REPORT UNDER THE NATIVE VEGETATION ACT 2003 IN RELATION TO ACCREDITED EXPERT'S ASSESSMENT IN ACCORDANCE WITH CLAUSE 27 OF THE NATIVE VEGETATION REGULATION 2005 FOR PVP REFERENCE NUMBER 10235

Report prepared by: Accredited Expert 30628

PVP reference number: 10235

SUMMARY

This Accredited Expert report relates to the assessment of the clearing proposed by PVP request number 10235.

Under s. 29(2) of the *Native Vegetation Act 2003* a PVP cannot be approved unless the clearing concerned will improve or maintain environmental outcomes.

Clause 26 of the Native Vegetation Regulation 2005 prescribes the circumstances in which approval of a PVP that proposes broadscale clearing can be granted. In most cases an assessment and determination of whether the clearing will improve or maintain environmental outcomes is conducted in accordance with the environmental outcomes assessment methodology (EOAM).

In some circumstances the EOAM does not adequately allow for the specific and unique circumstances associated with the proposal. In these circumstances the assessment can use Special Provisions for Minor Variation (Clause 27 of Native Vegetation Regulation 2005).

In this assessment Special Provisions for Minor Variation have been used to allow for an improvement in conservation benefits on a landscape scale even though the vegetation type proposed to be cleared is listed as being over-cleared and is not in low condition. The proposed clearing with the minor variation will improve or maintain environmental outcomes and strict adherence to the Assessment Methodology is unreasonable and unnecessary.

Figure 1: A conceptual outline of the assessment process for PVP 10235



This reports details the accredited expert's opinions formed in relation to cl. 27 of the Native Vegetation Regulation 2005 when assessing the PVP.

The accredited expert is of the opinion that minor variation to the EOAM (Assessment Methodology) will result in a determination that the proposed clearing will improve or maintain environmental outcomes and strict adherence to the Assessment Methodology is in this particular case unreasonable and unnecessary because:

- The use of proposed offsets resulted in a determination that the proposed clearing now will have additional conservation benefits on a local landscape scale, even though the vegetation is deemed to be not in low condition and lies within a Mitchell Landscape that is determined to be over-cleared.
- The proposed level of clearing is minor in scope and, by itself, will not further reduce the area of woody vegetation or its current level of connectivity throughout the local district.
- The proposed offset areas will provide woody vegetation connectivity across the property and additional connectivity across the local landscape by linking to larger corridors on either side.
- Provided the tree planting corridor of offset 1 is established according to the conditions set out in Appendix 1, and the existing planted corridor of offset 2 is fenced on the inner side to control grazing, in my opinion there will be an overall improvement in native vegetation condition and connectivity in the local landscape which will ultimately benefit the local fauna and therefore enhance environmental outcomes.

Thus the biodiversity and other environmental gains from the proposal far outweigh the losses and as a result the clearing improves or maintains environmental outcomes.

1. INTRODUCTION

Legislative background

The property vegetation plan (PVP), proposes broadscale clearing within the definition of the *Native Vegetation Act 2003*.

Under s. 29(2) of the *Native Vegetation Act 2003*, the Minister is not to approve a PVP that proposes broadscale clearing unless the clearing concerned will improve or maintain environmental outcomes.

Clause 26 of the Native Vegetation Regulation 2005 prescribes the circumstances in which approval of a PVP that proposes broadscale clearing can be granted. Normally such a PVP can only be granted where there has been an assessment and determination in accordance with the environmental outcomes assessment methodology (EOAM) that the proposed clearing will improve or maintain environmental outcomes. However, a PVP can also be granted where an accredited expert has assessed and certified in accordance with clause 27 of the Native Vegetation Regulation 2005 that the accredited expert is of the opinion that the proposed clearing will improve or maintain environmental outcomes.

This reports details the accredited expert's opinions formed in relation to cl. 27 of the Native Vegetation Regulation 2005 when assessing the PVP reference number 10235.

Initial assessment of broadscale clearing proposed by the PVP

When the broadscale clearing proposed by this PVP was initially assessed in accordance with the EOAM it did not result in a determination that clearing improved or maintained environmental outcomes.

