

- Establishment period performance criteria - >80% canopy cover of native trees >2.5m
- Maintenance period performance criteria – Maintenance of native canopy cover as per establishment period or changes due to natural canopy development (e.g. self-thinning).

For shrubs and groundcovers (which were to recruit naturally) the following is suggested:

- Establishment period performance criteria:
 - Composition - 25% of a comparable PCT
 - Structure – 50% of a comparable PCT
 - Function - 25% of a comparable PCT
- Maintenance period performance criteria - Maintenance or gain in vegetation integrity scores (i.e. combined composition, structure, function).

Thus, to move into the maintenance period (i.e. in-perpetuity management regime) the proponent would need to successfully meet establishment period performance criteria for all five indicators. Based on Council's experience planting of koala food trees in similar situations on the Tweed Coast these requirements are not considered onerous.

In relation the "Rehabilitation Monitoring" section of Appendix 6 it is recommended that a photographic record (based on consistent photo points) is kept and reported for each plot and monitoring period.

As noted above (see "Forest Red Gum" subsection), Council does not accept the argument to abandon forest red gum as proposed in Appendix 6 if it does not initially survive. This is because as noted above forest red gum is found extensively on sand substrates in the Tweed Coast and is likely to survive better than scribbly gum which seems to have narrower and poorly understood habitat requirements and is not performing particularly well where they have been planted at Kings Forest. More importantly, there may be many reasons why there may be initial failure of any species, not the least of which may be lack of follow up by the proponent. It is recommended that the specific references to forest red gum are deleted (e.g. p170 second dot point; p183 last para and Table 6) and that an additional "Corrective Action" be included to cover the more general case that a species performs poorly:

Adjustment to the species composition of an individual species (or species at particular sites) consistently fail (>80%) after 3 years of replacement and monitoring.

Appendix 7 – Koala Monitoring

The approach taken to koala monitoring in Appendix 7 is supported. It is noted that it is proposed to monitor the use of underpasses using sand traps with possibility of using camera traps (see p190). It is suggested that camera traps would be preferable as they will yield more accurate information for less effort.

Specific Issues

- P5 – "Councillors" not "Administrators"
- P6 – rename 2.4 to "Related Environmental Management Plans"
- P6 – replace text under 2.4 to:

DP1
 DP2
 DP3

Concept Plan Condition C2 requires that related environmental management plans work together and do not negatively impact on each other.

The following environmental management plans address aspects of koala management and should be read in conjunction with this plan:

- <Plan 1>
- <Plan 2>
- <Plan 3>
- etc

Appendix X provides further details on the scope of each related environmental management plan and identifies specific koala related issues that need to be addressed in the required revision of these plans.

- DP 4 • P6 – move Section 2.4 to after existing Section 2.5
- DP 5 • P13 – delete first 2 paragraphs – see comments above around the need to clarify timing issues
- DP 6 • P13 – delete “Approach” from section title
- DP 7 • P13, first para Sect 2.6 – replace “follows” with “adopts”
- DP 8 • P14 – the lengthy compliance tables (Tables 2 - 4) would be better placed in an appendix. See additional comments above regarding some residual issues with the compliance tables
- DP 9 • P34, Section 4.3 – SEPP 14 and SEPP 26 no longer exist – please update throughout the document to reflect the new titles under SEPP Coastal Management. Also, the SEPP mapping in Figs 3 and 4 is no longer current and should be updated with the contemporary mapping which has recently undergone extensive review.
- DP 10 • P39 – TSC Act has been repealed. Replace all references to Biodiversity Conservation Act 2016.
- DP 11 • P40, second para – delete – 190ha of 255ha (71% of 358ha, Table 5) of available koala habitat at Kings Forest is not insignificant as implied by the sentence.
- DP 12 • P40, third par – delete – not relevant, koalas are a landscape species and there is a comprehensive management plan (TCKKPoM) involving all stakeholders in place.
- DP 13 • P41, section 6.3.4 – should include recent activity surveys within Kings Forest (2015, 2018)
- DP 14 • P42, section 6.4.1, para 2 – replace with the following:
In 2015 koala activity remained widespread throughout the study area, however substantially less of the available habitat is currently occupied by resident koala populations than was reported in 2011 (Tweed Shire Council 2015a). The apparent decline was most notable in the north of the study area, between Kings Forest and Koala Beach, while activity levels and the distribution of resident populations appeared stable between Koala Beach and Black Rocks. Preliminary results from the resurvey of the same sites in 2018 do not indicate any further decline (M Hopkins, TSC pers. com.).
- DP 15 • P42, section 6.4.1 - delete paras 3, 5 and 6. They don't add much to the issue of koala activity and the last para (6) regarding the proposed mitigation at Kings Forest is not in

