000 m².
- ii) Where considered necessary to avoid future koala management issues, Council may require building envelopes to be defined by restrictive covenant under Part 6 (Division 4) of the *Conveyancing Act 1919* for residential allotments greater than 1000 m².
- iii) Council will require a restrictive covenant under Part 6 (Division 4) of the *Conveyancing Act 1919* to ensure that any fencing outside of the enclaved area or a building envelope referred to in (i) above shall be designed to allow free movement of koalas.
- iv) The design of any fencing referred to in (iii) above shall be consistent with the fauna friendly fencing guidelines presented in Appendix D or other Council approved contemporary design.

5.11 Development in the Future Urban Footprint

5.11.1 Overview

This Section details additional provisions for larger-scale developments that occur in priority koala management precincts (KAPs and KLPs) which have also been formally identified for potential future urban purposes.

The main purpose of this Section is to ensure that the consideration of koalas is fully and holistically integrated into the planning process for future urban areas affected by this Plan. This means that the provisions that would otherwise apply to individual developments covered elsewhere under this Part of this Plan will need to be considered across the entire relevant Future Urban Footprint area with the intention of achieving a better landscape-scale outcome for koalas and their habitat.

This approach allows any burden of koala conservation to be equitably distributed among multiple landholders and also provides greater certainty for future stages of development.

5.11.2 Application

- i) For the purposes of this Plan, the Future Urban Footprint includes the following areas:
 - a) any area of land identified for future urban purposes in a State or Council adopted plan or strategy (e.g. Far North Coast Regional Strategy 2006, Tweed Urban and Land Release Strategy 2009)
 - b) any Urban Zoned Land with a total area greater than or equal to twenty five (25) times the minimum lot size for that zone
 - c) any R5 Large Lot Residential zoned land with a total area greater than or equal to five (5) times the minimum lot size for that zone
- ii) Despite (i) above the Future Urban Footprint does not include:
 - a) Urban Zoned Land with a total area less than twenty five (25) times the minimum lot size for that zone
 - b) R5 Large Lot Residential zoned land with a total area less than five (5) times the minimum lot size for that zone

The definition in (i) and (ii) above seeks to define those undeveloped areas that have been identified for future urban growth. This includes areas that have not yet been appropriately zoned (subclause (i)(a)), areas that have been zoned but remain undeveloped (subclauses (i)(b) and (c)) but does not include areas that have already been developed (clause (ii)).

The thresholds adopted on the number of lots that could be created are consistent with SEPP 71 Coastal Protection which covers most of the Tweed Coast and also triggers the preparation and approval of a master plan.

See Figure 2 for the potential extent of the urban footprint. Note, however the definition of the Future Urban Footprint above.

- iii) This section (Section 5.11) applies to Development Proposals within the Future Urban Footprint referred to in (i) and (ii) above that is:
 - a) within a Koala Activity Precinct (see Fig. 2)
 - b) within a Koala Linkage Precinct (see Fig. 2)
 - c) elsewhere on the Tweed Coast where koalas are present (see Section 3.4)

5.11.3 Future Urban Footprint Provisions

5.11.3.1 Koala Habitat Assessment

- i) A Koala Habitat Assessment (and Koala Activity Assessment if required) shall be prepared over the entire Future Urban Footprint area including any contiguous road or waterway reserves and land required for the provision of any required infrastructure in accordance with the requirements of Section 5.8.3.

5.11.3.2 Master Plan

- i) A master plan or similar site-specific plan shall be prepared by the proponent(s) and approved by Council (or other appropriate consent authority) to guide and integrate the koala management provisions of this Plan with all other relevant aspects of the development over the entire Future Urban Footprint area.

The purpose of the clause above is to ensure that the consideration of koalas is fully and holistically integrated into the planning process for future urban areas affected by this

Plan. This means that the provisions that would otherwise apply to individual developments covered under this Part of the Plan will be applied across the entire relevant Future Urban Footprint area with the intention of achieving a better landscape-scale outcome for koalas and their habitat. This approach allows any burden of koala conservation to be equitably distributed among multiple landholders and also provides greater certainty for future stages of development.

- ii) The plan referred to in (i) above shall incorporate the following as they relate to the entire Future Urban Footprint area (rather than individual allotments):
 - a) provisions for koala habitat retention in accordance with Section 5.9.3 of this Plan
 - b) provisions for restoration and management of koala habitat in accordance with Section 5.11.3.3 below
 - c) provisions for protection of koala habitat in accordance with Section 5.11.3.4 below
 - d) provisions for development layout and design in accordance with Section 5.10
 - e) any other lands that need to be set aside for nature conservation purposes under any relevant federal, state or local legislation or adopted plan, policy or strategy
 - f) suitable arrangements to ensure that the costs of managing any lands set aside for nature conservation are shared equitably among landholders, based on anticipated development yield

In relation to subclause (ii) (e) above there are a number of relevant considerations including, but not limited to, federal and state threatened species legislation and recovery plans, Councils LEP and DCP, SEPP North Coast Regional Environmental Plan, Far North Coast Regional Strategy, Far North Coast Regional Conservation Plan.

In relation to subclause (ii)(f) above, a Voluntary Planning Agreement under s93 of the Environmental Planning and Assessment Act 1979 provides a mechanism for this to occur.

5.11.3.3 Restoration and Management of Koala Habitat

- i) For Development Proposals subject to this section (Section) a minimum of ten (10) per cent of the land area of all lands available for urban purposes (see (ii) below) under the master plan referred to in Section 5.11.3.2

- must be revegetated to create additional Preferred Koala Habitat. Such areas shall:
- a) be within the same Future Urban Footprint area as the proposed development
 - b) be located outside of any land otherwise required to be set aside for agriculture (e.g. State Significant Farmland) or environmental conservation under Section 5.9.3 of this Plan or for other reasons (e.g. SEPP 14 Coastal Wetlands, Endangered Ecological Communities etc)
 - c) in relation to Development Proposals within a Koala Activity Precinct, or any other area where koalas are present, be optimally located with respect to any existing Preferred Koala Habitat
 - d) in relation to Development Proposals within a Koala Linkage Precinct without evidence of koala usage, be optimally located to improve koala habitat connectivity.

The requirements under (i) above are designed to ensure that developments in priority areas (KAPs, KLPs or where koalas are present) make a positive contribution to koala conservation and recovery consistent with the overall management framework of this Plan (see 3).

Sub-clause (ii)(b) above allows for land identified within the Future Urban Footprint that is unsuitable for urban and agricultural purposes (e.g. steeper slopes) to be used for the re-establishment of koala habitat.

The creation of additional Preferred Koala Habitat off-site is not encouraged but may be acceptable where a better outcome for koalas is assured.

- ii) For the purposes of (i) above “lands available for urban purposes” includes the total area of all lands within the relevant Future Urban Footprint area identified in the master plan referred to in Section 5.11.3.2 that are not otherwise required for agricultural or environmental conservation purposes. This includes any areas necessary to support urban development including areas set aside for passive and active recreation, commercial precincts, and any infrastructure including roads easements, bush fire asset protection zones and the like.
- iii) The following areas shall be restored and managed in perpetuity in accordance with an approved Habitat Restoration Plan:



- a) any areas to be set aside for nature conservation in the master plan referred to in Section 5.11.3.2 above
- b) any areas to be revegetated in accordance with (i) above
- c) any areas previously revegetated in accordance with Section 5.11.3.6 below

A number of conservation incentives are provided in Section 5.11.3.6 below to assist with meeting the costs of implementing a Habitat Restoration Plan in perpetuity

- iv) Despite any staging of the proposed development of the Future Urban Footprint area all revegetation works specified in the Habitat Restoration Plan referred to in (iii) above and any habitat restoration works associated with the relevant stage shall commence with the commencement of the development.

As koala food trees are likely to take more than 10 years to grow to a sufficient size for koalas to use, clause (iv) above ensures that any necessary planting of koala food trees is commenced with minimal delay and not deferred to later stages of the development.

- v) The Habitat Restoration Plan, referred to in (iii) above is to be prepared in accordance with Council's Habitat Restoration Guidelines (see website).
- vi) The Habitat Restoration Plan, referred to in (iii) above shall pay particular attention to measures necessary to minimise the risk to koalas from bush fire including hazard reduction burning. Such measures should be consistent with 10 of this Plan and/or any subsequently prepared or endorsed guidance from Council.

5.11.3.4 Protection of Koala Habitat

- i) Council will require one or more restrictive covenants under Part 6 (Division 4) of the *Conveyancing Act 1919* to ensure any areas subject to the Habitat Restoration Plan referred to in Section 5.11.3.3 (iii) above are appropriately protected from future development and managed for nature conservation including the ongoing benefit of koalas and their habitat.
- ii) A recommendation shall be included in the master plan referred to in Section 5.11.3.2 to zone any areas subject to a Habitat Restoration Plan referred to in

Section 5.11.3.3 (iii) to E2 Environmental Conservation (or subsequent equivalent) under Council's Local Environmental Plan. Such a zoning should occur in conjunction with any related changes to the Local Environmental Plan arising from planning for future development of relevant urban footprint area or otherwise at Council's earliest convenience.

5.11.3.5 Dedication of Lands for Koala Habitat Conservation

- i) The provisions detailed under Section 5.9.6 of this Plan apply in relation to any proposal under this Section (Section 5.11) to dedicate land to Council for the purpose of nature conservation including koala habitat conservation.

5.11.3.6 Conservation Incentives

- i) Council may waive the requirements under Section 5.11.3.3 (i) to create additional Preferred Koala Habitat where the proponent can demonstrate that they have voluntarily created an equivalent amount of koala habitat on the land subject to the plan referred to in Section 5.11.3.2. Any areas utilised under this clause cannot be used again in to satisfy the requirements of Section 5.11.3.3 (i) above under another future Development Proposal.

This clause serves to ensure that landholders who voluntarily make a positive contribution to koala conservation are not "penalised" if they later seek to realise a development opportunity on their land.

- ii) Council may consider supporting an application for a site-specific special rate under Section 508 of the *Local Government Act 1993* (or similar subsequent provision) to fund the management in perpetuity of any lands proposed to be dedicated to Council in accordance with Section 5.11.3.5 above. In such cases the amount of the special rate shall be confined to the on-going indexed costs of monitoring, administering and maintaining the dedicated lands in accordance with the approved Habitat Restoration Plan and any other specific conditions of the development consent. Such a rate shall not be levied to cover any establishment period works under the approved Habitat Restoration Plan which shall remain the responsibility of the proponent.

This clause allows the ongoing costs of managing areas set aside for koala conservation to be covered by an additional special “environmental” surcharge on the rates paid by residents of the development. This approach was used at Koala Beach.

It should be noted that support for an application for a site-specific rate must be approved by the State government and in place prior to the marketing of any blocks. Council cannot guarantee, therefore, that the application will be approved. In such cases, other arrangements will need to be made to ensure that the approved Habitat Restoration Plan can be implemented over the long term.

- iii) Any arrangements under clause (ii) above must be agreed (including any contingency plans in the case of the failure of the application) prior to development consent and finalised prior to the issue of a subdivision certificate.
- iv) Council may reward developments that exceed the minimum requirements for restoration and management of koala habitat set out in Section 5.11.3.3 above by consenting to additional development benefits providing Council are satisfied that the development:
 - a) will not place unsustainable pressure on community infrastructure or the delivery of Council services
 - b) will be generally consistent with the scale and character of existing lawful development in the immediate area
 - c) is consistent with the strategic vision for the locality
 - d) does not financially burden the broader community
 - e) is consistent with the planning intent of the Koala Management Area and Precinct within which the development is proposed
 - f) does not adversely affect koalas or their habitat
 - g) does not result in unacceptable impacts on the natural environment

This clause provides for “bonus” development rights for developments that make a substantial contribution to koala conservation.

Note that variations to development standards are regulated under Tweed LEP 2014. Section 5.11.3.6 iv) above may not become operational until this Plan is given effect in the LEP (see Section 6.2.2).

5.12 Variations to Development Assessment Provisions

- i) Council will consider any variation to the requirements of Sections 5.9, 5.10 or 5.11 if it can be clearly demonstrated that a better ecological outcome for koalas is assured.
- ii) Prior to consenting to a development referred to in (i) above, Council will seek and consider public submissions on the proposed variation(s) and shall not grant consent unless the development can be appropriately conditioned having considered the provisions of this Part (Part 5), the aims of this Plan (Section 2.6.1) and the Koala Management Framework set out in Part 3
- iii) A variation to a development standard sought through an environmental planning instrument (e.g. clause 4.6 of the Tweed LEP 2014) for a Development Proposal to which this Part applies shall only be approved if Council is satisfied that there will be no adverse impact on koalas or their habitat.
- iv) In cases where the specific provisions of this Part (Part 5) do not adequately or precisely cover the nature of the Development Proposal, Council shall not grant consent unless the development can be appropriately conditioned having considered the provisions of this Part (Part 5), the aims of this Plan (Section 2.6.1) and the Koala Management Framework set out in Part 3.

5.13 Threatened Species Considerations

The koala is listed as a vulnerable species throughout NSW for purposes of both the NSW *Threatened Species Conservation Act 1995* and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

Both pieces of legislation require individuals and/or Council to determine whether or not their actions are likely to have a significant impact on koalas or their habitat based on specific criteria. Where a significant impact is likely, approval is required.

While this Plan does not remove the need to conduct any statutory assessment of significance, it is considered highly unlikely that a Development Proposal consistent with this Plan would trigger further assessment under these pieces of legislation.



6. Strategic Planning

Overall Objective: To ensure that Council's strategic planning processes integrate the need to protect, manage and enhance koala populations consistent with the vision and aims of this Plan.

6.1 Overview

The provisions of this Part of the Plan apply to strategic planning activities on the Tweed Coast that require consent, approval or endorsement of Council. This includes but is not limited to:

- The preparation and amendment of local strategies, policies, development controls plans and the like.
- The preparation of planning proposals to create or amend a Local Environmental Plan.
- Council operations, such as the management of public lands.
- Input into regional planning processes.

6.2 Local Planning Amendments

6.2.1 Application

- i) This section (Section 6.2) applies to Planning Proposals that cover all or part of the Tweed Coast (See Fig. 1; see mapping section at <http://www.tweed.nsw.gov.au> for further detail)

A Planning Proposal involves the preparation of, or amendment to a Local Environmental Plan (LEP). LEPs are Council's principal strategic planning instrument that zones land and imposes standards to manage development consistent with state and local policies.

A Planning Proposal is not a development application and does not consider specific detailed matters that should form part of a development application.

6.2.2 Local Planning Amendment Provisions

- i) For the purpose of preparing and justifying any Planning Proposal to which this Section (Section 6.2) applies, Council will seek to ensure that any new or amended LEP is consistent with, and gives effect to the provisions of this Plan.
- ii) In the case of a Planning Proposal that would otherwise apply to a development application under Section 5.11.2 of this Plan, Council will seek to ensure that any new or amended LEP is consistent with, the Future Urban Footprint Provisions detailed in Section 5.11.3 of this Plan.

The purpose of clauses (i) and (ii) above is to ensure that as far as possible all Planning Proposals are consistent with this Plan.

Where Council is not the relevant planning authority the clause requires Council to "seek to ensure" that the new or amended LEP is consistent with this Plan. In such cases Council would be expected to make a submission to the relevant planning authority seeking any amendments considered necessary for the LEP to be consistent with this Plan.

- iii) For the purposes of addressing clause 15 of SEPP 44 (see note below):

- a) any Preferred Koala Habitat within a KAP or KLP shall be included in an environmental protection zone
- b) any known Core Koala Habitat that occurs over largely cleared areas (e.g. as scattered trees with koalas present) may be included within an environmental protection zone, otherwise Council will seek another suitable mechanism to ensure that any future development of the area is consistent with the provisions of this Plan

Clause 15 of SEPP 44 states the following:

In order to give effect to the aims of this Policy, a council of a local government area listed in Schedule 1 should:

- (a) survey the land within its area so as to identify areas of potential koala habitat and core habitat, and
- (b) make or amend a local environment plan:
 - (i) to include land identified as a core koala habitat within an environmental protection zone, or
 - (ii) to identify land that is a core koala habitat and apply special provisions to control the development of that land, and
- (c) give consideration to preparing an appropriate development control plan for land that is or adjoins a core koala habitat.
- iv) In the case of a site-specific amendment to an LEP to which this section (Section 6.2) applies, Council shall seek to ensure that the Planning Proposal:
 - a) identifies any land that would otherwise require a Habitat Restoration Plan under Section 5.9.4 or 5.11.3.3
 - b) includes such land within an environmental protection zone
 - c) incorporates sufficient buffers to separate urban development areas from areas set aside primarily for koala habitat
- v) Council shall seek to ensure that any proposed arrangements for land dedication for the purposes of koala habitat conservation associated with a Planning Proposal shall be consistent with the relevant provisions of Section 5.9.6 of this Plan.
- vi) Council shall seek to ensure that any tree preservation

provisions shall be included or maintained, to the maximum extent possible in an LEP to which this section applies (Section 6.2) to ensure that Preferred Koala Food Trees (greater than or equal to 5m in height) or Preferred Koala Habitat are not cleared or otherwise damaged without the consent of Council.

