Report under the NV Act 2003 in relation to a Minor Variation (clause 27 of the Native Vegetation Regulation 2005)

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I am 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.

The proposed minor variation does not relate to 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.

Description of the proposed clearing:

Clearing of up to 9.4 ha of Coolibah-dominated woodland (*Eucalyptus coolabah*), of which 2.5 ha will be bladeploughed. Coolibah is listed as an invasive native species (INS) for the Border Rivers - Gwydir CMA and in this instance is acting invasively, i.e.

(a) the species is regenerating densely following natural or artificial disturbance, and
(b) the invasion and/or dense regeneration of the species is resulting in change of structure and/ or composition of a vegetation community, and
(c) the species is within its natural geographic range.

Therefore this species can be managed under Chapter 7 of the EOAM.

Background:

The vegetation present on site is Coolibah-Black Box Woodland not in high condition (i.e., not in benchmark condition for this vegetation type). Under the NSW Threatened Species Conservation Act 1995 'Coolibah-Black Box woodland of the northern riverine plains in the Darling Riverine Plains and Brigalow Belt South bioregions' is listed as an Endangered Ecological Community (EEC). This EEC is widespread across the Namoi, Western, Border Rivers/Gwydir and Central West CMA regions on large alluvial floodplains.

The currently permitted clearing types for INS in EEC's not in high condition, where the INS species present is named in the title of the EEC, include:

a) Burning
b) Clearing of individual plants with no disturbance to groundcover (e.g. chemical spot treatment or ringbarking)
c) Clearing of individual plants with minimal disturbance to groundcover (e.g. grubbing)

Treatment methods range from those having the least impact on soil and groundcover levels to those having greater impact on soil and groundcover levels. The treatment method which uses bladeploughing is listed as method e ()–Clearing of plants at paddock scale with temporary disturbance to soil and groundcover). This intensity of treatment method e) is not currently allowed in EEC's.

The condition of the woodland at the site is greatly reduced due to the effect of the dense stands of INS Coolibah stems reducing living groundcover level significantly.

The minor variaton is to allow a Ph.D. student at the University of New England to undertake an experimental study investigating the most effective treatment methods for managing INS that is Coolibah-Black Box given sensitivity of ecological outcome and the areal extent of treatment that is often in consideration. Bladeploughing is one treatment option to be tested. There is evidence bladeploughing is the only effective way to manage eucalypt INS because it prevents regeneration from the lignotuber whereas a bulldozer simply breaks the stems off at ground level allowing the plants to reshoot. There is little scientific data on the comparative environmental effects of using different clearing methods in this vegetation and soil type.

A study by a Ph.D. student at the University of New England proposes to address this knowledge gap and will help determine the environmental outcomes of using a bladeplough to treat INS Coolibah, thus informing future treatment options.

Details of the proposed minor variation:

It is proposed to allow the clearing of Coolibah INS not in high condition using a bladeplough. Stems are to be retained as per the current methodology (20 stems per hectare and all stems greater than 20cm diameter at breast height (dbh)) with the stipulation that stems retained may be arranged in clusters of not fewer than 2 stems and not more than 4 stems per cluster to emulate a near-natural density of stems when the stand matures (between 2 and 9 stems per hectare). It is envisaged that between 5 and 10 stem clusters per hectare will be retained in the treatment area through the use of this method.

Reasons for recommending the proposed minor variation:

The minor variation will result in a determination that the proposed clearing will improve or maintain environmental outcomes and strict adherence to the Assessment Methodology is in the particular case unreasonable and unnecessary because -

- The clearing is for strictly experimental purposes.
- The area which will be bladeploughed has a very small extent (2.5 ha).

- The soil type on the site is a self–mulching grey vertisol. On this soil type the disturbance to the soil by the bladeplough will be repaired once it rains or is flooded.

- The patch of Coolibah INS to be treated with the bladeplough is not in high condition.

- The disturbance to groundcover is minimal as the area to be cleared with the bladeplough has an average living groundcover of less than 10% due to competition and shading from the INS eucalypts.

- Retention requirements of the EOAM will be met (trees over 20 cm dbh and 20 trees per hectare under 20 cm dbh).

- The proposed experiment will provide valuable scientific data to inform future INS assessments.

- The positive environmental outcomes from increased understanding of treatment options for INS in this experiment substantially outweigh the limited impacts of bladeploughing in the small area of the experiment.

- The retention of stems in clusters and the density of clusters in the landscape will emulate more closely the natural density of stems in Coolabah woodland (approximately 3 to 5 stems per hectare (although ranging from 2 to 9) was suggested from experience and through communication with other recognised experts) and may hasten the maturation of other facets of the ecological community such as hollows, broad crowns and diversity of groundcover.

- Floristic and structural data from 20m x 20m quadrats was used to support the decision which is contained herein. The site data compared points within the treatment area, in relatively intact woodland nearby and in areas previously subjected to clearing and grazing. Site data is available upon request and has been entered into the NSW Floristic Survey Database maintained by the Department of Environment and Climate Change.