the right place and if it was, would need to be balanced against a large body of existing koala mitigation works already carried out elsewhere on the Tweed coast.

- DP 16 • P46 – All PCT allocations need to be reviewed and omitted if there is no clear equivalent at this time. For example, PCT 690 is restricted to the central and southern NSW north coast, extending north only as far as Coffs Harbour. Also the same vegetation community is allocated to PCT 693 on Figure 8.
- DP 17 • P48 - replace last sentence with:
This area is recognised as a koala linkage Precinct in the TCCKPoM and as such is considered a priority for habitat embellishment in the future.
- DP 18 • P49 – replace last sentence with:
It is expected that all corridor habitat will be managed by either the NSW Office of Environment and Heritage or Tweed Shire Council in the long term.
- DP 19 • P50 – delete first sentence
- DP 20 • P50, second sentence – need to note that over-browsing, bell miner dieback are not relevant to the site.
- DP 21 • P51, section 8.3 – should highlight potential habitat degradation due to earthworks, drainage and fill for agriculture and urban development.
- DP 22 • P54 section 8.9 – rename to “Climate Change” and acknowledge that probably the greatest threat to koalas from climate change on the Tweed Coast is sea level induced changes to water tables and salinity intrusion affecting existing koala habitat.
- DP 23 • P54 section 8.11 – delete section – not relevant to the site
- DP 24 • P54 section 8.12 – delete section – not relevant to the site
- DP 25 • P57 first sentence – replace “koalas” with “koalas and their habitat”
- DP 26 • P57 second last sentence – figure 10 does not show the staging of habitat removal. Delete or reword.
- DP 27 • P59 – section 9.3.1 dot point 3 – increased fire risk arises from many factors – vandalism is just one. Please clarify.
- DP 28 • P59 section 9.3.2 – There has been no consideration or analysis of potential groundwater impacts on existing koala habitat. If the groundwater models suggest no change to groundwater in these areas the KPoM should say so. It would be useful to include a map in the KPoM showing predicted groundwater changes.
- DP 29 • P60, section 9.3.3 – This section should focus on road strike impacts arising from the development. At present there is no mention of traffic generated within the development or on the local road network as a result of the additional population which the development will accommodate. This needs to be acknowledged with references to later sections of the KPoM which describe the measures taken to mitigate these impacts. It is appropriate to mention the existing road kill hotspots but the level of detail is not required – especially in the absence of discussion of the potential impact of the development itself. It is suggested that paragraphs 4, 6 and 7 are deleted.
- DP 30 • P61, section 9.3.4 – include deliberate ignitions in first sentence. The KPoM also need to mention of list the full suite of factors that affect the risk of fire to koalas at Kings Forest (not just issues with pine). Some other relevant factors include fuel levels, access

for fire control and hazard reduction, location and management of asset protection zones, and fire breaks, community preparedness and education, measures to allow koalas to avoid fire (e.g. gates), issues around managing fire dependent native vegetation close to an urban population, pre-burn koala surveys etc etc.

