

Report under the NV Act 2003 in relation to the use of more appropriate local data (section 2.4.3 of the Environmental Outcomes Assessment Methodology)

Accreditation number: 30628

PVP/DA reference number: 1641

It is recommended that more appropriate local data be substituted for the data in the PVP Developer in relation to:

- whether threatened animal species are likely to occur on the land in that vegetation type or habitat feature in the sub region

Description of the proposed clearing:

The property vegetation plan involves the clearing of scattered paddock trees from an existing cultivation field near Curban. The subject property is located within the Pilliga sub-region of the Central West Catchment Management Authority area.

The majority of trees to be removed are Rosewood (*Alectryon oleifolius*). Offset areas have been identified but are patches of eucalypt woodland with no Rosewood present. For the purposes of running the PVP Developer Tool, the vegetation of the area has been determined as: Poplar Box - Belah woodland on clay-loam soils of the alluvial plains of north-central NSW.

Details of the data proposed to be substituted:

The Threatened Species Tool of the PVP Developer indicates that offsets required for the Pink Cockatoo, Little Pied Bat and the Yellow-bellied Sheath-tail Bat all require the offset vegetation to be the same species as that proposed to be cleared (see table below). The Koala was also listed as a species to be considered in this PVP but more detailed knowledge of species occurrence in the locality suggests it should not be considered as having potential habitat on the application area.

	Ability to sustain loss in paddock trees(See Operational Manual for offset > 75% of benchmark)	Special sustain loss and offset requirements
Pink Cockatoo (<i>Cacatua leadbeateri</i>)	Yes; offset must have min. 10 x the no. cleared & be of a similar dbh class & must be of the same tree species	For every tree with a hollow >10 cm diam lost, the offset must contain 10 trees with hollows > 10 cm diam. Management of offset to include sufficient replanting of overstorey spp. to replace mature canopy cover to within benchmark range.
Koala (<i>Phascolarctos cinereus</i>)	Yes, use BioMetric offset, but offset must include at least as many trees of similar dbh as are to be cleared and vegetation condition of offset must be either 'paddock tree' or 'low condition' or overstorey cover is less than 75% of upper	

	benchmark.	
Little Pied Bat (<i>Chalinolobus picatus</i>)	Yes; offset overstorey cover must be <75% of upper benchmark, have minimum 5X the number cleared, be similar dbh class and same spp. Management of offset must include sufficient replanting of overstorey spp. to replace mature canopy cover to within benchmark range.	
Yellow-bellied Sheath-tail Bat (<i>Saccolaimus flaviventris</i>)	Yes; offset overstorey cover must be <75% of upper benchmark, have minimum 5X the number cleared, be similar dbh class and same spp. Management of offset must include sufficient replanting of overstorey spp. to replace mature canopy cover to within benchmark range.	

It is proposed in relation to the use of more appropriate local data (section 2.4.3 of the Environmental Outcomes Assessment Methodology) that the Pink Cockatoo and Koala not be considered as having habitat within the development area. In addition, the requirement for the same vegetation species to be offsets as that being removed should be modified in the case of the Little Pied Bat and the Yellow-bellied Sheath-tail Bat. The reasoning is that in this case the proposed offset patches of eucalypt woodland should be considered to be higher quality habitat than the scattered Rosewood trees proposed to be removed.

Reasons for recommending the proposed substitution:

1. Pink Cockatoo (*Cacatua leadbeateri*)

- A search of the BioNET and NSW Wildlife Atlas databases on the 14/9/2006 reveal only a single record of the species (in 1999) within the 1:100 000 topographic mapsheet that the subject property is located within (Gilgandra). This record was along the Castlereagh River to the north of Gilgandra.
There remains the possibility that the single record is an aviary escapee from nearby Gilgandra rather than a bird living in the wild.
- There are no records of the Pink Cockatoo from any areas to the east of the Castlereagh Highway (where the subject property is located), nor any from immediate areas to the west. The closest record to the isolated 1999 sighting is over 80km further west near Nevertire. The Nevertire record is the eastern-most area of regular sightings for the species in the Central West Catchment. Therefore, it can be considered that the species would be outside its current known distribution at the site of the subject property.
- It is my opinion (based on extensive fauna survey work within the central west catchment) that the Pink Cockatoo is a very rare visitor to the local region in question and seems to avoid alluvial floodplain areas in favour of typical 'red soil' country. If the species presence is recorded at this location, then it is most unlikely to be utilising the vegetation as breeding habitat given the location being at the extremity of its distribution.
- The Pink Cockatoo is a relatively large parrot and requires large tree hollows for nesting (Ayers *et al.* 1996). The trees proposed for removal