This clause seeks to preserve and maximise tree preservation provisions as they relate to koalas and their habitat. Due to the implementation of the Standard Instrument LEP, Councils' ability to maintain tree preservation provisions is effectively limited to urban and environmental zones. Tree preservation controls under the LEP represent the only effective way Council has to control the removal of koala feed trees or habitat outside of the development assessment process. In the context of declining koala populations, the unregulated removal of koala feed trees and habitat has the potential to undermine the aims and vision of this Plan. It is therefore essential that a process is in place to ensure that existing provisions are maintained and maximised.

- vii) Council shall, if possible, include a clause and overlay map in the LEP to reinforce the need for development to be consistent with this Plan.

Although the development control aspects of this Plan will be implemented through Council's DCP and approved under SEPP 44 such a clause in the LEP will alert proponents to this Plan from the LEP which is Council's primary planning instrument.

6.2.3 Variations to Local Planning Amendment Provisions

- i) Council will consider any variation to the requirements of Section 6.2 if it can be clearly demonstrated that a better ecological outcome for koalas is assured.
- ii) Prior to consenting to a planning proposal referred to in (i) above, Council will seek and consider public submissions on the proposed variation(s).

6.3 Revision of Individual KPoMs

- i) Any necessary revision of individual KPoMs on the Tweed Coast should be consistent with this Plan

Note the Koala Management Committee may advise Council on the need to review Individual KPoMs but any proposed amendments must ultimately be ratified by the State under SEPP 44.

6.4 Tweed Development Control Plan

Tweed Development Control Plan (DCP) contains detailed guidelines that illustrate the controls that apply to a particular type of development or in a particular area. A DCP implements the Far North Coast Regional Strategy and supplements the Local Environmental Plan and is made according to the *Environmental Planning and Assessment Act 1979*.

- i) To the extent to which it is applicable (e.g. Part 5), this Plan shall be incorporated in Council's Development Control Plan.
- ii) Council shall review its Development Control Plan to ensure that it is consistent with and gives effect to this Plan.
- iii) In the event of any inconsistency among the provisions of this Plan and Council's Development Control Plan, this Plan shall prevail.

6.5 Council Operations

Council is responsible for a wide range of matters that may affect the future of koalas on the Tweed Coast including strategic planning, development control, compliance, operations, asset management and communications. While many of these matters are addressed elsewhere in this Plan the following provisions relate to operational planning improvements.

- i) Council shall include advice relating to the application of this Plan on Section 149 certificates to ensure that landholders are aware of their obligations under this Plan when considering future development.
- ii) Council shall:
 - a) establish and maintain a register of Development Proposals that are affected by this Plan. This shall include a mechanism to ensure that any matters concerning koala habitat arising from the development can be tracked and mapped for monitoring and review purposes including:
 - consistency with the relevant provisions of this Plan
 - compliance with any associated consent conditions
 - details of any associated program of habitat

restoration, revegetation or threat mitigation

- b) report items entered into the register referred to in a) above to the Koala Management Committee at each meeting
- c) the register shall be available for public inspection, on request, free of charge.
- iii) Council will maintain a register of Suitably Qualified Persons.
- iv) Council shall ensure that in exercising its responsibilities for the management of public land and reviewing or preparing any relevant plans of management it proactively ensures consistency with the objectives and provisions of this Plan.
- v) Council shall proactively work to ensure compliance with this Plan over all areas of its responsibility.

6.6 Ongoing Strategic Planning Actions

The purpose of this section is to ensure that Council remains engaged in seeking to improve its approach to koala management, especially in relation to any legislative or planning policies that may compromise the effectiveness of this Plan.

- i) The provisions of this Plan shall be used to inform comment and Council input into regional planning processes that may affect koala management on the Tweed Coast. This includes but is not limited to the preparation of regional strategies, environmental and planning legislation and state planning policies.

The purpose of this clause is to ensure that Council input into regional planning processes seek to achieve outcomes consistent with this Plan.

- ii) Council shall investigate and pursue acceptable opportunities to improve the current planning framework to ensure the best outcome for koalas and their habitat consistent with the objectives of this Plan
- iii) Council shall consider any implications for koala management arising from changes to the planning framework and respond to ensure the best outcome for koalas and their habitat consistent with the objectives of this Plan.



7. Koala Habitat Restoration

Overall Objective: To increase the amount and quality of habitat available to the Tweed Coast koala population through provision of a coordinated and strategic program of habitat restoration.

7.1 Overview

Additional koala habitat is required on the Tweed Coast if there is to be sufficient to sustain minimum koala numbers for a viable free-ranging population in perpetuity. The Habitat Study (Phillips et al. 2011) calculated the area of suitably sized and connected patches of Preferred Koala Habitat that currently exists on the Tweed Coast to amount to less than 2,300 ha, which is less than the minimum required for a viable population. Areas of Preferred Koala Habitat vary in condition and currently provide insufficient connectivity between koala sub-populations on the Tweed Coast and between coastal and western populations.

Whilst habitat creation within Koala Linkage Precincts and Koala Activity Precincts is built into the Development Assessment process within this Plan (see Part 5), a more proactive approach to both the management and restoration of existing habitat and the creation of additional, high quality Preferred Koala Habitat is also required; one that is independent of the development process. This effort is required in order to support future expansion of the koala population, to facilitate meaningful connectivity, improve gene flow and aid recruitment and dispersal processes.

To provide improved carrying capacity and resilience of habitat on the Tweed Coast, this Plan sets an initial, short-term target for habitat creation of 300 ha within the first 10 years of Plan implementation. The improvement (where required) and maintenance of the condition of existing Preferred Koala Habitat and the creation of habitat in excess of this within this period

or the period thereafter should not be limited by the target where the opportunity is identified.

This Plan commits Council to taking the lead role in koala habitat restoration, however the active, voluntary co-operation of all private and public land managers and the general community is required in order to achieve its objectives.

This Plan adopts the definition of restoration as stated by the Australian Association of Bush Regenerators' Guiding Principles for Ecological Restoration and Rehabilitation. Ecological restoration is defined as "the intentional practice of assisting the recovery of locally occurring ecosystems, taking into account ecosystem change."

7.2 Koala Habitat Restoration

7.2.1 Koala Habitat Restoration Program

- i) Within the first 12 months of this Plan and in consultation with the KMC, Council will prepare a Koala Habitat Restoration Program for KAPs and KLPs.

The Restoration Program's priorities are to maintain and improve, where required, the condition of existing Preferred Koala Habitat, as well as to facilitate the creation and ongoing maintenance of a minimum of 300 ha of additional koala habitat on the Tweed Coast within the first 10 years of the Plan.

- ii) The Restoration Program will direct works within the Round Mountain KAP as a priority, followed by works within other KAPs and KLPs.
- iii) The Restoration Program will consider sites on lands across all tenures.
- iv) Sites within each of the above land categories will be prioritised on the basis of their contribution to long-term restoration goals as follows:
 - a) restoration of degraded habitat within KAPs and KLPs
 - b) revegetation of largely unvegetated areas (gap-filling) within KAPs
 - c) augmentation of existing large patches of koala habitat
 - d) creation of vegetated corridors and 'stepping-stone' habitat patches within KLPs

The above priorities should not preclude the undertaking of restoration works or increasing the long-term security of existing habitat in strategic locations selected on a sound ecological and planning basis if they are considered to contribute meaningfully to the Restoration Program as a whole.

- v) Council will actively solicit interest from Government agencies and private landholders within Koala Management Precincts and Koala Linkage Areas to have their land included in the program.
- vi) Involvement by landholders and other public authorities in any restoration initiatives under this Part will be entirely voluntary.
- vii) Funding for works carried out under the Restoration Program shall be sourced through Council's CKPoM budget, external grant funding and other such sources as may be available from time to time.

7.2.2 Individual Sites

- i) A Site Action Plan will be prepared for each site/project within the Restoration Program. Such a Plan shall be prepared generally in accordance with a relevant Council Site Action Plan Guideline Template and shall specifically include the following items.

- a) Identify the location and total area to be restored and the required works within that area.
- b) Specification of the minimum size and maturity of seedlings to be used to best ensure survival.
- c) Details of location of plantings, indicative species mix, number of trees/plants and planting densities. Species selection is to be based on a suitable reference community.
- d) Details of the sourcing of all seedlings (demonstrating local seed stock has been used).
- e) Provisions for mortality replacements.
- f) A schedule of maintenance and monitoring including timing and duration of activities management, establishment and maintenance phase performance criteria, and reporting requirements.
- g) Identification of responsible parties for the undertaking of all works and activities included in the plan.
- h) Identification of the long-term protection mechanism by which restoration areas on privately-owned land are to be retained and managed for the benefit of koala recovery in perpetuity.
- i) An estimate of the necessary funding requirements for establishment and ongoing maintenance.

It is important to note that restoring habitat alone will be insufficient to prevent further decline and initiate recovery on the Tweed Coast. These works will complement the threat-abatement measures described in Parts 8, 9 and 10 of the Plan.

7.2.3 Responsibility

- i) Council shall assume overall responsibility for preparation and implementation of the Habitat Restoration Program on the Tweed Coast.
- ii) A Council officer shall be responsible for implementation of Restoration Plans, including planning, sourcing of funds and coordination of revegetation works. This officer will liaise with and provide regular updates to the KMC regarding the Program's progress.
- iii) Where priority areas for koala habitat restoration are

identified on land managed by Council, any relevant Plan of Management shall be revised to incorporate these restoration works.

7.2.4 Community Awareness

- i) Part 12 details the Plan's approach to raising awareness of the available opportunities for landholders and managers to contribute to koala habitat restoration.





8 Reducing Koala Road Mortality

Overall Objective: To reduce the level of koala mortality due to road strike through better road design, improved fauna safety measures and community awareness.

8.1 Overview

Death of koalas due to road strike is one of the most significant threats to koala recovery on the Tweed Coast. Koala habitat is fragmented by numerous roads, a number of which create significant barriers to the movement of koalas within and between high quality habitat patches.

The Habitat Study recognised that the Pacific Highway limits movement of individuals and genetic flow between the Tweed Coast koala population and those in the west. A further seven stretches of road on the Tweed Coast were termed “blackspots” that accounted for the majority of koala road kill. This Plan identifies these sections of road along with other high risk sections of road where koala road kill is likely to occur due to its proximity to koala habitat as “koala roads”. These areas include the following:

- Clothiers Creek Road
- Round Mountain Road (East)
- Pottsville Road (Pottsville, Sleepy Hollow)
- Tweed Coast Road (Chinderah, Cudgen to Cabarita)

The locations of the koala roads are provided in Figure 2 of the Habitat Study (Phillips et al., 2011) (see mapping section at <http://www.tweed.nsw.gov.au> for further detail).

Koalas are killed on these roads because they bisect existing home ranges or movement corridors for dispersing animals, thus they also reflect the locations that are most vital for maintaining connectivity across roads. The ranging behaviour

of koalas cannot be modified, thus it is the approach to road design and the attitude to road use in high risk areas that must adjust in order to reduce this threat.

8.2 Existing road improvement

8.2.1 Pacific Highway

- i) Council will actively establish and maintain formal liaison with NSW Roads and Maritime Services to seek the prioritisation of highway crossing upgrades.

8.2.2 Other Roads

- ii) Council shall:
 - a) identify and map those areas of koala roads listed in above, along with any other areas that pose a risk of koala road strike.
 - b) Identify and investigate opportunities for the retrofitting of fauna road safety measures to these roads which may include one or a combination of the following:
 - fauna exclusion fencing, underpasses and grids
 - traffic calming measures
 - koala warning signage (fixed, seasonal, electronic, painted etc)
 - lighting

- road verge maintenance
 - speed reduction signage
- c) actively encourage the increased application of regulatory mechanisms which may include, but will not be limited to:
- fixed/temporary/mobile speed cameras
 - increased police patrol
- iii) Council shall develop a 5-year prioritised program of works for implementation of the appropriate measures in order to reduce koala road mortalities on koala roads. Council shall consider any additional funding required for the installation of any road-kill mitigation measures identified as necessary by the mitigation strategy.
- iv) To the extent to which funding permits, the works identified above will be incorporated into Council's ongoing work schedule for roads on the Tweed Coast and implemented in conjunction with scheduled works.

It will not be necessary or appropriate to apply the full suite of fauna road safety measures to all koala roads. Traffic volume and speed, location in the landscape, adjacent land uses and existing road treatments will need to be considered and assessed on a case-by-case basis. The primary aim of any of the above measures is to reduce the likelihood of koala road strike. The location of any fauna crossing measures must be based on an understanding of the existing movement patterns of koalas across the road..

8.3 New Roads and Road Upgrades

- i) The placement and design of any new road or road upgrade within a Koala Activity Precinct or Koala Linkage Precinct is to meet the following performance criteria:
- a) maintenance of effective connectivity of koala habitat
 - b) zero koala mortality along the length of new road or road upgrade for the life of the road
 - c) a net gain in koala habitat
- ii) An application for any new road or road upgrade constructed within a Koala Activity Precinct or Koala Linkage Precinct will be consistent with the relevant provisions of Part 5 of the Plan.

- iii) Any road upgrade (that is not regarded as routine maintenance) undertaken in an area identified as a koala road is to incorporate (if not already present) either:
- a) fauna exclusion fencing and underpasses, or
 - b) traffic calming devices (such that vehicle speeds are limited to 40km/h), and
 - c) any other appropriate fauna safety measures

Determining appropriate fauna safety measures for a particular stretch of road will require assessment on a case-by-case basis and be designed and located with regard to existing koala populations, adjacent habitat and future potential movement corridors.

Guidelines for the design of koala underpasses, fauna exclusion fencing, grids, and other mitigation measures are provided in Appendix D.

8.4 Maintenance of Wildlife Infrastructure

- i) Council will develop a register and associated mapping of Council's existing roadside wildlife infrastructure.
- ii) Council will prepare an inspection and maintenance schedule for all wildlife infrastructure on the Tweed Coast to enable damage and other maintenance issues to be identified and repaired promptly. Repair works shall be incorporated into the relevant works program.
- iii) The maintenance schedule will be updated with any new wildlife infrastructure as it is installed.
- iv) Council will consider the provision of any necessary funding for wildlife infrastructure maintenance works on an annual basis.

8.5 Community Awareness

To complement the above actions and improve the likelihood of a koala surviving in the vicinity of an existing or new road, the promotion of driver and community awareness measures is to be a major focus of the Community Awareness and Engagement Strategy initiated under this Plan. Part 12 details the Plan's approach to Community Awareness and Engagement.



9. Reducing the Risk of Dog Attack

- Overall Objective:**
1. To increase community awareness and promote responsible dog ownership to decrease the risk of koala attacks by domestic dogs.
 2. To reduce the risk of wild dog attack through targeted management programs.

9.1 Overview

Both roaming domestic dogs on the urban fringe and wild dog populations contribute to koala mortality. Throughout much of their range, dog attack is considered a significant risk to koalas.

The risk of dog attack is heightened in mixed-use landscapes, and particularly at the urban/rural/bushland interface. The Tweed Coast is a typical example of a landscape where roads and fences create barriers to movement and large expanses of cleared land mean that the normal movement patterns of koalas between habitat patches are interrupted. This means that koalas must travel greater distances in order to access food and shelter resources and social interaction, forcing them to spend more time on the ground where they are susceptible to dog attack. In the urban landscape koalas face the risk of attack by domestic dogs.

Koalas move from tree to tree and across the ground. Moving across the ground exposes them to threats including cars and dogs. In areas without forest cover or connecting trees, koalas are more at risk of dog attack.

It is important to note that landholders are responsible for the control of domestic dogs under the *Companion Animals Act 1998*. Landholders are also responsible for control of wild dogs on their land as wild dogs are a declared pest in NSW under the *Local Land Services Act 2013*.

Key regulatory, pest animal management and community awareness measures are identified below which aim to reduce the risk of domestic and wild dog attack to koalas on the Tweed Coast.

9.2 Domestic Dog Management

- i) Council will prepare a map layer which identifies areas where koalas are considered to be at a high risk of contact with domestic dogs.
- ii) Council will prohibit dogs from all public parks, reserves and recreational areas that are located within high-risk areas identified by the above review.
- iii) Council will identify, as part of the above review, any potential areas more suitable for promotion as on- or off-leash dog exercise areas to substitute for any restrictions applied as a result of the above.
- iv) Rangers will conduct additional and/or after hours patrols within high risk areas as resources permit.
- v) Dogs will be prohibited from all new public parks, reserves and recreational areas that are located within KAPs. (Except in the case of Enclaved Development covered by the provisions) of Sections 5.10.4.3 i)

- vi) No new off-leash dog exercise areas will be designated within KAPs. (Except in the case of Enclaved Development covered by the provisions) of Sections 5.10.4.3 i)
- vii) All public parks, reserves and recreational areas are to be effectively signposted regarding dog exercise provisions.

- c) prioritisation of high conflict areas for appropriate wild dog management actions
- d) identification and application of effective control technologies that can be utilised in the peri-urban landscape
- e) monitoring the effectiveness of on-ground management works in reducing the potential impact of wild dogs on koalas within the Tweed Coast, and avenues for adapting the management strategy as required

9.3 Community Awareness

The promotion of responsible dog ownership is to be a major focus of the Community Awareness and Engagement Strategy initiated under this Plan. See Part 12 for the Plan’s approach to Community Awareness and Engagement.