The following section of this document provides detail of the accredited expert's assessment and certification in accordance with clause 27 of the Native Vegetation Regulation 2005 and contains the information required in order to comply with clause 29 of the Native Vegetation Regulation 2005.

Final assessment of broadscale clearing proposed by the PVP with a minor variation

The broadscale clearing proposed by this PVP was then assessed and certified by an accredited expert that, in the accredited expert's opinion, the proposed clearing will improve or maintain environmental outcomes. PVPs that are approved on the basis that an accredited expert has, in accordance with clause 27 of the Native Vegetation Regulation 2005 assessed and certified that in the accredited expert's opinion the proposed clearing will improve or maintain environmental outcomes must comply with clause 29 of the Native Vegetation Regulation 2005.

Section 2 of this document provides detail of the accredited expert's assessment and certification in accordance with clause 27 of the Native Vegetation Regulation 2005 and contains the information required in order to comply with clause 29 of the Native Vegetation Regulation 2005.

2. MINOR VARIATION

2.1 Legal provision for minor variation

The legal provision for this minor variation is in Clause 27(1) 'Special provisions for minor variation' of the Native Vegetation Regulation 2005 which states:

27 Special provisions for minor variation

(1) An accredited expert may make an assessment that proposed clearing will improve or maintain environmental outcomes only if there has been an assessment in accordance with the Assessment Methodology of whether the proposed clearing will improve or maintain environmental outcomes (not resulting in a determination that the proposed clearing will improve or maintain environmental outcomes) and the accredited expert is of the opinion that:

(a) a minor variation to the Assessment Methodology would result in a determination that the proposed clearing will improve or maintain environmental outcomes (other than a variation that is not allowable under this clause), and

(b) strict adherence to the Assessment Methodology is in the particular case unreasonable and unnecessary.

(2) A variation to the Assessment Methodology is not allowable under this clause

- if it is a variation of any of the following aspects of the Assessment Methodology:
 - (a) riparian buffer distances or associated offset requirements,
 - (b) classification of vegetation as likely habitat for threatened species,

(c) classification of a plant species as a threatened species or a component of an endangered ecological community,

(d) classification of the condition of vegetation,

- (e) classification of the vegetation type or landscape type as overcleared,
- (f) the assessment of the regional value of vegetation.

2.2 How the EOAM was varied

Property vegetation plan (PVP), reference number 10235 would require a variation to the Assessment Methodology under parts (d) and (e) of Clause 27 (2) above. The only way this can be achieved under the Native Vegetation Regulation 2005, is via Clause 27 (2A).

Clause 27(2A) states: However, a variation to Assessment Methodology in relation to the following aspects of the Assessment Methodology is allowable if an accredited expert is

also of the opinion that the proposed clearing will have additional conservation benefits on a landscape scale [my emphasis]:

- (a) classification of the condition of vegetation,
- (b) classification of the vegetation type or landscape type as over-cleared,
- (c) the assessment of the regional value of vegetation.

Section 5.2.1 of the EOAM defines over-cleared vegetation. Clearing of over-cleared vegetation does not improve or maintain environmental outcomes for biodiversity, unless the vegetation is in low condition.

Over-cleared vegetation is native vegetation that:

- 1. occurs in a Mitchell Landscape that is more than 70% cleared; or
- 2. is a vegetation type that is more than 70% cleared; or
- 3. is an ecological community listed as 'critically endangered' or 'endangered' under the *Threatened Species Conservation Act 1995* (NSW) or listed as 'critically endangered', 'endangered' or 'vulnerable' under the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth).

The assessment of this broad-scale clearing in accordance with the EOAM using data in the approved databases (default data) did not result in a determination that the clearing improved or maintained environmental outcomes.

The PVP assessing officer determined that the vegetation type to be cleared was 'Poplar Box grassy / shrubby woodland on alluvial clay-loam soils' which has a listed degree of clearing as 75%. In addition, the Mitchell Landscape within which the property is located was determined as being Trangie Terrace and it has 86% cleared as listed in the EOAM.

The EOAM states that if the proposed clearing is of a vegetation type that is listed as overcleared (>70% cleared) or is located within a Mitchell Landscape that is listed as overcleared (>70% cleared) than the clearing cannot be determined as improving or maintaining environmental outcomes.