in this application are noted as being Rosewood and, as such, are unlikely to contain large tree hollows suitable for nesting should the cockatoo occur in the local district.

A survey of tree hollow presence according to tree diameter and height was conducted by Shelly (2005) for most of the tree species in the Central West Catchment of NSW. In the case of Rosewood it was found that small hollows (<5cm entrance diameter) were consistently found in trees above 30cm dbh and medium hollows (5-15cm) consistently occur in trees above 38cm dbh. No large tree hollows (>15cm) were recorded for Rosewood at any tree diameter or height.

Therefore, it can be considered that no potential breeding habitat for the species is present.

In conclusion, it is my opinion that the Pink Cockatoo would be outside of its current known distribution on the subject property. Rare, vagrant birds may be seen in the local region, particularly during drought conditions when birds tend to disperse in search of food. However, there would be no potential for breeding to occur due to unfavourable habitat and there would be no potential for the proposed development to significantly impact the life cycle of a local population of the species.

2. Koala (*Phascolarctos cinereus*)

- A search of the BioNET and NSW Wildlife Atlas databases on the 14/9/2006 reveal a total of 46 records of the species within the Gilgandra local government area where the subject property is located. Of these records, only 3 are located west of Tooraweenah. The majority of records come from the Warrumbungle National Park. Only one Koala record is not in or near a national park or state forest. No records are within the local district around Curban (where the subject property is located).
- Ayers *et al.* (1996) stated the Koala is “*a solitary species limited to open forest and woodland areas where acceptable food trees occur on higher nutrient status soils. Towards the inland margin of their range these animals are concentrated in trees fringing watercourses and are thinly dispersed or absent from intervening woodlands.*” There are no watercourses on the proposed development area and scattered trees do not provide preferred habitat of forest / woodland. However, the proposed offset area of eucalypt woodland would be preferred habitat for this species if it occurs in the local region.
- White (1999), in a study of Koalas in south-east Queensland, found that the species made frequent use of isolated trees in paddocks and also used multiple patches. However, the isolated trees in this case were known feed trees for the species. The study suggests that for Koalas the inter-patch distance could contain some gaps of 2-5km provided that the patches themselves were large if the carrying capacity was low. Rosewood is not a noted Koala feed tree and the removal of scattered paddock trees will not significantly affect any potential gap crossing ability by the species should it occur in the local region.
- Phillips (2000) gathered information on all primary and secondary feed trees for the Koala for all NSW. No Rosewood is listed in any region as a feed tree resource. Rosewood is not listed in Koala Management Area No.6 (Western Slopes and Plains) where the subject property is located.
- From a preliminary survey in 1995, Rosewood is not listed as a tree species used by Koalas in the Warrumbungle National Park, either as

feed or rest trees (Tricia Waters, Coonabarabran NPWS, pers. comm. 1996)

In conclusion, it is my opinion that the Koala would be most unlikely to occur on the proposed development area due to it being unsuitable habitat (either as feed or rest trees). The proposed removal of scattered paddock trees will also not significantly impact on the ability of the species to cross open areas due to the relatively small size of the paddock concerned. Therefore, should the Koala occur in the local region, there would be no potential for breeding to occur due to unfavourable habitat and there would be no potential for the proposed development to significantly impact the life cycle of a local population of the species.