The majority of dog attacks on koalas are not recorded or reported, which means that reliable data for targeting of control actions is difficult to obtain. Substantial effort must therefore be directed towards initial and ongoing data-gathering in order to determine appropriate levels and methods of action.

9.4 Wild Dog Management

- i) In conjunction with existing feral animal control programs, Council will prepare and implement a wild dog management strategy for the Tweed Coast, components of which will include, but not be limited to:
 - a) systematic gathering of reliable information on the distribution of wild dog populations and their likely impact on koalas within the Tweed Coast
 - b) comparison of wild dog distribution and movement patterns with current koala population distributions, Koala Activity Precincts and Koala Linkage Precincts in order to identify potential high conflict areas

- ii) Council will seek cross-tenure and collaborative management opportunities/arrangements for the program’s implementation in order to maximise its efficacy and coverage of public and privately-owned lands.
- iii) Council will seek funding for research to investigate:
 - a) the impacts of wild dogs on koalas within the Tweed Coast to better inform the level of threat, and allocation of resources
 - b) evolving and novel wild dog control technologies for use in peri-urban areas





10. Fire Management

Overall Objective: To reduce the risk of fire to koala populations on the Tweed Coast by:

1. in the medium-term, the exclusion of bush fire from currently occupied areas for a minimum of 8 years (i.e. at least one koala generation), and
2. a longer-term strategic response to the issue of fire that sees protection of koala populations and their habitat as a key component of fire management.

10.1 Overview

Fire has been identified as the single biggest threat to the long-term survival of remaining koala populations on the Tweed Coast. The Habitat Study identified that high-intensity and high-frequency fires in the central portion of the Tweed Coast have likely been removing a proportion of the breeding population at a rate faster than it is able to be replaced by successive koala generations. The impact is amplified as high-intensity fire temporarily removes the food resource from the remaining animals. It is important that the initial stages of fire management reduce, as far as is possible, the likelihood of fire affecting those areas of koala habitat that support the Tweed Coast's remaining koala populations and those that have been subject to high-frequency fire in recent years.

Longer term fire management requires a strategic approach that considers the influence of fire regimes on koala habitat quality and recruitment of preferred koala food trees. This approach must be responsive to any changes in koala population status, distribution and current knowledge regarding the role of fire in maintaining ecosystem processes within preferred koala habitat.

The responsibility for bush fire management falls to the individual landholder, and so a coordinated, partnership

approach is required across all land tenures, land managers and agencies to identify and implement an on-ground response to reducing the impact of fire on koalas on the Tweed Coast. Whilst Council has limited influence on the management of this threat, the role of the Plan is to provide guidance and support regarding the overall approach to fire management within the Tweed Coast as well as contributing through management of Council's own lands.

This Plan makes the distinction between two types of fire within the management landscape. The term 'bush fire' refers to unplanned and potentially difficult to control ignitions such as fire started by lightning strike and arson. 'Hazard reduction' is the deliberate use of fire for the reduction of fuel loads and is assumed to be of low to moderate temperature and intensity.

10.2 Interim Fire Management Guidelines

- i) Council will encourage all relevant authorities to adopt a 'minimal use of fire' approach within all KAPs identified by this Plan for an initial period of 8 years, or one koala generation, from 2009. The key guiding points for fire managers within this period are:

- a) that every practical attempt is made to immediately contain and extinguish any bush fire within a KAP
 - b) that bush fire hazard reduction within occupied koala habitat is done through the use of manual, mechanical means
 - c) that the use of hazard reduction burning within unoccupied habitat in KAPs is minimised
 - d) that where hazard reduction burns are undertaken in Preferred Koala Habitat, that appropriate measures to avoid impact on koalas are ensured
- ii) Following the initial 8 year period, Council will, as part of the Plan's monitoring and reporting program, review the approach to fire management on the Tweed Coast with regard to current knowledge and update the Plan as necessary.

10.3 Bush Fire Risk Planning

- i) Council will support amendment of the Far North Coast Bush Fire Risk Management Plan to achieve:
- a) inclusion of all Preferred Koala Habitat within KAPs, KLPs and any other areas where koalas are present as mapped by this Plan on the Asset Register
 - b) appropriate treatments for areas included on the Asset Register included to the Treatment Register
- ii) Council will support the inclusion of appropriate bush fire risk treatment strategies in relevant management plans, including Habitat Restoration Plans as discussed in Section 5.8, used within the KAPs, including:
- a) the exclusion of bush fire from occupied areas of koala habitat
 - b) manual, mechanical fuel reduction where required within occupied koala habitat to minimise the risk from bush fire
 - c) a requirement for a detailed on-site koala survey in areas where contemporary information on koala occupancy is not available, conducted generally in accordance with the methodology outlined in Appendix E of this Plan prior to any hazard reduction burn
 - d) a requirement for koala spotters to be employed during any hazard reduction burn within a KAP
 - e) maintenance and improvement of existing fire trails

- iii) In order to better manage fire for koala conservation in the long-term, Council will collaborate with the New South Wales Rural Fire Service, local land managers and the Northern Rivers Fire and Biodiversity Consortium to develop additional treatment strategies which may include:
- a) the potential for the establishment of an improved network of fire trails or strategic fire advantage zones for the specific purpose of fire management in KAPs
 - b) options for vegetation management techniques for fuel reduction within occupied areas of koala habitat
 - c) identification of strategic locations for hazard reduction burning outside of occupied koala habitat areas
 - d) development and implementation of best-practice hazard reduction burn operation guidelines for all land managers
 - e) creation of a pre-incident plan for each KAP
 - f) the identification and formalisation of a rapid response protocol for fire events within KAPs
 - g) the use of a single sheet OEH-style operational bush fire plan for use by crew responding to an incident, the sheet to include all contemporary data on koala habitat and occupancy and relevant treatments
 - h) investigation into the use of ecological burning to promote regeneration of koala habitat where rainforest and mesophylllic vegetation is replacing koala habitat or where otherwise appropriate.
- iv) Council will support amendment of the Bush Fire Environmental Assessment Code for NSW to put into effect relevant elements of this Plan.

10.4 Support

- i) Council will assist the above by:
- a) provision to all management authorities of up to date mapping on areas of occupied koala habitat and preferred koala habitat
 - b) offering koala awareness training for bush fire management personnel including those involved with the preparation of the Far North Coast Bush Fire Risk Management Plan and assessors of hazard reduction applications

c) contributing to the development and delivery of landholder and community education strategies focusing on the impact of fire on the Tweed Coast koala population, bush fire management and hazard reduction

ii) Council will seek the input of all relevant land managers at each review of the Plan with regard to the above provisions, and in light of the results of koala population monitoring.

iii) Council will assist in the preparation of protocols for

land management agencies to co-operate with the local wildlife care groups concerning fauna welfare issues following bush fires.

10.5 Community Awareness

Improving awareness of the impact of fire on koalas and koala habitat, along with increasing landholder engagement in bush fire planning is a key component of the Plan's Community Awareness and Education strategy. See Part 12 for details.





11. Koala Care and Welfare

Overall Objective:

1. To increase community awareness about koala welfare issues.
2. To continue and improve support for care groups in the rehabilitation and care of sick and injured koalas on the Tweed Coast.

11.1 Overview

Licensed care groups make a significant contribution to the conservation of koalas on the Tweed Coast and elsewhere in the LGA. Friends of the Koala Inc. is the primary organisation for the rehabilitation of sick and injured koalas on the Tweed Coast. Friends of the Koala is volunteer-based and supported by Tweed Valley Wildlife Carers, wildlife veterinary teams at the Currumbin Wildlife Hospital and Australia Zoo Wildlife Hospital and by Tweed Shire Council.

Disease is an intrinsic element of koala populations, but is exacerbated by natural and human induced stress. While the provisions set out elsewhere in this Plan (e.g. provisions relating to development, dogs roads, bush fire and habitat restoration) all contribute to minimising stress on koalas, it is also important to improve community awareness and support for the work of care groups in the rehabilitation and care of sick and injured animals.

Friends of the Koala 24-hour rescue hotline

(02) 6622 1233

11.2 Community Awareness

- i) Koala care and welfare issues will be a major focus of the Community Awareness and Engagement Program initiated under this Plan. See Part 12 for details.

11.3 Care Group Support

- i) In conjunction with FoK and the KMC, Council will identify potential lands for, and support establishment of, a secure koala food tree plantation for the support of koalas in care.
- ii) Council will continue to provide financial support to Friends of the Koala on an annual basis.
- iii) Council will consult with Friends of the Koala regarding establishing a standard mechanism and level of detail for record keeping and exchange.

11.4 Koala Population Recovery Assistance

- i) Within the first 12 months of the CKPoM's implementation, Council, in conjunction with the KMC will initiate and facilitate a stakeholder workshop to canvas the feasibility and efficacy of:
 - a) extending the release conditions of rehabilitated and hand raised koalas and
 - b) introducing a formal augmentation program guided by the NSW Government policy on the Translocation of Threatened Wildlife



12. Community Awareness and Engagement

- Overall Objective:**
1. To increase the Tweed community's awareness of the problems faced by koalas and the measures required to achieve the recovery of the species.
 2. To facilitate active community engagement in the recovery process.

12.1 Overview

There is a great deal of community support for koalas, and a general awareness of the threats faced by the Tweed Coast koala population.

A number of organisations and individuals already actively distribute information about koala conservation issues in the Tweed. There are other approaches however, that could be explored in order to raise the profile of the koala and foster a greater understanding of the recovery process, including the opportunities available for each stakeholder to actively contribute.

Each section of the Plan acknowledges the requirement for the promotion of greater community awareness and ongoing education as a strategy to improve the likelihood of population recovery. The provisions set out in this Part of the Plan suggest specific actions relating to each section that are to form the scope for the development of a community awareness strategy to be prepared and implemented by Council.

These provisions do not restrict the exploration of other approaches should the opportunity arise.

12.1 Community Awareness Strategy

- i) In conjunction with the KMC, within the first 6 months of the Plan's adoption, Council shall prepare a community awareness strategy aimed at raising awareness about the purpose and need for the involvement of the Tweed community in the recovery of the Tweed Coast population of the koala. Measures to be included in the strategy may include, but are not limited to the following:
 - a) a prominent koala management page will be established on the Council website and include:
 - downloadable copies of the CKPoM, Habitat Study, associated maps and other documents
 - all fact sheets and case studies prepared under the actions of this Plan
 - current information and forms for landholder involvement in habitat management schemes/ incentive programs
 - responsible dog ownership information
 - a mechanism for reporting koala sightings or other incidents of interest to koala management
- ii) Opportunities will be taken, as they arise, to attend

community events and deliver workshops aimed at increasing awareness of measures necessary to assist the broader koala conservation and recovery effort.

- iii) Develop an in-schools education program to increase understanding of koala issues.
- iv) Develop, and distribute to appropriate organisations, a brochure aimed at visitors promoting the Tweed Coast's focus on koala recovery.
- v) Prepare and distribute regular press releases on koala recovery issues, milestones and achievements relating to Plan implementation.
- vi) Incorporate koala awareness messages into Council's on-hold messages, front counter displays and with Council correspondence.
- vii) Continued engagement with local koala conservation and interest groups.

funding and other assistance to do so.

- i) Council will prepare a fact sheet containing case studies of contributions that landholders can make to habitat restoration on their properties, including small and large landholdings.
- ii) Council will provide information about the assistance available for restoration works on privately-owned land.
- iii) Council will continue to actively solicit interest from landholders for inclusion in habitat restoration projects.
- iv) A register of interested landholders will be developed which can be drawn on when opportunities for involvement in restoration programs arise.
- v) Council will investigate opportunities to raise awareness of incentive programs such as Land for Wildlife, Koala Connections, and any other projects and grant-funded incentives as Council administers from time to time.

12.2 Planning and Development

The measures in this section of the Plan aim to promote koala-friendly planning and development across both Council and the wider community.

- i) Under Section 5.10 of this Plan certain developments are required to provide interpretive signage and other educational material. Council will produce a standard set of information as a template for inclusion in such publications in order to assist developers in the dissemination of relevant information.
- ii) Council will develop and deliver a workshop for Council's development assessment officers, NRM officers and Councillors on the interpretation and implementation of development provisions within the Plan.
- iii) Council will produce a fact sheet/quick reference sheet detailing options for koala-friendly development and infrastructure design. The information will be made publicly available and distributed with Council's development assessment advice.

12.3 Koala Habitat Restoration

The below measures aim to increase community engagement and to the process of koala habitat restoration and assist landholders to make meaningful contributions by obtaining

12.4 Reducing Road Mortality

A change in driver behaviour will be a major determinant in the ability to reduce koala road mortality.

- i) Council will prepare and implement a communications plan focused on driver awareness, which may include:
 - a) fatality signage and/or publication of koala road-kill incidents
 - b) installation of signage to identify koala habitat,
 - c) distribution of information about how to drive through koala habitat
 - d) Council will investigate options for improved, innovative and/or frequently updated signage in currently signed black spot areas in order to avoid 'sign fatigue'
 - e) actively encouraging members of the public to report koala road strike to the relevant agency (Friends of the Koala).

12.5 Reducing Dog Attack

This portion of the Community Awareness Program aims to promote responsible dog ownership and behaviour in order to reduce the risk of dog attack.

- i) Council will to promote responsible dog ownership and behaviour by:
 - a) preparation and implementation of a communications plan focused on responsible pet (dog) ownership
 - b) education on responsible pet ownership is to be targeted towards new dog owners and dog owners in high risk areas
 - c) widespread promotion of areas where dogs are and are not allowed and the location of off-leash dog exercise areas
 - d) provision of interactive mapping on Council’s website and app that allows community members to determine the dog permissibility in their current location
 - e) identification and promotion of avenues for reporting that community members can follow when they witness failure by pet owners to comply with Council signage in environmentally-sensitive areas
 - f) investigation into development of a community ranger program, encouraging community members to self-regulate responsible dog ownership

- i) Council will promote the importance of sensitive fire management through:
 - a) provision of information promoting active landholder engagement in bush fire planning on privately-owned land
 - b) development and delivery of landholder information sessions with NSW Rural Fire Service and other relevant agencies where required
 - c) active sharing of information relating to current koala distribution and aims of fire management by Council with other land managers.

12.6 Fire Management

This element aims to raise awareness of the impact of fire on koala populations and koala habitat generally, and on private land in particular.

12.7 Koala Care and Welfare

- i) In order to promote koala care and welfare issues, the Community Awareness and Engagement Program will include:
 - a) establishing a prominent link to the Friends of the Koala website and 24 hour koala rescue hotline on the Council website
 - b) provision of information on how to recognise and what to do when a koala requires assistance
 - c) assistance with publicity aimed at highlighting the role of koala rescuers and carers and promoting ongoing recruitment of carers in the Tweed.





13 Monitoring, Reporting and Review

Overall Objective:

1. To ensure that the Plan remains relevant and that planning controls are implemented to achieve the Vision and Aims of the Plan.
2. To determine the effectiveness of the Plan in achieving the recovery of the Tweed Coast koala population.
3. To update and respond to current knowledge on the status of the Tweed Coast koala population.

13.1 Overview

A regular review of this Plan is required to assess the effectiveness of each of the recommended actions in achieving its objective of facilitating population recovery.

The review process will enable the Plan to be a living document that is responsive to any changes in koala population status, any new management issues that arise and enable updates to the Plan where required to address any issues that arise in its implementation.

13.2 Plan review

- i) The Plan shall be subject to review five years following its adoption and every five years thereafter.
- ii) At each review event Council, in conjunction with the KMC, will be responsible for assessing the efficacy of the Plan by:
 - a) assessing the Plan's performance against its Vision, Aims and the Objectives of each Part of the Plan
 - b) soliciting and collating feedback from users of the Plan regarding its implementation
 - c) undertaking a review of recent and previous monitoring data

- d) consider the operation of any contiguous IKPoMs
 - iii) As a result of each review Council, in conjunction with the KMC, will:
 - a) make recommendations for amendment and resourcing of the Plan's provisions where necessary
 - b) prepare updates to the Plan where required and submit for adoption
 - c) make recommendations for the review or update of any contiguous IKPoMs
 - iv) Despite i) above, the Plan may be reviewed at any other time if considered necessary by the Koala Management Committee and Council.

13.2 Population Monitoring

13.2.1 Initial Reassessment of Koala Activity and Population Size

An initial reassessment is required in order to provide an update on the distribution of koala activity and an estimate of koala population size throughout the area to which the Plan applies.