With regards to offset vegetation the Biometric tool of the PVP Developer requires that the "offset must include 5x the number of equivalent habitat trees for each tree cleared. Each required equivalent tree must be a species known to provide similar habitat attributes and must have a dbh that is > = 80% of the dbh of the tree cleared". The proposed offsets in this case will have considerably more than 5x the number cleared but will not be of the required diameter as they are existing advanced regeneration from tree planting and proposed tree plantings of seedlings.

2.3 Description of the proposed clearing

The property vegetation plan involves the clearing of scattered paddock trees and small clumps from existing cultivation fields near Trangie. The subject property is located within the Bogan - Macquarie sub-region of the Central West Catchment Management Authority area.

Approximately 290 trees are located within the clearing zone concerning the variation (ie. trees identified by CMA officers as those 'not in low condition'). The paddocks in question have been cultivated in the past but are now in fallow. The smaller paddock showed evidence of plough lines on the ground and the groundcover was patchy and almost dominated by exotic species – which is typical of recently cultivated fields. The larger paddock was dominated by native grass groundcover at the time of field inspection on 1st March 2012 but was also noted to have no tree regeneration, no understorey or shrub layer and had consistent occurrences of Galvanised Burr (*Sclerolaena birchii*) throughout. All

these elements are in my opinion consistent with a degraded field typical of old cultivation or overgrazing, which was confirmed later by the landholder.

Of the trees within the clearing zone, the landholder has proposed to remove only 38 trees in order to allow machinery to move in and around the existing vegetation in order to control noxious weeds (eg. Galvanised Burr). All hollow bearing trees are to be retained.

Of the 38 trees proposed for removal, 24 (63%) are Poplar Box (*Eucalyptus populnea*). A sample of 12 Poplar Box were measured by CMA field officers and they gave an average diameter at breast height (dbh) of 73.3cm, an average crown diameter of 10.6m and an average foliage cover of 40%. The remaining 14 trees (37%) proposed for removal were identified as Western Rosewood (*Alectryon oleifolius*). Field measurements of a sample of eleven Rosewood trees recorded an average dbh of 38.2cm, crown diameter of 3.9m and foliage cover of 35%. The average size of the trees proposed for removal indicates they are of mature age and the degree of foliage cover indicates they are in quite good health.

The same sample of paddock trees measured for diameter and cover was also investigated by CWCMA field officers for the presence of tree hollows. Hollows are regarded as an important component of fauna habitat even in scattered paddock tree distributions. No hollows were recorded in either the Poplar Box or Rosewood even though the size of the trees was large enough to have produced some.

2.4 Reasons for recommending the proposed minor variation

Prior to this minor variation the determination was that the proposed clearing did not improve or maintain environmental outcomes because the vegetation type proposed to be cleared is listed as being over-cleared and is not in low condition plus it lies within a Mitchell Landscape that is listed as being over-cleared.

Details of proposed Minor Variation

The proposed off-set area on the property consists of two parts. The first is along a fence line approximately 1120m long that has only five individual trees existing within the proposed 50m planting zone. The trees within the proposed planting corridor were identified as three mature Western Rosewood (dbh = 85, 56, 40cm) and two White Cypress Pine (*Callitris glaucophylla*), one of which is dead but should be retained to provide habitat, the other is damaged but alive (dbh = 40cm). This area (called offset 1) is proposed to be planted to tree species identical to those removed and / or present in the local area on similar soil type (for planting conditions see Appendix 1). The width of the planting corridor will also act to connect to two nearby small patches of trees located just off the fence line.

Potentially at total of 1200 trees are to be planted in the following proportions: Poplar Box (30% of trees), Grey Box (20%), Western Rosewood (20%) and Wilga (15%) with the remaining species being Old Man Saltbush (*Atriplex nummularia*) or various wattles as a shrub understorey (see species list Appendix 1). This proposed tree planting corridor will be linked to the only other vegetated corridor on the property, which consists mainly of planted tree and shrub species (called offset 2). The joining of these two offset corridors will provide intact vegetation connectivity across the property from the native tree corridor lining the Mitchell Highway in the west to adjoining vegetation on the neighbouring property to the east, thus improving local landscape environmental values from its current condition.