- DP 31 • P64 last para – delete. It is implicitly assumed that the proponent will comply with the conditions of approval.
- DP 32 • P65 footnotes – see comments above on providing some clarification the timing and sequencing issues.
- DP 33 • P66, section 10.4 – delete first para – this is to do with impacts and should be in Section 9.
- DP 34 • P66, section 10.4 – second para – include a reference to Fig 19 which shows these areas. Appendix 6 – is focused more on offset habitat creation and does not really address the management of existing habitat. It is suggested the implementation details and performance criteria for the management of existing habitat is contained within the relevant vegetation management plans. The main work of Section 10.4 should be to identify what needs to be done to maintain and improve existing koala habitat on the site and this should feed into the other related plans.
- DP 35 • P68, step 2, dot point 3 - EPBC approval of 2015 also required no overlaps. This should be acknowledged.
- DP 36 • P68, last para – replace “TVMS 306” with “TVMS 304”. Also PCTs need review as noted above. Again PCT 1136 does not occur on the north coast.
- DP 37 • P69 last sentence of second last para - delete. As noted elsewhere, forest red gum is found extensively on sand substrates on the Tweed Coast and the groundwater modelling does not suggest that forest red gum is an unsuitable species for the site.
- DP 38 • P72, section 10.5.4 last sentence – delete. The offset ratio expressed via the number of trees is a bit misleading as the offset was calculated on the basis of area of habitat.
- DP 39 • P73 – see previous comments on the “Establishment and maintenance periods” and “Environmental management bond”
- DP 40 • P75 first sentence – after “(BushfireSafe 2012)” insert “is being revised to”
- DP 41 • P75 third sentence – delete – SOS not relevant to this KPoM
- DP 42 • P75 forth para, last sentence - Inconsistent. Golf course fencing plan (see fig 40b) prevents koalas from accessing the golf course as originally intended.
- DP 43 • P77 forth para, first sentence – replace “is considered” with “has since been agreed by TSC, OEH and DP&E”
- DP 44 • P77 forth para, second sentence to forth para, second sentence – delete, not relevant
- DP 45 • P77 last para first sentence – include TCCKPoM which also provides for “exclusion”
- DP 46 • Fig 28 – location permanent fauna exclusion fencing on the inside of the ecological buffer is not supported (see separate comments above under “Fencing and underpasses” subheading.
- DP 47 • P83 section 10.9.5 – grids may deter koalas from accessing the urban area but are an ineffective deterrent to dogs who simply walk across the bars. Should consider temporary gates to be kept closed at night and when work is not taking place.

- DP 48 • P84 - forth para – see comments under “Off-leash dog areas” subheading.
- DP 49 • P84 - second last para – need a cross reference to the feral animal management plan.
- DP 50 • P85 – section 10.11 – need to mention Friends of Koala here as the relevant licenced koala care organisation.
- DP 51 • P86 section 10.14, first sentence - replace “Tweed Shire Council have prepared” with “In 2015 Tweed Shire Council adopted”
- DP 52 • P86 section 10.14, second sentence – delete.
- DP 53 • P86 section 10.14, second para - move to Section 10.11
- DP 54 • P86 section 10.14, Third para - replace with:
Consistent with the TCCKPoM, a Koala Management Committee (KMC) has been formed to ensure broad community representation and inter-agency involvement in the processes of implementation and recovery.
- DP 55 • P86 last para – delete. Not necessary.
- DP 56 • P89 section 10.15.2 – delete. See comments above under “Tweed Coast Koala Management Committee” subheading.
- DP 57 • P90 Section 10.16.3 - See comments above under “See comments above under “Timing and sequencing of koala habitat offsets” subheading.
- DP 58 • P91 section 11.2 - See comments above under “See comments above under “Protocols for injured koalas” subheading.
- DP 59 • P93-107 Tables 11 to 13 – It should be clear which management actions are establishment period and which relate to the maintenance period.
- DP 60 • P109 section 12.4 – koala monitoring by the proponent should continue until the land until such time as the land is dedicated. Concept Plan Condition B7 and Project Condition A13 ensure that the proponent is responsible for implementation of all environmental management plans while in their ownership. This includes monitoring. Please amend.
- DP 61 • P110 Section 12.6 dot point 2 – what is the “benchmark” – 50% occupancy? Please clarify.
- DP 62 • P124, third last dot point – replace with the following:
Whether or not the observed decline is due to development impacts or part of a more general trend affecting the Tweed Coast koala population as described by Phillips et al. (2011) and the NSW Scientific Committee (2016). It is considered that if the proponent remains compliant with the conditions of approval and approved management strategies relevant to koalas (i.e. this KPoM and related environmental management plans) they should not be held responsible for any local declines in the koala population.

Council would welcome the opportunity to discuss these comments with the proponent and the DP&E to assist the progression of this matter.

If you have any queries regarding the above, please do not hesitate to contact Council’s Mark Kingston on 02 6670 2593.