- i) Within 12 months of Plan commencement, Council will undertake an initial reassessment of koala habitat on the Tweed Coast.
- ii) In the Tweed Heads KMA initial reassessment will involve:
 - a) an assessment of koala activity at each of the three sites wherein koala activity was recorded
 - b) an analysis of any clustering of recent koala records sourced from public observations, the Wildlife Atlas and Friends of the Koala records
 - c) an assessment of koala activity in areas where recent records or clusters of koala records exist
 - d) the selection of a number of additional field sites where suitable habitat exists
 - e) the establishment of permanent sampling points in the above locations
 - f) the minimum data set to be collected from each field site must include the koala activity level as determined by the Spot Assessment Technique of Phillips and Callaghan (2011).
- iii) In the Southern Tweed Coast KMA initial reassessment will involve:
 - a) an assessment of koala activity of each of the sites within Koala Activity Precincts and Koala Linkage Precincts sampled during the preparation of the Habitat Study
 - b) selection and assessment of additional field sites in the above areas where gaps exist or greater survey intensity is required (eg. Black Rocks, Wooyung)
 - c) the establishment of permanent sampling points in the above locations
 - d) the minimum data set to be collected from each field site must include the koala activity level as determined by the Spot Assessment Technique of Phillips and Callaghan (2011) and the number of koalas sighted in a 250m x 40m (1ha) transect centred on the field site
 - e) community-based survey

13.2.2 Ongoing Monitoring of Koala Activity and Population Size

- iv) Council will implement an ongoing monitoring program for the Tweed Coast koala population to take place no more than three years following the initial reassessment,

- and thereafter at three-yearly intervals.
- v) Within the Tweed Heads KMA, ongoing monitoring will involve the following:
 - a) assessment of koala activity at each of the sites assessed during the initial reassessment
- vi) Within the Southern Tweed Coast KMA ongoing monitoring will involve the following:
 - a) a reassessment of koala activity at each of the sites wherein koala activity was recorded by the initial reassessment, and additionally at a further minimum of 7 sites randomly selected from those within which no koala activity was recorded by the initial reassessment
 - b) the minimum data set to be collected from each field site must include the koala activity level (Appendix E), and the number of koalas sighted in a 250m x 40m (1ha) transect
- vii) To inform the monitoring program, Council will obtain koala records from NSW Bionet and NSW Roads and Maritime Services on a six-monthly basis for the purposes of gathering data on koala records and incidents that may have occurred in the intervening five year period.
- viii) The following will be obtained from Council's records on a six-monthly basis:
 - a) location and details of any new roads and major road upgrades within the Tweed Coast
 - b) location and details of road-kill mitigation measures installed during the past 12 month period

13.3 Reporting

- i) A report detailing the results of each monitoring event is to be prepared, and forwarded to Council, the KMC, DP and E within one month of completion of the field assessment.
- ii) The report must include the following:
 - a) a summary and review of koala records obtained during the monitoring period, including itemisation of any records associated with:
 - road strike
 - dog attack

- b) a comparison of koala activity data with that obtained during the Habitat Study and that of any preceding surveys undertaken in accord with this Part
- c) an analysis of occupancy rate within the Southern Tweed Coast KMA and any change over time
- d) when the data allows, a population estimate for the Southern Tweed Coast KMA and discussion
- e) a summary of development applications and planning proposals that have triggered the provisions of the Plan and their outcomes
- f) the area of habitat restoration achieved and/or committed to in areas identified for restoration according to the criteria outlined in Part 7
- g) any other observations of relevance to koala management

- h) discussion of the findings
- i) recommendations for amendment of the Plan

13.4 Qualifications and Experience

- i) Monitoring and associated data analysis and reporting is to be undertaken by a Suitably Qualified Person with experience in the application and interpretation of the Spot Assessment Technique.

13.5 Research

- i) Opportunities for collaboration with research institutions and other agencies will be explored as they arise, particularly in the areas of mitigation of road-strike, pest management, fire management and disease.



14. Implementation Schedule

Action	Management action	Year of implementation	Budget source
Plan implementation			
	Publicise CKPoM, maps and supporting information on Council website	1-5	CKPOM works program
	Prepare and deliver Councilor workshop on implications, interpretation and implementation and resourcing of plan	1	CKPOM works program
	Prepare and deliver info & training session for Council staff from all relevant units that deal with koala related issues	1,3,5	CKPOM works program
	Incorporate all relevant map layers into Council GIS to trigger Plan during development application assessment	1	CKPOM works program
	Establish a Koala Management Committee to advise and oversee implementation of the Plan	1	CKPOM works program
Development assessment			
	Prepare fact sheet describing options for developers to achieve in perpetuity protection for restored/retained koala habitat	1	CKPOM works program
Strategic planning			
	Seek ratification of the Plan under SEPP 44	1	CKPOM works program
	Incorporate the relevant provisions of this Plan into Council's DCP	1	CKPOM works program

Amendment of Local Environmental Plan to include: a) Preferred Koala Habitat within a KAP or KLP or where koalas are present in an Environment Protection Zone and b) a clause to reinforce the need for development to be consistent with this Plan	1	CKPOM works program
Koala habitat restoration & population recovery assistance		
Prepare a koala habitat restoration program to prioritise restoration and revegetation of strategic areas within the Tweed Coast	1	CKPOM specific project
Seek external funding for works identified under the restoration program	1-5	CKPOM works program
Prepare and implement a site action plan for each strategic restoration site, seek funding and collaboration with other landholders	1-5	CKPOM specific project
Reducing koala road mortality		
Establish and maintain formal liaison between Council and NSW Roads and Maritime Services to seek upgrade and maintenance of highway crossings where required	1-5	CKPOM works program
Prepare koala road kill mitigation strategy for black spots on Council managed roads	1	CKPOM works program
Incorporate retrofitting of wildlife infrastructure at black spots into Council's works schedule	1-5	CKPOM works program

Ensure new roads and road upgrades are completed in accordance with the provisions of the Plan	1-5	CKPOM works program
Prepare monitoring and maintenance schedule for all Council owned wildlife infrastructure and incorporate into Councils work schedule	1,3,5	CKPOM works program
Reducing the risk of dog attack		
Mapping of high risk areas for conflict between domestic dogs and koalas within the Southern Tweed Coast KMA	2	CKPOM works program
Prepare a review of parks, reserves and other public areas within high risk and low risk areas for potential reallocation of dog exercise areas	2	CKPOM works program
Increase and target compliance effort/ranger presence in identified high risk areas in accordance with provisions of the Companion Animals Act	1	CKPOM works program
Prohibition of dogs from all new parks and reserves within KAPs (except where provided for within Enclaved Development under Section 9.4.3 i))	1-5	CKPOM works program
Prepare and implement wild dog management strategy for the Tweed Coast with focus on information gathering and effective use of resources	2	CKPOM specific project
Seek funding for research on the impact of wild dogs within the Tweed Coast and innovative control technologies	2	CKPOM works program
Fire management		

Participate in and provide advice to the relevant land managers and working groups including Northern Rivers Fire and Biodiversity Consortium to promote aims and objectives of the plan, including best practice guidelines	1-5	CKPOM works program
Provide mapping of Preferred Koala Habitat and areas of occupied habitat as mapping layers to local Rural Fire Service and Bush Fire Management Committee	1	CKPOM works program
Contribute to the development and delivery of education strategies for land managers focusing on bush fire management and koala awareness	1,3,5	CKPOM works program
Assist in facilitating cooperation between land managers and wildlife care groups during fire response	1-5	CKPOM works program
Koala care and welfare		
Secure land and assist establishment of a koala food tree plantation for use by koala welfare groups	2	CKPOM works program
Provide annual financial support to koala welfare groups	1-5	CKPOM works program
Facilitate stakeholder workshop on the requirement for and feasibility of a population augmentation program	2	CKPOM works program
Community awareness and engagement		
Develop and implement a community awareness strategy, using measures outlined at Part 12 to actively increase awareness of koala management issues	1-5	CKPOM works program

Monitoring, Reporting and Review

Conduct formal review and update of the Plan	5	CKPOM works program
Conduct initial reassessment of koala activity throughout the Tweed Coast, including reporting on results and recommendations for Plan amendment	1	CKPOM works program
Conduct ongoing monitoring of koala activity throughout the Tweed Coast, including reporting on results and recommendations for Plan amendment	3	CKPOM works program
Exploration of opportunities to contribute/collaborate on research projects as opportunity arises	1-5	CKPOM works program

Note: year of implementation subject to confirmation of resourcing by Council.

Acronyms and Definitions

Complying Development is small scale development under s 76A(5) of the EP&A Act for which consent can be obtained by the issue of a certificate which can be issued by a private certifier if standard conditions are met.

Comprehensive Koala Plan of Management (CKPoM) means a plan of management prepared in accordance with State Environmental Planning Policy No 44 - Koala Habitat Protection that covers all or part of a Local Government Area.

Core Koala Habitat is defined under SEPP 44 as an area of land with a resident population of koalas, evidenced by attributes such as breeding females (that is, females with young) and recent sightings of and historical records of a population. For the purposes of this Plan, Core Koala Habitat includes Preferred Koala Habitat within a KAP or KLP plus any land (whether in a KAP or KLP or not) where koalas are present. See Section 3.4 for further discussion related to the definition of Core Koala Habitat.

Council means Tweed Shire Council.

Department of Planning and Environment (DP&E)

Development Control Plan (DCP) contains detailed guidelines that illustrate the controls that apply to a particular type of development or in a particular area. A DCP implements the Far North Coast Regional Strategy and supplements the Local Environmental Plan and is made according to the *Environmental Planning and Assessment Act 1979*.

Development Envelope means an area of land inclusive of all existing or proposed buildings and other associated infrastructure or buffers including but not limited to roads, driveways, waste water systems, landscaping, bush fire asset protection zones, bushfire clearing entitlement areas and easements for telephone and electricity connections etc. Does not include lands retained for extensive agriculture or nature conservation.

Development Proposal means an application for development that requires the consent, approval or endorsement of Council (includes Part 4 development consents and Part 5 approvals under the EP&A Act).

Enclaved Development are development controls that seek to ensure that koalas cannot access the Development Envelope and that dogs (if they are to be allowed at all) cannot access nearby koala habitat.

Environmental Planning and Assessment Act 1979 (EP&A

Act)

Exempt Development means very small scale development under s 76 of the EP&A Act that does not require consent and are considered to have a minimal environmental impact (e.g. letterboxes, antennas, balconies, pergolas, carports and the like within specified limits).

Friends of the Koala Inc (FoK)

Future Urban Footprint includes the following areas: a) any area of land identified for future urban purposes in a State or Council adopted plan or strategy (e.g. Far North Coast Regional Strategy 2006, Tweed Urban and Land Release Strategy 2009); b) any Urban Zoned Land with a total area greater than or equal to twenty five (25) times the minimum lot size for that zone; c) any R5 Large Lot Residential zoned land with a total area greater than or equal to five (5) times the minimum lot size for that zone BUT does not include; d) Urban Zoned Land with a total area less than twenty five (25) times the minimum lot size for that zone; e) R5 Large Lot Residential zoned land with a total area less than five (5) times the minimum lot size for that zone. See Figure 2 for the potential extent of the Future Urban Footprint.

Habitat Study means the Tweed Coast Koala Habitat Study (Phillips et al. 2011).

Individual Koala Plan of Management (IKPoM) means a site specific plan of management prepared in accordance with State Environmental Planning Policy No 44 - Koala Habitat Protection.

Koala Activity Precincts (KAPs) are mapped areas associated with known significant koala activity.

Koala Friendly Development are development controls that seek to minimise the construction and on-going impacts of development on koalas, without the need for enclaving.

Koala Linkage Precincts (KLPs) are mapped areas adjacent to KMPs that provide optimal opportunities for improved habitat connectivity.

Koala Management Area (KMA)

Koala Management Committee (KMC)

Local Environmental Plan (LEP) is Council's principal strategic planning instrument that zones land and imposes standards to manage development consistent with state and local policies and is made according to the *Environmental Planning and Assessment Act 1979*.

Local Government Area (LGA)

Office of Environment and Heritage (OEH)

Planning Proposal involves the preparation of, or amendment to a Local Environmental Plan (LEP).

Preferred Koala Food Trees (PKFT) being one of the following tree species on the Tweed Coast: Swamp Mahogany *Eucalyptus robusta* (includes any hybrids); Forest Red Gum *Eucalyptus tereticornis*; Small-fruited Grey Gum *Eucalyptus propinqua*; Tallowwood *Eucalyptus microcorys*.

Preferred Koala Habitat is any vegetation community categorised as Primary, Secondary (Class A) or Secondary (Class B) Koala Habitat by the Habitat Study. See Section 3.3 for further discussion related to the definition of Preferred Koala Habitat. Preferred Koala Habitat is shown on Figure 2 but may be updated from time to time to reflect changes in the landscape and mapping updates.

Restoration is the intentional practice of assisting the recovery of degraded ecosystems to the highest practicable extent, taking into account ecosystem change

SEPP 44 means State Environmental Planning Policy No 44 - Koala Habitat Protection

Suitably Qualified Person – means a individual with tertiary qualifications in environmental science (or equivalent) and relevant demonstrated work experience. For undertaking Koala Habitat Assessments the person must have demonstrated experience in undertaking vegetation assessment and knowledge of vegetation of Northern NSW/ South East Queensland. For undertaking Koala Activity Assessments the person must have demonstrated work experience or accreditation in koala ecology and surveys, which preferably includes post graduate qualifications.

State Environmental Planning Policy (SEPP)

the Plan or this Plan means the Tweed Coast Comprehensive Koala Plan of Management 2014.

Tweed Shire Council (TSC)

Tweed Coast means the area to which the Plan applies, as shown in Figure 1.

Tweed Valley Wildlife Carers (TVWC)

Urban Zoned Land means land within the following zones under Tweed LEP 2014: Residential Zones R1, R2, R3, Business Zones B1, B2, B3, B4, B5, B6, B7, Industrial Zones IN1, IN4.

References

- Department of Environment and Climate Change. 2008. *Approved Recovery Plan for the Koala (Phascolarctos cinereus)*. Department of Environment and Climate Change, Sydney, NSW.
- Department of Urban Affairs and Planning. 1995. Circular No. B35. *State Environmental Planning Policy No. 44 - Koala Habitat Protection*. Department of Urban Affairs and Planning, Sydney, NSW.
- Kingston, M. B., Turnbull, J. W. And Hall, P. 2004. *Tweed Vegetation Management Strategy 2004*. Report to Tweed Shire Council. Ecograph.
- NSW National Parks and Wildlife Service. 1999. *Items that should be addressed in Koala Plan of Management for compliance under the provisions of SEPP 44*. Advisory information.
- NSW Rural Fire Service. 2006. *Planning for Bushfire Protection*.
- Phillips, S. 2000. *Tree species preferences of the Koala Phascolarctos cinereus as a basis for the delineation of management areas for recovery planning in New South Wales*. Unpublished report to the NSW Koala Recovery Team.
- Phillips, S. and Callaghan, J. 2011. The Spot Assessment Technique: a tool for determining localised levels of habitat use by Koalas *Phascolarctos cinereus*. *Australian Zoologist* 35(3): 774-780.
- Phillips, S., Hopkins, M. and Shelton, M. 2011. *Tweed Coast Koala Habitat Study*. Unpublished report to Tweed Shire Council. Biolink Ecological Consultants, Uki.

Appendix A – SEPP 44 and Departmental Guidelines, DUAP (1995) and NPWS (1999)

State Environmental Planning Policy No 44--Koala Habitat Protection

Part 1 – Preliminary

1 Name of Policy

This Policy may be cited as *State Environmental Planning Policy No 44--Koala Habitat Protection*.

2 Commencement

This Policy commences on 13 February 1995.

3 Aims, objectives etc

This Policy aims to encourage the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline:

- (a) by requiring the preparation of plans of management before development consent can be granted in relation to areas of core koala habitat, and
- (b) by encouraging the identification of areas of core koala habitat, and
- (c) by encouraging the inclusion of areas of core koala habitat in environment protection zones.

4 Definitions

In this Policy:

“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.

“guidelines” means the guidelines, as in force from time to time, made for the purposes of this Policy by the Director.

“potential koala habitat” means areas of native vegetation where the trees of the types listed in Schedule 2 constitute at least 15% of the total number of trees in the upper or lower strata of the tree component.

5 Land to which this Policy applies

- (1) This Policy applies to each local government area listed in Schedule 1.
- (2) However, it does not apply to land dedicated or reserved under the *National Parks and Wildlife Act 1974* or to land dedicated under the *Forestry Act 1916* as a State forest or flora reserve.

Part 2 – Development control of koala habitats

6 Land to which this Part applies

This Part applies to land:

- (a) that is land to which this Policy applies, and
- (b) that is land in relation to which a development application has been made, and
- (c) that:
 - (i) has an area of more than 1 hectare, or
 - (ii) 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.

7 Step 1-- Is the land potential koala habitat?

- (1) Before a council may grant consent to an application for consent to carry out development on land to which this Part applies, it must satisfy itself whether or not the land is a potential koala habitat.
- (2) A council may satisfy itself as to whether or not land is a potential koala habitat only on information obtained by it, or by the applicant, from a person who is qualified and experienced in tree identification.
- (3) If the council is satisfied:
 - (a) that the land is not a potential koala habitat, it is not prevented, because of this Policy, from granting consent to the development application, or
 - (b) that the land is a potential koala habitat, it must comply with clause 8.