At the time of field inspection, the planted corridor was noted to contain Myall (*Acacia pendula*) up to 7m in height with a range in diameters of 10-20cm dbh. Several species of eucalypt (including Yellow Box, Grey Box and Poplar Box) were also growing to heights up to 10m. None of these trees were mature enough to be hollow bearing as estimated diameters ranged from 15-25 cm dbh. Old Man Saltbush had also been planted between the tree rows to provide a shrub layer but at the time of inspection the majority was either dead or denuded of most of their leaves as the corridor was open to stock grazing (sheep). It is recommended

that the existing planted corridor be fenced off on the inside to control grazing and allow the saltbush shrub layer to regrow to enhance the habitat value of the corridor.

Allied to the above proposed offsets, a further minor variation is required in regards to the Biometric requirement to have offset tree diameters of 80% or more the diameter of those to be cleared. In this case the existing offset trees are all relatively young trees that have been planted in a corridor (offset 2) and therefore only have diameters averaging around 20 cm, where the diameters of the mature trees to be cleared are significantly larger (38 cm for Rosewood, 73 cm for Poplar Box). Offset 2 has a total of approximately 2100 trees which makes up many more trees than the number required to be offset, even though they have a smaller diameter. In addition to this number, another 1200 trees are proposed to be planted in offset 1, but these will of course be seedlings which will require many years to grow to maturity.

An further minor variation is also needed as the Biometric tool requires a ratio of five times the number of trees to be removed of each species to be represented within the proposed offset area. In this case 14 Rosewood trees are to be cleared which would require a minimum of 70 Rosewood trees to be retained in the offset area. The existing tree planting corridor (offset 2) does not contain any planted Rosewood and so the number of trees of that species to be retained cannot be met. However, the additional tree planting corridor proposed as offset 1 will total approximately 1200 trees with 20% to be Rosewood – thus giving 240 Rosewoods to be planted.

Reasons for proposed Minor Variation

Firstly, the proposed clearing is not excessive, even within an over-cleared landscape. Only 38 trees identified as being 'not in low condition' are to be removed from a total of 290 within the variation area, which equates to 13%. Such tree reduction will not reduce the overall density of trees in the paddocks to the extent that it will alter structure. An indication of how relatively minor the level of clearing will be can be seen in that the PVP assessing officer had calculated that the individual clusters of trees that were identified as in 'not of low condition' prior to the proposed clearing would still be assessed as being 'not in low condition' even after the trees had been removed. The vegetation community structure of Poplar Box woodland present before clearing will remain as Poplar Box woodland after the proposed clearing will remain as Poplar Box woodland after the proposed clearing. Currently there is no or little connectivity of the woody vegetation on the property to other nearby vegetation. The loss of the trees to be removed will not exacerbate this lack of connectivity.

While the trees proposed to be removed occur in vegetation deemed by the PVP assessing officer to be in 'not of low condition', they are also not considered to be in good condition either. At the time of inspection, the trees within the paddocks were distributed in small clusters or near scattered paddock trees, all of which were mature age (see figures 1&2). There was no visible regeneration of woody vegetation occurring and there was no understorey or shrub layer in association with the trees. The groundcover on the larger paddock was dominated by native species, particularly grasses due to the current good seasonal rains. However, the openness of the trees, the lack of other woody strata and the presence of numerous Galvanised Burr plants indicated that portions of this paddock had been cultivated at some time before and that it was in a fallow state at present. In addition, satellite imagery provided by the CWCMA assessing officer (5th May 2009) clearly showed that the smaller paddock within the area covered by the variation was a cultivated paddock. This was backed up by observations during field inspection of the small paddock being dominated by several weed species rather than native grasses as was the case in the larger paddock. Weeds are noted as being coloniser species and are first to grow back on areas after disturbance such as ploughing.

Therefore, in my opinion, the proposed clearing is minor in nature and does not alter the current connectivity or condition of the woody vegetation on the property in question.

Secondly, the proposed offsets of establishing a tree planting corridor that connects to an existing planted corridor within the property will actually *increase* local landscape connectivity

as it will traverse the property in an intact vegetated corridor and link existing native vegetation along the Mitchell Highway in the west to native vegetation on the neighbouring property to the east. Such a continuous vegetated link does not currently exist.