3. Yellow-bellied Sheath-tail Bat (*Saccolaimus flaviventris*)

- A search of the BioNET and NSW Wildlife Atlas databases on the 14/9/2006 reveal a total of 5 records of the species within the Gilgandra local government area (where the subject property is located). One record is near the subject property at Curban. Other records of this species occur both east and west of the subject property, thus this species does have the potential to occur in the proposed development area.
- Ayers *et al.* (1996) stated the species occurs in most wooded habitats, and during the day roosts in large tree hollows. The bat feeds by foraging for flying insects above the tree canopy. The proposed development site is not a wooded habitat preferred by the species, however foraging over the scattered paddock trees can still take place. The proposed offset area is a woodland and thus would be a habitat preferred by this species over the scattered paddock trees.
- NPWS (2002) in an extensive survey of the Darling Riverine Plains Bioregion (of which the subject property is a part), recorded the species at a wide range of habitat types ranging from *Eucalyptus* and *Casuarina cristata* (Belah) woodlands to open *Acacia pendula* (Myall) woodland and low chenopod / grass plains. It was noted that several sites at which this species was detected were in isolated woodland fragments or in cleared land near woodland fragments. It was suggested the species had at least some ability to persist in environments with reduced roost availability. No records were made from scattered paddock tree habitats. The proposed offset area of eucalypt woodland would therefore represent more preferred habitat than the scattered Rosewood trees in a cleared paddock.
- A biodiversity survey of the Brigalow Belt South Bioregion (east of the subject property) recorded the species from numerous eucalypt vegetation communities plus Bloodwood, Smooth-barked Apple and Brigalow (RACD 2002). All sites were woodland / forest patches and not scattered paddock trees. Therefore, the proposed offset area of eucalypt woodland would represent more preferred habitat than the scattered Rosewood trees in a cleared paddock.
- Shelly (2006) reported on the results of 40 week-long fauna surveys conducted over several years from throughout the Central West Catchment. The Yellow-bellied Sheath-tail Bat was not detected from any sites within cultivation or grassland paddocks (with or without scattered trees). The vegetation types with the highest detections per site (an indication of foraging habitat preferences) were Rough-barked Angophora / Blakely's Red Gum open woodland, Lignum shrubland and Inland Red Box / White Cypress Pine woodland. Eucalypt woodland

areas provided the majority of known species detections and would seem to be preferred habitats compared to more open vegetation types.

- Rhodes and Hall (1997) reported on the finding of a colony of 29 bats found in a dead eucalypt tree in Queensland. This stag tree was estimated to be 20m tall and was located in a cleared paddock. The stag was at least 25m from any other trees. The colony was the largest recorded at that time. It was suggested that the colony required a large tree hollow to hold so many bats as the species is one of the largest of the micro-bats. Thus, large hollow-bearing scattered paddock trees, dead or alive, can be utilised by this species. The proposed development area consists of scattered Rosewood trees which do not grow large, nor do they form large tree hollows.
- Richards (2000) recommended two important management priorities for the Yellow-bellied Sheath-tail Bat as being the retention of large tracts of woodland and forest foraging habitat, and the conservation of tree hollow roosts. The proposed development area is scattered paddock trees and not tracts of woodland, and Rosewood trees are unlikely to provide suitable hollows for roosting. The offset areas, however, are woodland patches that are preferred habitat for this species.
- The Yellow-bellied Sheath-tail Bat requires large tree hollows for nesting and roosting (Ayers *et al.* 1996). The trees proposed for removal in this application are noted as being Rosewood and, as such, are unlikely to contain large tree hollows suitable for roosting should the species occur in the local district.

A survey of tree hollow presence according to tree diameter and height was conducted by Shelly (2005) for most of the tree species in the Central West Catchment of NSW. In the case of Rosewood it was found that small hollows (<5cm entrance diameter) were consistently found in trees above 30cm dbh and medium hollows (5-15cm) consistently occur in trees above 38cm dbh. No large tree hollows (>15cm) were recorded for Rosewood at any tree diameter or height.

Therefore, it can be considered that limited habitat for the species is present.