8 Step 2-- Is the land core koala habitat?

- (1) Before a council may grant consent to an application for consent to carry out development on land to which this Part applies that it is satisfied is a potential koala habitat, it must satisfy itself whether or not the land is a core koala habitat.
- (2) A council may satisfy itself as to whether or not land is a core koala habitat only on information obtained by it, or by the applicant, from a person with appropriate qualifications and experience in biological science and fauna survey and management.
- (3) If the council is satisfied:
 - (a) that the land is not a core koala habitat, it is not prevented, because of this Policy, from granting consent to the development application, or
 - (b) that the land is a core koala habitat, it must comply with clause 9.

9 Step 3 -- Can development consent be granted in relation to core koala habitat?

- (1) Before a council may grant consent to a development application for consent to carry out development on land to which this Part applies that it is satisfied is a core koala habitat, there must be a plan of management prepared in accordance with Part 3 that applies to the land.
- (2) The council's determination of the development application must not be inconsistent with the plan of management.

10 Guidelines--matters for consideration

Without limiting clause 17, a council must take the guidelines into consideration in determining an application for consent to carry out development on land to which this Part applies.

Part 3 – Plans of management**11 Preparation of plan of management**

- (1) A plan of management may be prepared for:
 - (a) the whole of a local government area listed in Schedule 1, or
 - (b) a part of such a local government area (including an area of land that is the subject of a development application).

- (2) Anyone (including a council) may prepare a plan of management.
- (3) A plan of management is to be prepared in accordance with the guidelines.

12 Consultation with Director-General of National Parks and Wildlife

A person who prepares a plan of management for the whole of a local government area listed in Schedule 1 must consult the Director-General of National Parks and Wildlife.

13 Approval of plan of management

- (1) A plan of management prepared by the council has no effect unless it is approved by the Director.
- (2) A plan of management prepared by a person other than the council has no effect unless it is approved by the council and by the Director.
- (3) A plan of management takes effect on the day it is approved by the Director or on a later day specified in it for the purpose.

14 Amendment or repeal of plan of management

A plan of management may be amended or repealed by another plan of management prepared and approved in accordance with this Part.

Part 4 – Other environmental planning measures**15 Surveys, environmental protection zones and development control plans**

In order to give effect to the aims of this Policy, a council of a local government area listed in Schedule 1 should:

- (a) survey the land within its area so as to identify areas of potential koala habitat and core koala habitat, and
- (b) make or amend a local environmental plan:
 - (i) to include land identified as a core koala habitat within an environmental protection zone, or
 - (ii) to identify land that is a core koala habitat and apply special provisions to control the development of that land, and
- (c) give consideration to preparing an appropriate development control plan for land that is or adjoins a core koala habitat.

16 Preparation of local environmental studies

Without affecting the power of the Director to give a direction under section 74 (2) (b) of the *Environmental Planning and Assessment Act 1979* to a council, the Director will consider giving a direction that sections 57 and 61 of that Act are to apply to a draft local environmental plan (with the consequence that the council must prepare an environmental study of the land to which the draft local environmental plan applies) if, under the draft plan, it is proposed to zone (or rezone) land that is a potential koala habitat or a core koala habitat otherwise than as environment protection.

17 Guidelines--generally

- (1) In exercising any function under this Policy, a council must take into consideration the guidelines that are relevant to the exercise of the function.
- (2) Anyone may inspect the guidelines free of charge at any office of the Department of Planning during the hours when the office is open to the public.

Schedule 1 Local government

(Clauses 5 (1), 11 (1), 12, 15)

Armidale	Liverpool
Ballina	Lockhart
Barraba	Macleay
Bathurst	Maitland
Bega Valley	Manilla
Bellingen	Merriwa
Berrigan	Moree Plains
Bingara	Mudgee
Blayney	Mulwaree
Blue Mountains	Murray
Bombala	Muswellbrook
Boorowa	Nambucca
Bourke	Narrabri
Brewarrina	Narrandera
Byron	Narromine
Cabonne	Newcastle
Campbelltown	Nundle

Central Darling	Nymbioda
Cessnock	Oberon
	Parkes
Coolah	Parry
Cooma-Monaro	Pittwater
Coonabarabran	Port Stephens
Coonamble	Quirindi
Copmanhurst	Richmond River
Corowa	Rylstone
Crookwell	Scone
Dumaresq	Severn
Dungog	Shoalhaven
Eurobodalla	Singleton
Evans	Snowy River
Forbes	Tallaganda
Gilgandra	Tenterfield
Gloucester	Tumbarumba
Gosford	Tumut
Grafton	Tweed
Great Lakes	Ulmarra
Greater Lithgow	Uralla
Greater Taree	Wagga Wagga
Gunnedah	Wakool
Gunning	Walcha
Guyra	Walgett
Hastings	Warren
Hawkesbury	Warringham
Hornsby	Weddin
Hume	Wentworth
Inverell	Windouran
Kempsey	Wingecarribee
Ku-ring-gai	Wollondilly
Kyogle	Wollongong
Lake Macquarie	Wyong
Leeton	Yallaroi
Lismore	Yarrowlumla
	Yass

Schedule 2 Feed tree species

(Clause 4)

Scientific Name	Common Name
<i>Eucalyptus tereticornis</i>	Forest red gum
<i>Eucalyptus microcorys</i>	Tallowwood
<i>Eucalyptus punctata</i>	Grey Gum
<i>Eucalyptus viminalis</i>	Ribbon or manna gum
<i>Eucalyptus camaldulensis</i>	River red gum
<i>Eucalyptus haemastoma</i>	Broad leaved scribbly gum
<i>Eucalyptus signata</i>	Scribbly gum
<i>Eucalyptus albens</i>	White box
<i>Eucalyptus populnea</i>	Bimble box or poplar box
<i>Eucalyptus robusta</i>	Swamp mahogany

Historical notes

The following abbreviations are used in the Historical notes:

Am	amended	No	number	Schs	Schedules
Cl	clause	p	page	Sec	section
Cll	clauses	pp	pages	Secs	sections
Div	Division	Reg	Regulation	Subdiv	Subdivision
Divs	Divisions	egs	Regulations	Subdivs	Subdivisions
GG	Government Gazette	Rep	repealed	Subst	substituted
Ins	inserted	Sch	Schedule		

Table of amending instruments State Environmental Planning Policy No 44--Koala Habitat Protection published in Gazette No 49 of 6.1.1995, p 3394, and amended in Gazette No 14 of 10.2.1995, p 788, and as follows:Coffs Harbour City Local Environmental Plan 2000 (GG No 49 of 20.4.2000, p 3394)

Table of amendments

Sch 1	Am 10.2.1995; 20.4.2000.
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**DEPARTMENT OF URBAN
AFFAIRS AND PLANNING**

Governor Macquarie Tower, 1 Farrer Place, Sydney 2000.
Box 3927 GPO Sydney 2001. DX 15 Sydney.
Telephone: (02) 391 2000 Fax: (02) 391 2111

CIRCULAR NO. B35

Issued
22 March 1995

To all Councils

**STATE ENVIRONMENTAL PLANNING POLICY NO. 44 - KOALA
HABITAT PROTECTION**

INTRODUCTION

State Environmental Planning Policy No. 44 - Koala Habitat Protection (SEPP 44), was gazetted and commenced operation on 13 February 1995. Section 1 of this circular provides an introduction to the provisions of this policy and information as to how to implement it. Section 2 is the guidelines made by the Director of Planning for the purposes of the policy. A copy of the policy is attached and should be read in conjunction with this circular. Though an accurate reflection of the intent of the policy, these notes are not a substitute for the SEPP itself.

The Director of Planning has made guidelines for the purposes of the policy which, respectively, a council must consider when determining a development application, and consider when relevant to exercising a function under SEPP 44. Specific reference is made in clause 11(3) that plans of management be prepared in accordance with the guidelines. The Director has made the guidelines which are section 2 of this circular. These are referred to in clauses 10, 11 and 17 of the policy. Section 2 of this circular is referred to as the guidelines.

STATUS OF KOALAS AND THE NEED FOR A POLICY

The presently known geographic distribution of the koala in New South Wales is fragmented and most of the populations appear to be small and isolated. Many also occur where they are increasingly susceptible to habitat loss or modification, predation and exposure to drought, disease and bushfire. Factors such as these resulted in the koala (*Phascolarctos cinereus*) being listed on Schedule 12 of the *National Parks and Wildlife Act 1974*, as endangered fauna in Part 2, vulnerable and rare.

A state-wide approach to the issue of declining koala populations is necessary to ensure long term survival over their present range. SEPP 44 will guide and focus the efforts of local government in its responsibilities under the *Environmental Planning and Assessment Act 1979* (EP&A Act), including the proper management of natural resources and the protection of the environment.

- Contact: Natural Resources Branch
- Telephone: (02) 391 2363

SECTION 1 - AN EXPLANATION OF THE POLICY

1.1 AIM OF POLICY

The policy aims to encourage the conservation and proper management of areas of natural vegetation that provide habitat for koalas, to ensure permanent, free-living populations over their present range and to reverse the current trend of population decline.

The aim of the policy will be achieved by ensuring that:

i) for any development application (DA) to which the policy applies, consent is not issued without investigation of the presence of core koala habitat.

“Core koala habitat” is defined in the policy (clause 4) as “ an area of land with a resident population of koalas, evidenced by attributes such as breeding females (that is, females with young), and recent sightings of and historical records of a koala population”.

ii) that any identification of core koala habitat will require that a plan of management must accompany any DA relating to such areas, before council can consider the granting of consent.

iii) that in respect of rezoning, the policy indicates (clause 16) that if a proposal to zone (or rezone) lands, other than to environmental protection, involves an area of potential or core koala habitat then the Director of Planning may require that a local environmental study (LES) be prepared.

1.2 SUMMARY OF PROVISIONS

The policy:

- i) Commences on 13 February 1995.
- ii) Identifies land to which it applies.
- iii) Requires the identification of “potential koala habitats” in lands subject to DAs.
- iv) Requires the identification of “core koala habitats” in lands subject to DAs.
- v) Requires the preparation of plans of management for areas of identified core koala habitat subject to DAs.
- vi) Encourages the survey of lands by council for potential and core koala habitat.
- vii) Encourages the identification of core koala habitat in local environmental planning instruments.
- viii) Identifies circumstances when the Director of Planning is likely to require an local environmental study for rezoning.
- ix) Provides for the guidelines made by the Director of Planning to be in force for the purposes of the policy. These guidelines provide for: the standard of investigations for core koala habitat; the production of plans of management; the recording of core koala habitat in LEPs and suggestions for the use of Development Control Plans (DCP).

1.3 LAND TO WHICH THE POLICY APPLIES - SCHEDULE 1

The policy applies to 107 Local Government Areas (LGAs) in New South Wales identified in Schedule 1 and in Amendment No.1 of the policy. This minor amendment involved adding Campbelltown, Wakool, Warren and Wentworth LGAs and the deletion of Hunter's Hill and Shellharbour. These represent the known geographic distribution of koalas in NSW. This distribution is taken from the National Parks and Wildlife Service's, *Atlas of NSW Wildlife*, as at February 1995.

1.4 POTENTIAL KOALA HABITAT -SCHEDULE 2

Schedule 2 lists ten eucalypt species which are primary koala food trees. In the policy "potential koala habitat" is defined as "areas of native vegetation where the trees of 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". Potential koala habitat is the trigger for the policy to apply to a DA or rezoning proposal. The selection of these species is based on the knowledge that almost all occurrences of koalas in New South Wales have been associated with the presence of one or more of these species. The presence of potential koala habitat warrants further investigation into whether there is core koala habitat.

1.5 HOW THE POLICY AFFECTS CONSIDERATION OF DEVELOPMENT APPLICATIONS

After receiving a development application to which the policy applies, that is, the landholding to which the DA applies is greater than 1 hectare in area (or has, together with any adjoining land in the same ownership, an area of more than 1 hectare) and is within an LGA listed in Schedule 1, the following steps should be undertaken. If a council has already satisfied itself that Steps 1 and 2 of Part 2 of the policy have been met, it may then decide to proceed directly to Step 3. In relation to affected DAs it is the intention of the policy that investigations for 'potential' and 'core' koala habitats be limited to those areas in which it is proposed to disturb habitat.

Step 1. - Is the land potential koala habitat?

Council must have sufficient information to know if the land to which the policy applies contains potential koala habitat, that is, native vegetation where the trees of 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. Council may only consider information provided to council or the applicant, regarding the presence of Schedule 2 species, by a person with qualifications in tree identification (clause 7(2)).

If none of the species listed in Schedule 2 are present or if these species constitute less than 15% of the total number of trees present, no further provisions of the policy apply to the DA.

If potential koala habitat is present then it will be necessary to inform the applicant that further investigation for the existence of core koala habitat is required.

Step 2 - Is the land core koala habitat?

Further information will be necessary before council can decide whether the site contains core koala habitat. This decision will involve a judgement based on the core koala habitat criteria provided in the policy. Section 2.1 of the guidelines provides information on the expected standard of such an investigation and survey methods that might be used.

If the results of the investigation reveal that the area does not contain core koala habitat, no further provisions of the policy apply to the DA.

If the site contains core koala habitat then council should inform the applicant that a consent can not be issued until a plan of management for the site has been completed. The plan of management must be approved by the Director of Planning and approved by council (clause 9 (1)). The applicant may, independently, reach the decision that a plan of management will be required by council.

Step 3. - Producing Plans of Management.

Plans of management can be of 2 types; for a specific site or the whole LGA. Clause 11(3) requires that plans of management are produced in accordance with the guidelines. When a plan of management is required, council should refer to the outline provided in Section 2.2 of the guidelines detailing what should be included. The applicant should be made aware of the requirement for a plan of management immediately after a decision has been made that the DA area contains core koala habitat. The expected content of plans of management outlined in Section 2.2.2 of the guidelines, indicates what information the Director of Planning will be likely to require a plan to contain. The policy does not require a plan of management for an individual site if a plan of management covering the whole LGA has been produced and approved by council. Details of these LGA wide plans are provided in Section 2.2.1 of the guidelines.

STEP 4. - Granting consent.

Council may determine the development application when a plan of management is approved. Any consent issued should not be inconsistent with the plan of management (clause 9(2)).

The Figure on page 5 illustrates the process council should follow once a DA is received.

1.6 HOW THE POLICY AFFECTS REZONING OF POTENTIAL OR CORE KOALA HABITATS

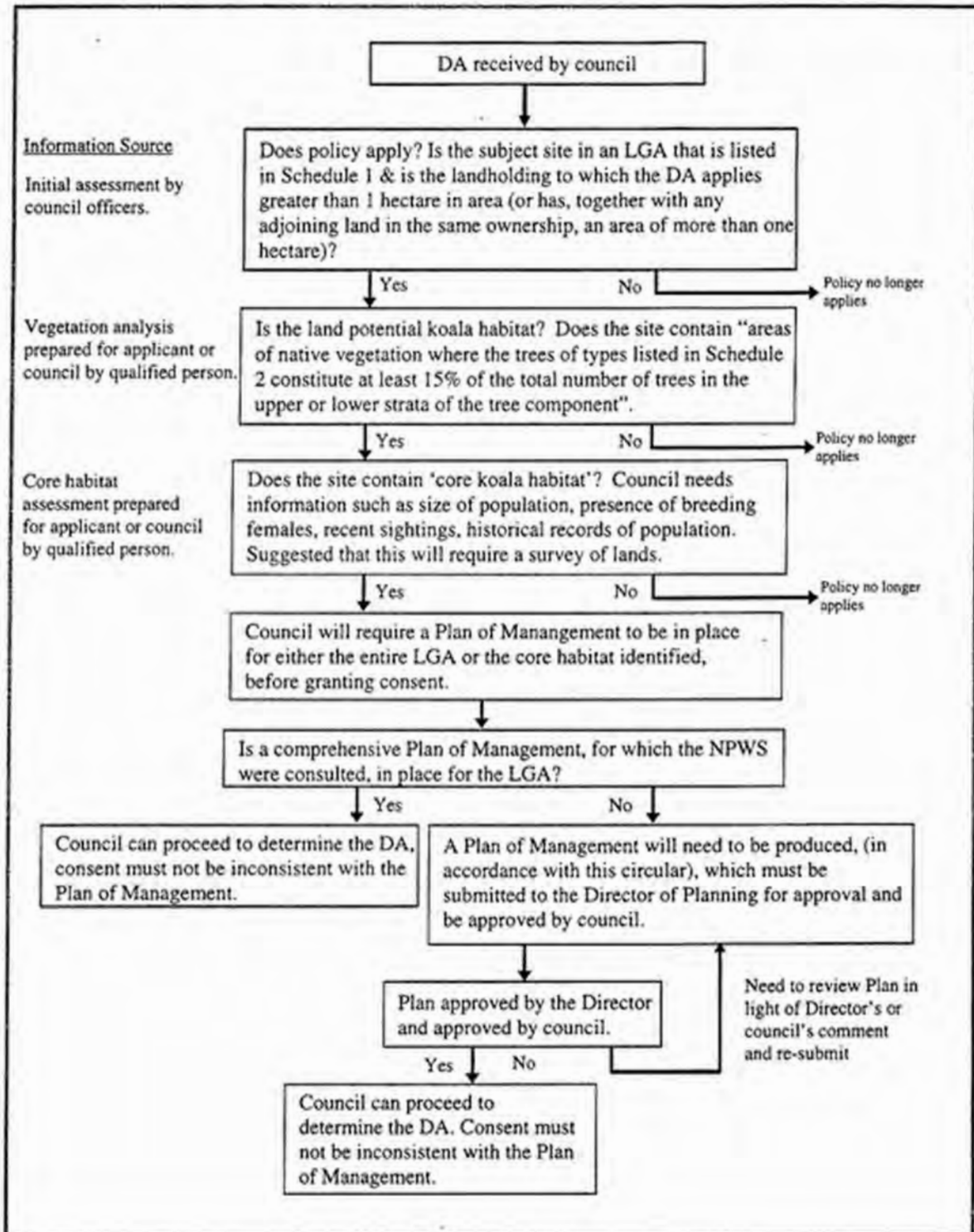
When contemplating rezoning of potential koala habitat, council should be aware of those factors which will be considered by the Director when deciding whether to require that a local environmental study be undertaken. These are in clause 16.