The loss of habitat connectivity in a woodland landscape in most cases produces negative impacts on local biota (eg. Rankmore and Price 2004). In the case of the area around the subject property, such habitat loss has occurred several decades ago when the wheat belt zone was intensively cleared for agriculture. However, numerous studies have shown that vegetated corridors linking to larger patches across local landscapes in a heavily cleared and fragmented region are crucial to fauna movement and also provide breeding habitat when mature (eg. Haddad *et al.* 2003, Lindenmayer *et al.* 2005, Lindenmayer and Fischer 2006,). Vegetated corridors also allow for plant seed and pollen dispersal across areas of inhospitable habitat, or the movement of pollenating fauna and insects that will prevent genetic isolation of existing native flora (Saunders and Hobbs 1991).

Studies have shown that species diversity and abundance of native fauna is less in planted tree corridors but more than that present in scattered paddock trees, agricultural paddocks and grassland (Kinross 2000). The environmental value of planted corridors also increases with age, corridor width and if shrubs were planted in conjunction with trees (Collard and Fisher 2010, Kealey 2010). Therefore, it is my opinion that the proposed offsets of tree and shrub plantings will restore habitat connectivity across the local landscape and provide an improvement in environmental values at that scale.

With regards to the offsets not containing the required diameter size trees to be comparable in habitat contribution to those to be cleared, and that the current number of Rosewood within the existing offset area is not the required five times the number to be cleared, it is my opinion that the proposed offsets, *in totality and over time*, will offer greater environmental and habitat benefits than those from the trees to be cleared.

There are approximately 2100 trees of advanced regeneration already present in one offset area and another 1200 trees are proposed to be planted in a new corridor that will link woody vegetation across the property where it is now disjunct. Therefore, around 3300 trees will be in the proposed offset areas compared to the removal of 38 trees that were identified as not of low condition. Even though the diameters are not of the required size the significantly increased number of trees to be offset will help greatly to make up for the loss of some habitat trees for many years until they all reach maturity. The large trees to be removed have all been examined and have no tree hollows for wildlife habitat plus they are relatively isolated from any continuous vegetation within the local district thus their habitat provision is limited more to providing foliage for nesting and pollen and nectar resources when in flower. The size of the existing planted trees is large enough to begin to provide flowering resources in the near future thus the loss of habitat value from the cleared trees will only be short term before those values are replaced by the planted offsets. The proposed new planting corridor will of course take decades before trees are large enough to provide shelter and nectar resources but it is my opinion that the large number of new trees and their configuration in connected corridors will provide a larger habitat benefit in the future than retaining a few mature trees scattered in an unconnected paddock.

As explained above in the details of the proposed variation, while there are currently no Rosewood trees in the existing planted offset corridor (offset 2), there will be up to 240 planted in the newly planted offset corridor (offset 1). Therefore, as far as numbers of trees are concerned, the planting of 240 Rosewood will more than offset the 5x of the 14 that are to be removed. However, being planted seedlings it will take decades to replicate the size of the trees to be cleared, but it is my opinion that the large number to be planted and their configuration within a growing connected tree corridor across the property will, in time, provide much more environmental benefit at a local district scale than the loss of 14 trees.

References:

Collard, S.J. and Fisher, A. (2010) Shrub-based plantings of woody perennial vegetation in temperate Australian agricultural landscapes: What benefits for native biodiversity? *Ecological Management & Restoration*, **11** (**1**) p. 31-35.

Haddad, N.M, Bowne, D.R., Cunningham, A., Danielson, B.J., Levey, D.J., Sargent, S. and Spira, T. (2003) Corridor use by diverse taxa. *Ecology*, **84 (3)** p.609-615.

Kealey, L. (2010) Validating 'hearsay' on biodiversity value of saltbush. *Focus*, issue **12**, June 2010, p10.

Kinross, C. M. (2000) *The ecology of bird communities in windbreaks and other avian habitats on farms.* Ph. D thesis, Environmental Studies Unit, Charles Sturt University, Bathurst.

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Lindenmayer, D. and Fischer, J., 2006. *Habitat Fragmentation and Landscape Change: An Ecological and Conservation Synthesis.* CSIRO Publishing, Collingwood, Victoria.