4. Little Pied Bat (*Chalinolobus picatus*)

- A search of the BioNET and NSW Wildlife Atlas databases on the 14/9/2006 reveal no records of the species within the Gilgandra local government area where the subject property is located. Other records of this species occur both east and west of the subject property, thus this species does have the potential to occur in the proposed development area.
- Ayers *et al.* (1996) stated the Little Pied Bat is known from Brigalow, riparian and Bimble (Poplar) Box woodlands as well as mallee areas. The bat can roost solitarily or in small breeding colonies. Therefore, breeding colonies would require larger tree hollows than that for a single bat. Scattered Rosewood trees in a cleared paddock are unlikely to contain hollows available for breeding colonies of this species compared to the proposed eucalypt woodland offset area.
- Extensive surveys within the Brigalow Belt South Bioregion have recorded the species from the Pilliga province (the same as the subject property location). Habitats where the species was recorded were mainly ironbark, Brigalow (*Acacia harpophylla*), White Box (*Eucalyptus albens*), Pilliga Box (*E. pilligaensis*) and Grey Box (*E. macrocarpa*) (RACD 2002).

- Extensive surveys within the Darling Riverine Plains Bioregion found the Little Pied Bat in a wide range of habitat types (NPWS 2002). These were all woodlands with the exception of open shrublands of Myall. The surveys indicated a marked preference for Belah habitat types, whether it was the dominant or sub-dominant species. PATN analysis showed the species occurred in all habitat assemblages except for grasslands and shrublands. The report concluded that the species can persist in highly fragmented landscapes at very low densities, however, the emphasis was on woodland remnants as habitat and not scattered paddock trees. The proposed offset area of eucalypt woodland would thus be considered a more preferred habitat for the species than the scattered paddock trees.
- Duncan *et al.* (1999) in the Action Plan for Australian Bats, described one of the main threatening processes to Little Pied Bat ecology as being *“the loss of mature roost trees in inland areas, particularly in riverine environments and the removal of old buildings or damage to them.”* The proposed offset area of eucalypt woodland would contain more roost sites than the scattered Rosewood trees in the development area.
- Shelly (2006) reported on the results of 40 week-long fauna surveys conducted over several years from throughout the Central West Catchment. In a comparison of habitat types utilised by the species it was concluded that the Little Pied Bat *“occurs at significantly lower frequency over open vegetation such as grassland and/or cultivation and Lignum shrubland compared to woodland or forest types. This would indicate that while the bats preference is for utilising structured habitats it can also feed on flying insects that are not reliant on the presence of a tree canopy.”* Therefore, the proposed offset area of eucalypt woodland would be the more preferred habitat for the Little Pied Bat than that of scattered Rosewood trees within a cleared paddock.
- A survey of tree hollow presence according to tree diameter and height was conducted by Shelly (2005) for most of the tree species in the Central West Catchment of NSW. In the case of Rosewood it was found that small hollows (<5cm entrance diameter) were consistently found in trees above 30cm dbh and medium hollows (5-15cm) consistently occur in trees above 38cm dbh. No large tree hollows (>15cm) were recorded for Rosewood at any tree diameter or height. Therefore, it can be considered that limited habitat for the species is present.
- Personal observations made from many surveys in the central west catchment indicate the Little Pied Bat can be found in small colonies as well as pairs and individuals. The species can also utilise loose bark on trees for roosts in addition to tree hollows, buildings and caves. Rosewood is a small tree species that generally does not have loose bark for potential roost habitat.

Recommendation:

1. It is my opinion that the Pink Cockatoo should be considered as not having potential habitat present at the site of the proposed development and thus *C. leadbeateri* should be omitted from the threatened species considerations for this development proposal.

2. It is my opinion that the Koala should be considered as not having potential habitat present at the site of the proposed development and thus *P. cinereus* should be omitted from the threatened species considerations for this development proposal.
3. It is my opinion that the Yellow-bellied Sheath-tail Bat would only have potential foraging habitat over the scattered paddock trees of the proposed development area. Little to no roost habitat is available. The proposed offset area of eucalypt woodland is significantly more preferred habitat type for this species and contains both foraging and roosting habitat for the species.
4. It is my opinion that the Little Pied Bat would only have potential foraging habitat around the scattered paddock trees of the proposed development area. Little to no roost habitat is available. The proposed offset area of eucalypt woodland is significantly more preferred habitat type for this species and contains both foraging and roosting habitat for the species.

References:

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