These factors will include whether or not an investigation for the presence of core koala habitat has been previously undertaken. If such an investigation has identified core habitat, the Director will consider whether a plan of management (either for the individual DA or the entire LGA), has been prepared and approved for the area of core koala habitat. It is anticipated that for the majority of rezonings, a local environmental study is likely to be required if potential koala habitat, which has not been investigated for core koala habitat, is present.

Generally, a local environmental study is unlikely to be required if the purpose of the rezoning, involving potential or core koala habitat, is to zone land for environmental protection.

HOW THE POLICY AFFECTS A DEVELOPMENT APPLICATION

The following flow chart represents the steps which council should follow, in respect of this policy, after receiving a DA.



1.7 COMMUNITY INVOLVEMENT

There is considerable scope for council to utilise community organisations that presently exist in New South Wales for support and assistance with koala related issues. It is suggested that council contact the appropriate zone team of the National Parks and Wildlife Service (NPWS) for assistance and to facilitate contact with groups such as the Australian Koala Foundation, Wildlife Information and Rescue Service (WIRES) and local environmental groups. Assistance could be provided with such works as planting programs (for feed tree species) and programs for the removal of weed species in core habitat. WIRES care for and rehabilitate sick or injured animals. If appropriately co-ordinated and supervised the 'volunteer' labour could significantly reduce any resource implications for council in managing koala populations, within identified core habitat, on lands within its control.

1.8 NATIONAL PARKS AND WILDLIFE SERVICE DATA BASE FOR KOALAS

Council are encouraged to forward information regarding the presence of koalas, resulting from assessments of both potential and core koala habitats, to the Environmental Survey and Research Branch, Head Office of the NPWS for recording in the Service's data base on koala distribution in NSW. This information will be treated as confidential if requested.

1.9 STATE OF ENVIRONMENT REPORTING

A number of parallels exist between the requirements of SEPP 44, in regard to identification of potential and core koala habitat, and the requirements of the *Local Government Act 1993*. Specifically section 428 (2)(c) of the Act requires councils to produce a report as to the state of the environment for the relevant local government area. These reports are to include information on: areas of environmental sensitivity; important wildlife and habitat corridors; threatened species and any recovery plans; vegetation cover (and any instruments or policies related to it, including instruments relating to tree preservation). Council should maximise efforts to combine the survey efforts of their state of the environment reporting and the information required to identify core habitat for koalas.

1.10 FURTHER INFORMATION

The following readings are suggested for developing a general understanding of the current status of koalas in NSW.

1. Callaghan, J., Leathley, S. and Lunney, D.(1994). *Port Stephens Koala Management Plan. Draft for public discussion. 27 September 1994.* NSW National Parks and Wildlife Service and Port Stephens Council. Available from Port Stephens Council for \$20.00 (including postage & handling).
2. Lunney, D., Urquhart, C. and Reed, P. (Eds)(1988). *Koala Summit - Managing Koalas in New South Wales.* NSW National Parks and Wildlife Service. Available from the Service's Information Branch, PO Box 1967 HURSTVILLE 2220 for \$19.95 (including postage & handling).
3. Reed, P.C., Lunney, D. and Walker, P. (1990), " A 1986-1987 survey of the koala *Phascolarctos cinereus* (Goldfuss) in New South Wales and an ecological interpretation of its distribution". In the *Biology of the Koala*. Lee, A.K., Handasyde, K.A and Sanson, G.D.(Eds) (1990). Available as a reprint from D. Lunney, Head Office NPWS for \$5.00 (including postage & handling).

For enquiries regarding the Koala Habitat Atlas - Maps Identifying Koala Habitat, contact Mr Steve Phillips or Mr John Callaghan on (07) 229 7233 (ph) and (07) 221 0337 (fax). The postal address is, Australian Koala Foundation GPO Box 9899, SYDNEY 2001.

Any specific questions regarding this policy may be directed to the Department's Natural Resources Branch on (02) 391 2022 or the relevant regional office of the Department.

SECTION 2 - THE DIRECTOR'S GUIDELINES

2.0 INTRODUCTION

The Director of Planning has made guidelines for the purposes of the policy which, respectively, a council must consider when determining a development application, and consider when relevant to exercising a function under SEPP 44. Specific reference is made in clause 11(3) that plans of management be prepared in accordance with the guidelines. The Director has made the guidelines which are section 2 of this circular. These are referred to in clauses 10, 11 and 17 of the policy. Section 2 of this circular is referred to as the guidelines.

The guidelines include: methods for investigating the presence of core koala habitat; the minimum information requirements for plans of management that are to accompany development applications applying to areas of core koala habitat; provisions for inclusion in environmental protection zones in local environmental plans for the protection of identified core koala habitat and suggestions for the use of development control plans.

2.1 INVESTIGATING POTENTIAL KOALA HABITAT FOR CORE KOALA HABITAT

When an area has been identified as potential koala habitat, a decision must then be made by the council as to whether or not the land is core koala habitat. The policy requires (clause 8(2)), that the information on which a decision about the presence of core koala habitat is based must be provided by persons suitably qualified in biological science, fauna survey and management. For the decision to be confidently made, it is necessary that a minimum standard and content of information regarding core koala habitat is provided. It is considered that the best method to obtain such information would be a survey to assess the subject site for attributes such as those contained in the definition of core koala habitat. A survey may not be required where sufficient information already exists.

These surveys / investigations should:

- i) examine the presence of koalas on the subject site and provide details on the extent and nature of identified populations, including: an estimate of population size; extent of tree use on the site and species utilised, (established by observing koalas or their sign e.g. dung and scratch marks); evidence of breeding females (including females with young) and the presence of juveniles / sub-adults in the population;
- ii) provide a vegetation map of the site which identifies the components of the tree layer and a description of the shrub layer;

- iii) make use of other published or publicly available data relating to the fauna of the site. This could include sources such as previous fauna surveys and impact statements, plans of management for koalas completed by the National Parks and Wildlife Service and the information available on koala distribution in the Koala Habitat Atlas (Australian Koala Foundation); and
- iv) employ standard, reportable techniques of koala survey, such as a properly designed on site survey using standard techniques or the approach outlined by the NPWS in producing the *Port Stephens Koala Management Plan - Draft for public discussion. 27 September 1994*. The latter method involves the use of a community-based survey to determine location of koala populations.

Fundamentally, this information must result in council being able to confidently decide whether or not the potential koala habitat contains any core koala habitat. If an identification of core koala habitat is made, a plan of management for koalas is required before councils can proceed with assessment of the DA. Details of these plans of management are provided below.

The policy encourages council to survey lands within their areas to identify potential and core koala habitats (clause 15(a)). Undertaking surveys will allow council to identify those lands where this policy will apply in anticipation of DAs and rezonings and will facilitate a co-ordinated approach to planning for koala habitat management for the entire LGA.

It is anticipated that when undertaking surveys, it would be practical for council to target those areas where habitat destruction is most widespread. Agricultural lands, where generally current practices do not compromise koala habitat to the extent experienced in other areas, should be of low priority. It is, however, appropriate when agricultural lands are subject to a rezoning proposal for urban development that the provisions of the policy apply.

2.2 PLANS OF MANAGEMENT

The policy defines two types of plans of management, (clauses 11(1)(a) and (b)), these are referred to as comprehensive plans and individual plans. Anyone, including a council may prepare a plan of management (clause 11(2)). It is a requirement of the policy (clause 11(3)) that plans of management be prepared in accordance with these guidelines. It is expected that it will be councils who undertake comprehensive plans of management and applicants who will be responsible for preparing individual plans of management.

In addressing these guidelines, anyone undertaking a plan of management, either individual or comprehensive, should be certain that it meets the aim of this policy to ensure that areas of natural vegetation are properly managed and conserved to provide habitat for koalas.

2.2.1 Comprehensive Plan

This refers to a plan of management for koalas that covers an entire LGA, prepared in accordance with clause 11(1)(a). The policy requires that in producing such a plan the Director-General of the NPWS must be consulted, (clause 12). Such a plan should adopt the standard of the completed draft 'Port Stephens - Koala Management Plan', 27 September 1994, NPWS / Port Stephens Council. For availability of this plan refer to the further information section of this circular. If such a comprehensive plan has been adopted by council, no individual plan of management is required to accompany DAs applying to core habitat. These comprehensive plans must have been approved by both the Director and council before they come into force and before consideration of the DA can be completed. It

is expected that these plans will be approved by council before being forwarded to the Director for approval.

Council is encouraged to undertake these comprehensive plans of management as they will both facilitate the processing of DAs and effectively meet the aims of this policy. Completion of such a plan will also conform with the recommendation in clause 15(a) that surveys be undertaken for potential and core koala habitats within LGAs. Again it is expected that these comprehensive plans will focus on those areas where habitat destruction is most widespread, such as in areas of rapid residential expansion. If a council is interested in undertaking a comprehensive plan of management, the appropriate local NPWS Zone Team or the Environmental Protection Unit of the NPWS should be contacted on (02) 585 6444 (ph) or (02) 585 6555 (fax). This does not, however, remove the policy requirement to formally consult the Director-General of NPWS.

2.2.2 Individual Plan

These plans are required to accompany DAs which affect core koala habitat, in LGAs for which a comprehensive plan of management has not been completed. These individual plans are to be forwarded to the Director of Planning for approval (clause 13). These plans must have been approved by both the Director and council before they come into force and before consideration of the DA can be completed. It is expected that these plans will be approved by council before being forwarded to the Director for approval.

Included below is a list of matters that should be considered when undertaking an individual plan of management. Such matters will form the basis of the Director's decision whether to approve the plan of management.

- i) An estimate of population size;
- ii) Identification of preferred feed tree species for the locality and extent of resource available;
- iii) An assessment of the regional distribution of koalas and the extent of alternative habitat available to compensate for that to be affected by the actions;
- iv) Identification of linkages of core koala habitat to other adjacent areas of habitat and movement of koalas between areas of habitat. Provision of strategies to enhance and manage these corridors;
- v) Identification of major threatening processes such as disease, clearance of habitat, road kill and dog attack which impact on the population. Provision of methods for reducing these impacts;
- vi) Provision of detailed proposals for amelioration of impacts on koala populations from any anticipated development within zones of core koala habitat;
- vii) Identification of any opportunities to increase size or improve condition of existing core habitat, this should include lands adjacent to areas of identified core koala habitat;
- viii) The plan should state clearly what it aims to achieve (for example, maintaining or expanding the current population size or habitat area);

- ix) The plan should state criteria against which achievement of these objectives is to be measured (for example, a specified population size in a specific time frame or the abatement of threats to the population).
- x) The plan should also have provisions for continuing monitoring, review and reporting. This should include an identification of who will undertake further work and how it will be funded.

These plans encourage active habitat management and allow development proposals to be assessed in the broader context of local and regional koalas status.

2.3 GRANTING OF CONSENT BY COUNCIL

When a council receives a DA for a site which contains core koala habitat and for which there is an approved plan of management, either comprehensive or individual, the DA may be determined. In the issuing of any consent council must have regard to the provisions of (clause 9(2)) of the policy, which states that any determination of a DA, over core habitat, must not be inconsistent with the plan of management.

2.4 RECORDING CORE HABITAT IN LOCAL ENVIRONMENTAL PLANS

For lands, which are currently known to contain populations of koalas, as a result of either local knowledge or a previous survey, (clause 15(b)(i)) council is encouraged to include these lands in a zone for environmental protection in the relevant LEP. The policy also allows council to identify land as core koala habitat by means other than a specific environmental protection zone and to apply special provisions to that land (clause 15(b)(ii)). This identification could be by means of hatching or shading superimposed over existing zonings. As previously stated current agricultural lands, due to the low intensity of impacts on koala habitat are not considered to be a focus for the practical expression of this section of the policy.

In developing such an environmental protection zoning or in applying special provisions to an identification of core koala habitat, council should consider including provisions in the following terms:

1. This clause applies to land shown hatched on the maps and denoted with a classification of core koala habitat.
2. The objectives of the clause are to:
 - i) ensure that the koala population in the area is sustainable in perpetuity;
 - ii) protect core koala habitat areas from any development which would compromise habitat quality or integrity;
 - iii) ensure that any development within core koala habitat areas occurs in an environmentally sensitive manner;
 - iv) ensure that acceptable levels of investigation are undertaken and considered prior to any development in core koala habitat areas;
 - v) ensure that development does not further fragment or degrade core koala habitat areas;
 - vi) encourage habitat creation and restoration; and

- vii) maintain interconnection of areas of core koala habitat and provide for koala movement between such areas.

2.5 DEVELOPMENT CONTROL PLANS

When council has identified core koala habitat in an LEP consideration should be given to providing more detailed provisions in a DCP, which relates to lands identified as core koala habitat (clause 15(c)). These DCPs should also take into account the development of lands which adjoin land identified as core koala habitat.

The general aims of these DCPs would be to:-

- i) protect core koala habitat areas from any development which would compromise habitat quality and integrity;
- ii) ensure that any development within core koala habitat occurs in an environmentally sensitive manner;
- iii) ensure that appropriate investigation is undertaken prior to any development of core koala habitat;
- iv) ensure that development is designed to minimise further fragmentation or degradation of core koala habitat, and;
- v) provide guidelines as to how impacts on koalas may be minimised during and after development.

Specific development controls which could be imposed within a DCP to apply to areas of core koala habitat, include the following:

- retention of trees known to be used for feeding by koalas;
- retention of trees and shrubs known to be used for shelter by koalas, e.g. Banksia, Acacia and Casuarina;
- restriction of maximum speed limited for rural residential roads to 60 kph and 40 kph for residential roads;
- restriction of any activities which require clear felling;
- a minimum of 40% of the site area should be landscaped; and
- subdivision plans that incorporate an instrument pursuant to S.88B of the Conveyancing Act 1919, which:
 - prohibits keeping of dogs
 - restricts fence construction to designs which do not hinder koalas
 - prohibits removal of trees which are regarded as koala food trees
 - requires the use of koala feed trees and shrubs in all landscaping.



E. Smith
Secretary

National Parks and Wildlife Service and Department of Urban Affairs and Planning (1999) Further Guidelines on Preparing a Koala Plan of Management

ITEMS THAT SHOULD BE ADDRESSED IN KOALA PLAN OF MANAGEMENT FOR COMPLIANCE UNDER THE PROVISIONS OF SEPP 44

Included below is a list of items that should be addressed in a Koala Plan of Management to ensure that the plan meets the requirements of SEPP 44.

i) Identification of authors

People involved in preparing the plan, including field personnel, the section they were responsible for, their qualifications and current positions should be stated at the beginning of the document.

ii) Aims

The primary aim of the plan should be consistent with that defined in clause 3 of the SEPP. Additionally, the plan should also comply with clause 15(a) of SEPP 44 with respect to identification, protection and management of koala habitat.

Additional aims which should be considered are:

- To identify and list the koala food tree species in the study area, derived from a) SEPP 44 Schedule 2 Feed Tree Species, b) local sources such as Council records, local Environmental Impact Statements, State Forests, National Parks and Wildlife Service and carer groups, and c) field and community surveys. Species on Schedule 2 not occurring in the study area may be omitted from this list.
- To map koala habitat within the study area.
- To identify and reduce the threatening processes acting on the local koala population.
- To identify steps to reverse the current trend of koala population decline, for example to identify and conserve koala habitat, implement appropriate planning controls, institute a long term program of monitoring and reporting of koalas and koala habitat and to nominate areas for restoration programs.

iii) Background

- Physical environment. This section should include a description of the physical aspects of the study area such as climate, geology, soil types and their nutrient status, and topography as it relates to koala habitat.
- Biotic environment. This section should include a description of the biotic environment of the study area including flora, fauna, feral animals and ecosystems as it relates to koala habitat.
- History. This section should include a summary of history of land-use (eg. clearing, development) in the study area, and include a current map of land tenure. Particular effort should be applied to researching the history of koalas and koala habitat in the study area.
- Regional status. This section should describe the regional status of koalas and koala habitat. This may require liaison with neighbouring Councils, Koala Carer Groups and NPWS, and reference to the scientific literature. This is to identify potential linkages between koala habitat in the study area and neighbouring areas and the highest priority areas of koala habitat.
- A discussion should be provided of the existing planning instruments in the study area which are also applicable to the protection of koala habitat. Information could also be included on where copies of these instruments can be obtained.
- All sources should be fully referenced.

iv) Methodology

Thorough scientific survey and research will allow the most reliable identification of koala habitat, thus providing a strong base for management and planning decisions. The approach below relies on two independent survey techniques to determine koala distribution. The interpretation of koala habitat is based on the distribution of koalas and the related plant associations.