Rankmore, B.R. and Price, O.F., 2004. Effects of habitat fragmentation on the vertebrate fauna of tropical woodlands, Northern Territory. Pp. 452-473 in the *Conservation of Australia's Forest Fauna* (second edition) 2004, edited by Daniel Lunney. Royal Zoological Society of New South Wales, Mosman, NSW, Australia.

Saunders, D.A. and Hobbs, R.J. (eds) (1991) *Nature Conservation 2 – The Role of Corridors*. Surrey Beatty and Sons, Chipping Norton, Australia.

2.5 Supplementary information

APPENDIX 1. Tree planting conditions for offset 1.

- 1. The minimum offset area width should be 40m.
- 2. The site should be fenced with stock totally excluded for a minimum of 10 years. Grazing after this period to be restricted to periodic, short duration, crash grazing (recommended once every year to stimulate biological activity). The duration of such grazing to be less than three days dependent on the density of the animals (ie. More animals = less time).
- 3. Tree planting rows should be 8m apart, with seedling spacing to be 5m apart along the rows (= 250 stems / ha). The first and last rows should be 3-4m off the fence line to allow maintenance. [With a 40m width, this would mean 5 rows at 8m apart with a 4m wide fence clearance.]
- 4. The suggested species mix should be to have around 50% trees and 50% shrub / understorey.

Tree species

The proportion of tree species to be planted is given below. These species are to replace those removed or are present in adjacent native vegetation and must form the bulk of the tree species planted.

Poplar Box (eucalyptus populnea) 30%

Grey Box (E. macrocarpa) 20%

If for some reason the above species cannot be sourced in the required numbers, other tree species can be planted from the list below, however Poplar Box and Grey Box must still be the most abundant tree plantings.

Yellow Box (E. melliodora)

Belah (Casuarina cristata)

Myall (Acacia pendula)

Shrub / Understorey species

The proportion of tree species to be planted is given below. These species are to replace those removed or are present in adjacent native vegetation and must form the bulk of the tree species planted.

Western Rosewood (Alectryon oleifolius) 20%

Wilga (Geijera parviflora) 15%

The remaining 15% of plantings can be made up of any combination of the following species.

Old Man Saltbush (Atriplex nummularia)

Miljee (Acacia oswaldii)

Deane's Wattle (Acacia deanei)

Western Golden Wattle (Acacia decora)

Broad-leaved Hopbush (Dodonaea viscosa)

3. Certification by the accredited expert

As accredited expert I am of the opinion that minor variation to the EOAM (Assessment Methodology) will result in a determination that the proposed clearing will improve or maintain environmental outcomes and strict adherence to the Assessment Methodology is in this particular case unreasonable and unnecessary because:

- The use of proposed offsets resulted in a determination that the proposed clearing now will have additional conservation benefits on a local landscape scale, even though the vegetation is deemed to be not in low condition and lies within a Mitchell Landscape that is determined to be over-cleared.
- It is my opinion that the proposed level of clearing is minor in scope and, by itself, will not further reduce the area of woody vegetation or its current level of connectivity throughout the local district.
- It is also my opinion that the proposed offset areas will provide woody vegetation connectivity across the property and additional connectivity across the local landscape by linking to larger corridors on either side.
- Provided the tree planting corridor of offset 1 is established according to the conditions set out in Appendix 1, and the existing planted corridor of offset 2 is fenced on the inner side to control grazing, in my opinion there will be an overall improvement in native vegetation condition and connectivity in the local landscape which will ultimately benefit the local fauna and therefore enhance environmental outcomes.

• It is recommended that the proposed tree planting corridor of offset 1 above be undertaken before any tree clearing commences.

Thus the biodiversity and other environmental gains from the proposal far outweigh the losses and as a result the clearing improves or maintains environmental outcomes.



Figures 1&2. View of the area covered by the variation to assessment methodology. Photographs taken 1/3/2012 during field inspection.





Figure 3. Area proposed for offset 1 – tree planting along fence line to link up with previously planted corridor in far distance.

Photographs taken 1/3/2012 during field inspection.



Figure 4. Area proposed for offset 2 – existing planted tree corridor.



Figure 5. Vegetation in the area of variation to assessment methodology are the polygons circled in red. Each dot represents a tree. Solid red dots are the trees proposed to be cleared. Proposed tree planting in offset 1 to extend from the dam to the east along the southern edge of the polygons.