

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: 1484

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 Hermidale. The subject property is located within the Canbelego-Downs sub-region of the Central West Catchment Management Authority area.

The majority of trees to be removed are Kurrajong (*Brachychiton populneus*). A count by Catchment Authority staff gave approximately 663 scattered trees to be removed from several cultivated fields throughout the property.

Offset areas incorporating 5X the number of trees to be removed have been identified but they are patches of eucalypt woodland with few Kurrajong present. For the purposes of running the PVP Developer Tool, the vegetation of the area has been determined as: Smooth-barked Coolibah on granite low hills in Eastern Cobar Peneplain.

Details of the data proposed to be substituted:

The Threatened Species Tool of the PVP Developer indicates that offsets required for the Yellow-bellied Sheathtail Bat require the offset vegetation to be the same species as that proposed to be cleared (see table below).

	Ability to sustain loss in paddock trees(See Operational Manual for offset > 75% of benchmark)	Special sustain loss and offset requirements
Yellow-bellied Sheathtail 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), the requirement for the same vegetation species to be offsets as that being removed should be modified in the case of 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 Kurrajong trees proposed to be removed.

Reasons for recommending the proposed substitution:

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

- A search of the BioNET and NSW Wildlife Atlas databases on the 12/3/2007 reveal a total of 11 records of the species within the Bogan local government area (where the subject property is located). Records of this species occur throughout the LGA, 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 surveys within the Cobar Peneplain Bioregion (where the subject property is located) recorded the bat from Mallee, Mulga and Riverine woodland habitats (NSW NPWS 2001). In this survey the riverine woodlands consisted of Poplar Box and River Red Gum woodlands in close association with perennial or ephemeral streams and box flats. Such box flats are similar to the vegetation considered for off-set in this PVP.
- 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 Kurrajong 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 Kurrajong 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 Kurrajong 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 Kurrajong 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 Kurrajong 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 Kurrajong it was found that small hollows (<5cm entrance diameter) were consistently found in trees above 58cm dbh and medium hollows (5-15cm) consistently occur in trees above 96cm dbh. Large tree hollows (>15cm) were recorded for Kurrajong above 104cm diameter at breast height. The Yellow-bellied Sheath-tailed Bat is the largest of the microchiropteran bats and as such would be most likely to utilise medium sized tree hollows rather than small (<5cm). Information supplied by Central West Catchment Authority officers indicates the vast majority of Kurrajong trees to be removed are less than 60cm in diameter. Therefore, it can be considered that limited roosting habitat for the species is present.

Recommendation:

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 as little to no roost habitat (tree hollows) are available.

The proposed offset area of eucalypt woodland is a significantly more preferred habitat type for this species and contains both foraging and roosting habitat. Managing an area of such mixed vegetation species to improve its condition could be seen as an adequate offset in order to meet the improve or maintain test.

References:

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Rhodes, M.P. and Hall, L.S., 1997. Observations on Yellow-bellied Sheath-tailed Bats *Saccolaimus flaviventris* (Peters 1867) (Chiroptera: Emballonuridae). *Australian Zoologist* **30** (3) p. 351-357.

Richards, G.C., 2000. *A report on the Preparation of Threatened Species Profiles and Environmental Impact Assessment Guidelines for the bat fauna of NSW*. Report prepared for NSW National Parks and Wildlife Service, Hurstville.

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Shelly, D., 2006. *Vertebrate fauna of the Central West Catchment – Relationships to vegetation and habitat types*. Report to Central West Catchment Management Authority. Department of Natural Resources, Dubbo.