The koala plan of management should be based on a survey of the study area for koala habitat. To achieve this, the survey should include the following procedures:

1. vegetation survey to produce a vegetation map of plant associations (ie. based on both floristic and structural characteristics). (This map will also have applicability to planning and administration of other natural heritage values.);

2. community-based koala survey to provide records of both current and historical koala locations; and
3. field survey to determine which plant associations and tree species contain koalas.

The plan will necessarily include maps of koala habitat in the study area, including a:

1. map of potential koala habitat. This will be a map of all plant associations containing greater than 10% of koala food trees based on the list of trees generated for the study area.
2. map of core koala habitat. This will be a map of all plant associations identified as containing koalas from both the field and community survey. This will overlay potential koala habitat but may not include all potential koala habitat. To refine the distribution of core koala habitat, other factors identified in the background physical environment, such as soil type, may be tested for significant effect.

v) Threatening processes

The plan should identify and describe the threatening processes affecting koalas and koala habitat within the study area, for example habitat clearing, fragmentation and degradation, feral predators, roads and traffic, large extractive industries, disease and natural disasters. Current LEP zoning of koala habitat areas and the effects of activities which may be permissible under these zonings should also be considered to the extent that they facilitate or contribute to the action of threatening processes. The extent of these problems should be researched to address the importance of each in the study area.

vi) Management

- Management principles and policies. General management principles and policies for koala management in the study area should be clearly outlined. For example, koala protection or management 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 habitat.
- Planning controls and regulation. When preparing the plan the recommendations in Section 2.4 and 2.5 of the Department of Urban Affairs and Planning (DUAP) Circular No B35, regarding the recording of koala habitat in local environmental plans and the preparation of development control plans, should be applied. All areas mapped as koala habitat in the study area should be included in these legislative provisions.
- Management of koala habitat. The plan should encourage land owners to enhance and protect koala habitat on their land and include a section on pro-active measures that may be taken.
- Management of threatening processes. It is recommended that threatening processes, outlined in part (v), be addressed by appropriate management actions to negate or ameliorate threats. Management actions should be described in detail. These could include acquisition of areas of koala habitat for permanent protection, revegetation and tree planting, buffer areas, weed control, fire control strategies, dog control measures and traffic calming. A list of potential threats and suggested management strategies are provided in the draft Coffs Harbour and Port Stephens Koala Plans of Management and the ANZECC (Australia and New Zealand Environment and Conservation Council) National Koala Conservation Strategy (available through the Australian Nature Conservation Agency). Meetings of relevant parties may help to address the most appropriate management of these threats.
- Koala welfare. Management of sick and injured koalas placed in care for rehabilitation and release should be considered as part of the plan. The role that local koala care groups play in koala welfare and conservation should be identified and discussed in the plan.
- Research. Scientific research is important to guide koala management practices and should involve the local community and research institutions. The plan should identify areas requiring further research that will assist in the long-term management of koalas in the study area.
- Public education and information. The plan should identify strategies to educate and inform the public of the management and conservation of the local koala population. Community groups can play an important role in raising awareness of major koala issues to the general public.
- Coordination. Management recommendations in the plan should take a regional approach across the study area and neighbouring lands and include consideration of issues on all land tenures (including State Forests, NPWS

lands, Crown Lands).

- Implementation of plan. This should identify how the plan is to be implemented including time-frames and the responsibilities for each section.

vii) Review

- Steering committee. Formation of a steering committee may be useful to facilitate the production and implementation of the plan as well as ongoing monitoring and review. Appropriate members of such a committee could include representatives from Council, the NPWS, the DUAP, species specialists and the community. The committee's role would not be in production of the plan, but in the control of its direction (eg. establishing time-frames for implementation) and content and assigning responsibilities and resources.
- Performance indicators. Detailed performance indicators, with incorporated time-frames, are recommended to assess the success or failure to meet the aims of the plan. These indicators will guide the monitoring program. Appropriate indicators should include rates of habitat loss and/or creation, feedback from community groups and achievement of deadlines.

- Monitoring. Following the completion of the plan an ongoing program of monitoring of the koalas and koala habitat is recommended. The aims of the program should be defined by the performance indicators. This section should include a procedure to follow in the event of failing to meet the aims of the program. It should also include a contingency to alter the plan to incorporate new information, such as new koala records, new scientific knowledge and impacts of threatening processes. Potential sources of funding for program monitoring should also be indicated.
- Reporting. Reporting of the status of koalas in the study area and the LGA is an essential part in monitoring the success of the plan. This could be done through the annual State Of the Environment Report already required under the Local Government Act 1993.

Public Exhibition: The views of the community should be obtained through public exhibition of a draft plan. Any comments should be collated and incorporated into the plan if appropriate.

Appendix B – SEPP 44 Compliance

The following table that describes how this Plan addresses the NPWS and DUAP requirements listed under the document: *Items that should be addressed in a Koala Plan of Management for Compliance under the Provisions of SEPP 44.*

	Item	How dealt with in Plan
i	Identification of authors	Acknowledgements refer
ii	Aims	
	Primary aim	
	Consistent with clause 3 of SEPP 44. Compliance with clause 15(a) of SEPP 44 (identification, protection and management of koala habitat).	Part 2, Section 2.6
	Additional aims	
	To identify and list the koala food tree species in the study area, derived from <ol style="list-style-type: none"> SEPP 44 (Schedule 2), local sources and field and community surveys. 	Tweed Coast Koala Habitat Study (Phillips et al. 2011)
	To map koala habitat within the study area.	Tweed Coast Koala Habitat Study (Phillips et al. 2011)
	To identify and reduce the threatening processes acting on the local koala population.	Tweed Coast Koala Habitat Study (Phillips et al. 2011); Section 2.6.2
	To identify steps to reverse the current trend of koala population decline, for example <ul style="list-style-type: none"> to identify and conserve koala habitat, implement appropriate planning controls, institute a long-term program of monitoring and reporting of koalas and koala habitat and to nominate areas for restoration programs. 	Parts 5, 7 & 13
iii	Background	
	Physical environment - description of the physical aspects of the study area (climate, geology, soil types and their nutrient status, and topography) as it relates to koala habitat.	Introduction (Section 1.2)
	Biotic environment - description of the biotic environment of the study area including flora, fauna, feral animals and ecosystems as it relates to koala habitat.	Introduction (Section 1.2)
	History - summary of history of land-use in the study area, and include a current map of land tenure. Particular effort to be applied to researching the history of koalas and koala habitat in the study area.	Introduction (Section 1.2); Part 1
	Regional status of koalas - describe the regional status of koalas and koala habitat. Identify potential linkages between koala habitat in the study area and neighbouring areas and the highest priority areas of koala habitat.	Tweed Coast Koala Habitat Study (Phillips et al. 2011)

	A discussion of the existing planning instruments in the study area which are also applicable to the protection of koala habitat (including where copies can be obtained).	Introduction (Section 1.3)
iv	Methodology	
	Survey of the study area for koala habitat, including the following procedures: <ol style="list-style-type: none"> 1. vegetation survey to produce a vegetation map of plant associations; 2. community-based koala survey to provide records of both current and historical koala locations; and 3. field survey to determine which plant associations and tree species contain koalas. 	Tweed Coast Koala Habitat Study (Phillips et al. 2011)
	Maps of koala habitat in the study area, including: <ol style="list-style-type: none"> 1. Potential koala habitat. This will be a map of all plant associations containing greater than 10% of koala food trees based on the list of trees generated for the study area. 2. Core Koala Habitat. This will be a map of all plant associations identified as containing koalas from both the field and community survey. This will overlay potential koala habitat but may not include all potential koala habitat. 	Tweed Coast Koala Habitat Study (Phillips et al. 2011)
v	Threatening processes	
	Identify and describe the threatening processes affecting koalas and koala habitat within the study area.	Tweed Coast Koala Habitat Study (Phillips et al. 2011)
	Current LEP zoning of koala habitat areas and the effects of activities which may be permissible under these zonings should be considered to the extent that they facilitate or contribute to threatening processes.	Introduction (Section 1.3)
	Examine the extent of these problems to address the importance of each in the study area.	Section 2.6.2; Tweed Coast Koala Habitat Study (Phillips et al. 2011)
vi	Management	
	General management principles and policies for koala management in the study area should be clearly outlined. For example, koala protection or management 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 habitat.	Parts 3, 5, 6, 7

	Planning controls and regulation. The recommendations in Sections 2.4 and 2.5 of the Department of Urban Affairs and Planning (DUAP) Circular No B35, regarding the recording of koala habitat in local environmental plans and the preparation of development control plans, should be applied. All areas mapped as koala habitat should be included in these legislative provisions.	Parts 5 & 6
	Encourage land owners to enhance and protect koala habitat on their land, including a section on proactive measures that may be taken.	Part 7
	Threatening processes addressed by appropriate detailed management actions to negate or ameliorate threats.	Parts 7, 8, 9, 10
	Koala welfare. Management of sick and injured koalas placed in care for rehabilitation and release. The role that local koala care groups play in koala welfare and conservation should be identified and discussed.	Part 11; Tweed Coast Koala Habitat Study (Phillips et al. 2011)
	Research - identify areas requiring further research that will assist in the long-term management of koalas.	Largely N/A, Part 13
	Public education and information - strategies to educate and inform the public of the management and conservation of the local koala population.	Part 12
	Coordination. Management recommendations should take a regional approach across the study area and neighbouring lands and include consideration of issues on all land tenures (including State Forests, NPWS lands, Crown Lands).	Part 4
	Implementation - how the plan is to be implemented including time-frames and responsibilities for each section.	All Parts as required. Section 14
vii	Review	
	Formation of a steering committee to facilitate production, implementation, monitoring and review of the plan. The committee's role is in the control of the plan's direction (eg. establishing time-frames for implementation) and content and assigning responsibilities and resources.	Part 4
	Performance indicators. Detailed performance indicators with incorporated time-frames to assess the success or failure to meet the aims of the plan. These indicators will guide the monitoring program. Appropriate indicators should include rates of habitat loss and/or creation, feedback from community groups and achievement of deadlines.	Part 2
	Monitoring. An ongoing program of monitoring of the koalas and koala habitat, with aims to be defined by the performance indicators. Include a procedure to follow in the event of failing to meet the aims of the program. Include contingency to alter the plan to incorporate new information. Indicate potential sources of funding for program monitoring.	Part 13

	<p>Reporting. Reporting of the status of koalas in the study area and the LGA. This could be done through the annual State Of the Environment Report required under the <i>Local Government Act 1993</i>.</p>	<p>Part 13</p>
	<p>Public exhibition: The views of the community should be obtained through public exhibition of a draft plan. Any comments should be collated and incorporated into the plan if appropriate.</p>	<p>Part 1</p>



Appendix C - Offset Provisions

This section details the provisions for the offsetting of impacts on koala habitat resulting from development activities within the Tweed Coast Koala Study Area. The provisions aim to provide a transparent framework for the planning and assessment of an offset proposal where there are unavoidable residual impacts from a proposed development activity.

The provisions are generally based on the Australian Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Environmental Offsets Policy and the Lismore City Council Comprehensive Koala Plan of Management for south-east Lismore.

What are offsets?

Offsets are measures that compensate for residual adverse impacts of development on koalas or on the quantity, quality and connectivity of koala habitat. Offsets are only considered when all options to avoid or mitigate impacts on koalas and koala habitat have been considered and confirmed as unachievable.

What types of impacts require offsetting under the Plan?

While there are a range of potential impacts resulting from development proposals, this Plan only allows offsetting of Preferred Koala Habitat and Preferred Koala Food trees in the following limited circumstances where koalas are not present:

1. Minor Development (see Section 5.6.4).
2. Other development outside of a Koala Activity Precinct or Koala Linkage Precinct (see Section 5.9.2(iii)).
3. Other Development within a Koala Activity Precinct or Koala Linkage Precinct (see Section 5.9.3).

Other impacts such as increased impact from dogs, vehicles, fire or other recognised threats are required to be avoided or mitigated and are unable to be offset under the Plan.

What types of offsets are applicable under the Plan?

This plan requires the use of direct offsets resulting in a measurable conservation gain for koalas and koala habitat. The use of threat reduction measures or other compensatory measures (indirect offsets) are not acceptable under this Plan.

Offsetting is therefore limited to the creation of new koala habitat at a suitable location on the impact site or offsite in accordance with Table 1, 2 or 3.

A higher ratio is set for offsite offsetting to accommodate the greater risk and potentially lower value resulting from

addressing impact at sites other than the impact site.

Except for offsetting of Preferred Koala Food Trees from the Tweed Head Koala Management Area, Council will not approve offsite offsets where suitable land is available on the same allotment (or adjacent allotment in the same ownership) as the proposed development.

Tables 1, 2 and 3 provide further guidance on where offsite offsets need to be located in cases where they are deemed to be appropriate.

What are the steps to use offsets under the Plan?

1. Ensure development proposal meets the requirements as per Part 5 and/or 6 of the Plan
2. Describe any residual impact and ensure that it is allowable
3. Develop and submit an offset proposal that is consistent with Table 1

Calculating impacts and offsets for proposals

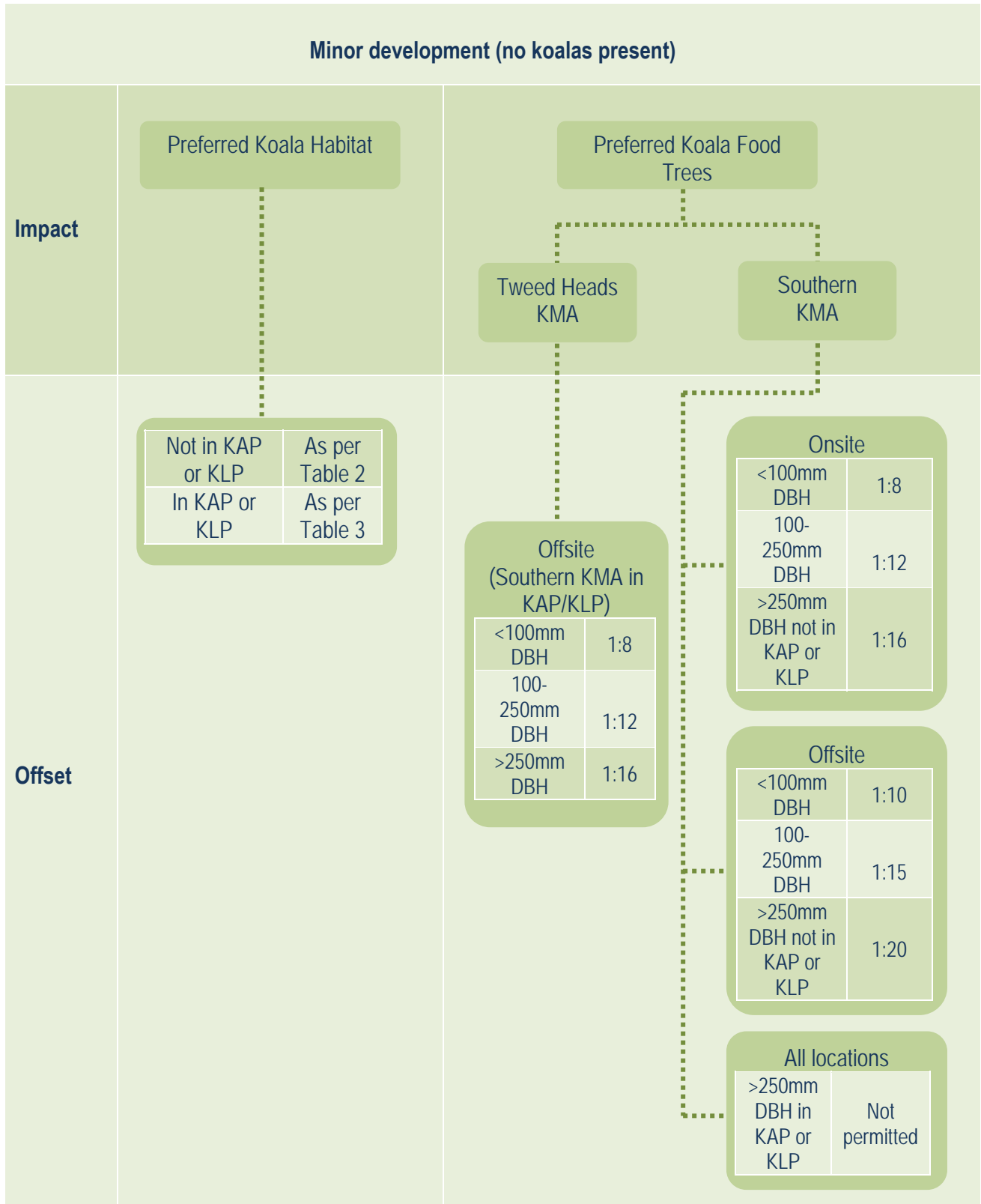
This Plan provides offset ratios to enable direct calculation of offsets based on the residual impact as either number of trees or area of habitat lost. For example, if the offset ratio is 1:5, five trees must be replanted for every one lost. Or in the case of habitat, five times the area of habitat lost must be restored.

The offset ratios have been developed to reflect the critical requirement for urgent protection and restoration of koala habitat on the Tweed Coast. The Tweed Coast Koala Habitat Study has identified that the koala population is already below the minimum viable population size and that the protection, restoration and management of koala habitat is required to prevent local extinction. The offset ratios herein reflect the significant risk associated with any further impact on existing habitat and use multiplication factors to address this risk relative to the impact. The ratio scales have been developed with reference to those used elsewhere, including scenario based application of the EPBC Act Offsets Policy and the Lismore City Council Comprehensive Koala Plan of Management for south-east Lismore.

Further, the offset ratios required under the Plan have been developed to take into account the:

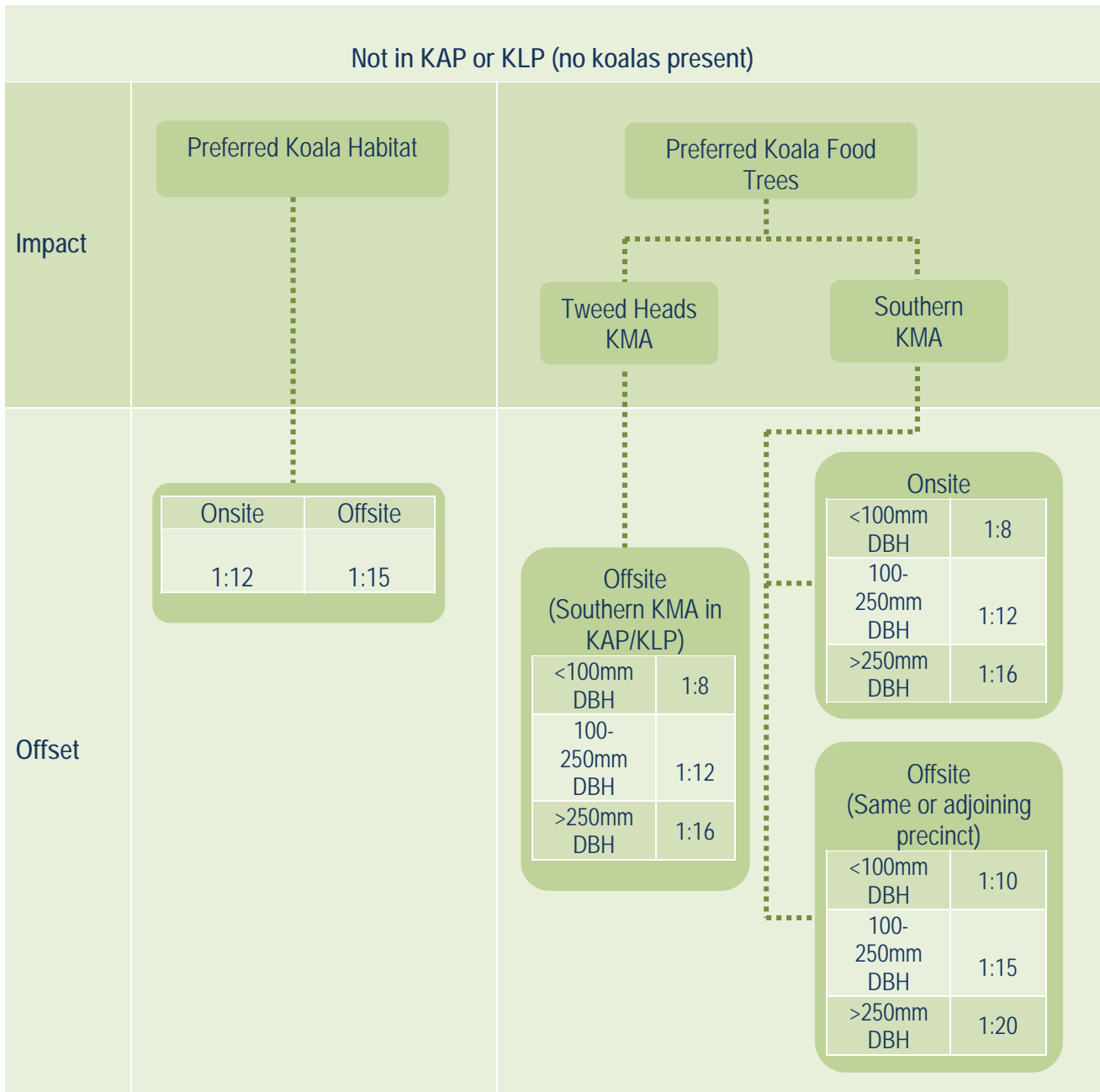
- extent of correlation of the offset with the impact
- conservation gain from the offset
- time delay involved in achieving the gain
- level of certainty of success
- suitability of the location
- risk associated with achievement of the offset
- required performance measures

Table 1: Offset pathway for Minor Development



Note: DBH is diameter of tree at breast height (measured at 140cm from ground level).

Table 2: Offset pathway for other development outside of a KAP or KLP



Note: DBH is diameter of tree at breast height (measured at 140cm from ground level).

Table 3: Offset pathway for other development within a KAP or KLP

KAP or KLP (no koalas present)																	
Impact	<div style="border: 1px solid black; border-radius: 10px; padding: 5px; width: fit-content; margin: 0 auto;">Preferred Koala Habitat (affected by Section 5.9.3 iv) only)</div>																
Offset	<table border="1" style="margin: 0 auto;"> <tr> <td style="padding: 5px;">Onsite</td> <td style="padding: 5px;">Offsite (same precinct)</td> </tr> <tr> <td style="text-align: center; padding: 5px;">1:15</td> <td style="text-align: center; padding: 5px;">1:20</td> </tr> </table>	Onsite	Offsite (same precinct)	1:15	1:20												
Onsite	Offsite (same precinct)																
1:15	1:20																
	<div style="border: 1px solid black; border-radius: 10px; padding: 5px; width: fit-content; margin: 0 auto;">Preferred Koala Food Trees</div>																
	<table border="1" style="margin: 0 auto;"> <tr> <td colspan="2" style="text-align: center; padding: 5px;">Onsite</td> </tr> <tr> <td style="padding: 5px;"><100mm DBH</td> <td style="text-align: center; padding: 5px;">1:8</td> </tr> <tr> <td style="padding: 5px;">100-250mm DBH</td> <td style="text-align: center; padding: 5px;">1:16</td> </tr> </table> <table border="1" style="margin: 0 auto;"> <tr> <td colspan="2" style="text-align: center; padding: 5px;">Offsite (Same precinct)</td> </tr> <tr> <td style="padding: 5px;"><100mm DBH</td> <td style="text-align: center; padding: 5px;">1:12</td> </tr> <tr> <td style="padding: 5px;">100-250mm DBH</td> <td style="text-align: center; padding: 5px;">1:20</td> </tr> </table> <table border="1" style="margin: 0 auto;"> <tr> <td colspan="2" style="text-align: center; padding: 5px;">All locations</td> </tr> <tr> <td style="padding: 5px;">>250mm DBH</td> <td style="text-align: center; padding: 5px;">Not permitted</td> </tr> </table>	Onsite		<100mm DBH	1:8	100-250mm DBH	1:16	Offsite (Same precinct)		<100mm DBH	1:12	100-250mm DBH	1:20	All locations		>250mm DBH	Not permitted
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100-250mm DBH	1:20																
All locations																	
>250mm DBH	Not permitted																

Note: DBH is diameter of tree at breast height (measured at 140cm from ground level).

Planning an offset proposal

Detailed planning is an integral part of developing an offset proposal. Offset proposals are required to be submitted as offset management plans and to be consistent with all other relevant aspects of this Plan.

Key offset principles

The following principles must be addressed in the development of offset proposals. Offsets must:

- contribute directly to the ongoing viability of the Tweed Coast koala population
- meet, as a minimum, the quality of the habitat at the impact site (i.e. the offset management plan must cover the timeframe until the offset site is the same quality as the impact site before impact)
- secure existing unprotected areas
- be new or additional to what is already required, determined by law or planning regulations or agreed to under other schemes or programs
- have transparent governance arrangements including being able to be readily measured, monitored, audited and enforced

The following general considerations must also be addressed when developing an offsets proposal.

- a) Security of tenure for offset sites is required and is best achieved through legal mechanisms that are permanent and secure. Acceptable options are:
 - application of a restrictive covenant under Part 6 (Division 4) of the *Conveyancing Act 1919* to ensure that all areas contributing to the offset are protected from future development and managed for the ongoing benefit of koalas and their habitat.
 - dedicating the area to Council (if acceptable to Council) where the land can be secured for conservation purposes and agreement regarding management funding is achieved (as per Section 5.9).
 - other mechanisms including a conservation land title covenant under the *Nature Conservation Trust Act 2001* or a conservation agreement with the Environment Minister under the *National Parks and Wildlife Act 1974*.
- b) A koala offset management plan is required for each offset site involved in an offsets proposal. The plan should be generally consistent with Council's

Habitat Restoration Guidelines (see website) and must detail:

- the impact and subsequent offset ratios that have been applied to formulate the offset proposal
 - objectives and outcomes for the offset site with specific relation to the impact site values and quality
 - mechanism to secure the offset site
 - details of proposed revegetation to meet the required offset
 - ongoing management and maintenance arrangements
 - monitoring and reporting requirements
 - name and contact details of landholder
 - lot on plan property description
 - maps
 - any other supporting documentation.
- c) The koala offset site management plan must be signed by all relevant parties to the land ownership and ongoing management arrangements.

Council assistance

For small-scale offsetting proposals (e.g. offsetting for Minor Development), Council may be able to assist proponents to meet their offsetting obligations under this Plan. For example there may be opportunities to carry out revegetation on public land or other sites where Council is involved in koala habitat revegetation or restoration. In such cases the proponent would need to meet the costs to purchase, plant and maintain the trees.

Appendix D - Wildlife Infrastructure Design Guidelines

D.1 Fauna friendly fencing

Purpose

Fauna friendly fencing design is to be used where free passage of koalas and other fauna is the intended objective, as provisioned in Section 5.10.3. Fauna friendly fencing is suitable for boundary and internal fences.

Items for consideration

Safe permeability by koalas, either under, over or through the fence is required. A number of designs are available to achieve this, including:

- Hedges or screens of trees and/or shrubs.

- Any solid fence where the bottom of the fence is a minimum of 300 mm above the ground to allow koalas to freely move underneath.
- Timber post and rail fence.
- Post and strands of plain and/or barbed wire. The bottom and top strands must be plain wire and the bottom strand of wire is to be a minimum of 300 mm above the ground.

D.2 Fauna exclusion fencing

Purpose

Fauna exclusion fencing is used to create a barrier that effectively prevents koalas and other fauna from entering an exclusion zone (such as a development envelope or road corridor).

Items for consideration

Design requirements

- Fencing is to be 1.8 m high.
- Fencing placement must consider and integrate with any adjacent existing or planned infrastructure such that no gaps or access points into the exclusion zone are created.
- If fence material is chain mesh or other climbable material, opaque sheeting of minimum 600 mm height is to be attached to the lower portion of the fence on the habitat side to create a visual barrier to fauna encountering the fence.

Maintenance and access

- Fencing must be positioned such that existing or retained vegetation does not come into contact with the fence.
- Positioning of the fence must allow for a suitable accessible area either side of the fence to allow for fence and vegetation maintenance to be carried out.
- Provision of access to the maintenance area via a suitable number and type of gates is required.
- Any access gates must be able to be kept permanently closed and be designed and constructed to prevent access by fauna.

Integration with other infrastructure

- Any fence openings or ends (at roads, driveways etc) are to incorporate suitable devices (gates, grids or other design features) such that a continuous exclusion zone is maintained.
- Sufficient detail is required at the planning stage to demonstrate that integration with other infrastructure is

able to be achieved.

D.3 Koala proof pool fencing

Purpose

To prevent koalas from entering a pool area and being placed at risk of drowning.

Items for consideration

- Fencing is to consist of material that koalas are unable to climb easily.
- Typical glass or perspex panels or aluminium picket style pool fences are suitable. Fences with timber posts are not suitable.

D.4 Grids

Purpose

To create a continuous koala-proof exclusion zone where exclusion fencing is intersected by roads.

Items for consideration

- Grids and fencing must interface closely such that no gap is provided that may provide access to the exclusion zone by koalas.
- Grids are to consist of 60 mm diameter round pipe positioned at 200 mm centres.

D.5 Underpasses and overpasses

Purpose

To allow unimpeded movement by wildlife across roads.

Items for consideration

- All fauna crossings must maximise the opportunity for fauna movement within the constraints of the site. This includes the provision and maintenance of appropriate vegetation located to encourage safe access by fauna.
- The placement of underpasses and overpasses is to be informed by contemporary knowledge of koala population distribution and movement patterns for areas of existing habitat or movement corridors as proposed in an approved Habitat Restoration Plan (see Section 5.9).
- Underpasses are to provide for all-weather dry access by koalas.
- Underpass dimensions are to be no less than 1.8 m high x 2.4 m wide.
- Fauna crossings are to incorporate furniture, natural flooring and koala food tree plantings at underpass/overpass entrances.

Appendix E - Koala Activity Assessments

STEP 1

Determine appropriate sampling intervals for assessment of the site using the following table:

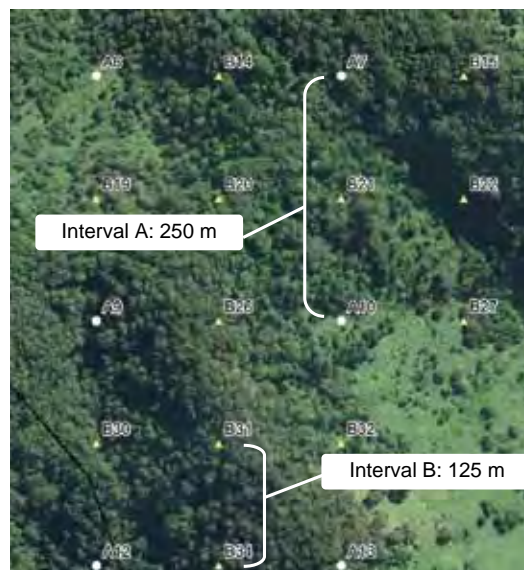
Area of land subject of Development Proposal	Sampling interval A	Sampling interval B
< 15 ha	150 m	75 m
15 - 50 ha	250 m	125 m
> 50 ha	350 m	175 m



STEP 2

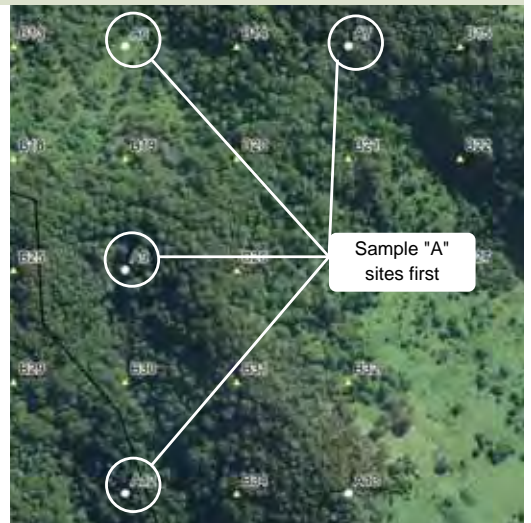
This step is a desktop exercise. Sites can be plotted by hand on topographic map or with the use of GIS software. Current aerial photography is useful when determining potential sampling sites.

- Overlay the land with a square grid with dimensions according to “sampling interval B” specified in the table above.
- Use the resulting grid-cell intersections to identify potential “A” and “B” sampling sites.
- A potential sampling site is any point that is located where 30 trees could theoretically be sampled within a reasonable distance.
- A reasonable distance is considered approximately half of the distance between sampling points, i.e. 38 m when the sampling interval is 75 m; 73 m when the sampling interval is 125 m.
- When overlaying the grid, ensure that adjoining areas of land are included to the extent that an overlap consistent with the relevant sampling interval B has been achieved (i.e. provision is made to sample adjoining areas of habitat and so place the site into a broader koala management context).
- Identify each potential sampling site with a unique number for future reference purposes.



STEP 3

- Undertake sampling at each “A” site.
- Sampling is to be undertaken using the Spot Assessment Technique (SAT) of Phillips and Callaghan (2011).
- In the event that koala activity is recorded at any of the “A” sampling sites, then proceed to STEP 4. Otherwise, continue to STEP 5.



STEP 4

Undertake sampling at each “B” site adjacent to any “A” site in which koala activity was recorded.



STEP 5

All SAT sites wherein significant koala activity has been recorded must become the central point of a grid cell, the size of which is commensurate with sampling intensity as follows.

- For 75m sampling intersections, the grid cell size will be 75m x 75m (0.56 ha).
- For 125m sampling intersections, the grid cell size will be 125m x 125m (1.56 ha).
- For 175m sampling intersections, the grid cell size will be 175m x 175m (3.06 ha).

All habitat within a grid cell wherein koala activity is recorded must be regarded as habitat occupied by a resident koala population for the purposes of this Plan. A suitable spatial modelling technique may be used to further illustrate patterns of koala activity distribution.

