ATTACHMENT 7.1.   PLANNING PRINCIPLES FOR VEGETATION AND BIODIVERSITY CONSERVATION AND MANAGEMENT

The NSW Native Vegetation Advisory Committee (NVAC) has developed the following guiding principles to assist the regional planning process. Some possible approaches on how to implement these principles at the catchment level are:

1.   Identify and maintain the full range of vegetation communities and associations, their condition, and the variability in the region.

One approach to identifying the remaining threatened vegetation is to extrapolate from existing data to estimate what would be there now if no clearing had occurred. This information can then be used as a basis for replanting, and may assist in assessing the vulnerability of remnants. A first DRAFT of this map has been provided to the LRLG Steering Committee. It has been produced from vegetation descriptions attached to the soil landscapes units in the Soils Landscape Units for the Dubbo sheet. See Table 1.

This is very preliminary, and NO field checking has been undertaken. It is at best used at a scale of 1:250,000. However, its accuracy could be improved by using soil and topographical features to extrapolate to vegetation communities, including grasslands and understorey. Data on public lands eg. TSRs and roadside surveys would be useful, as would field checking and input from older landholders who may be familiar with what vegetation that was present prior to clearing.

2.   Maintain enough of each vegetation association to protect flora and fauna populations, species and vegetation communities in the long term.

Ideally, the community should drive decisions about vegetation and biodiversity management. If they can agree on how much vegetation should be on each landscape / land capability unit, this can help to decide which vegetation/species should be conserved, enhanced or replanted and where this should occur in the catchment.

One approach to achieving this is to:

a) Identify and map those parts of the landscape that should have been retained under some proportion of native vegetation and compare this with the current situation. The remaining core patches should then be connected at both the landscape and property scale. By retaining everything in land capability classes 6, 7 and 8 as the starting point, decisions on the more productive agricultural land will become much easier;

b) Underake modelling for threatened communities and species, using species relationship curves in areas where there isn't enough vegetation remaining. All existing vegetation should be retained due to the lack of current knowledge (the precautionary principle) until the difficult decisions are made about:
- minimum sustainable patch sizes,
- where in the landscape they should be located,
- what degree of connectivity is needed,
- the maximum distances between patches (depends on species*) and
- the condition of the remnant.

Freundenberger and Briggs used focal or decliner species as determinants of requirements such as distances between patches ie. select the most susceptible species to certain habitat degradation. However, they worked in small catchments with remnants of only 10's of ha.

Although, the community will ultimately have to answer these questions, decisions should be based on a combination of local knowledge and the best available research. For example, Briggs and MacIntyres' work suggests that 40 hectares is needed to maintain healthy remnants. However, requirements for vegetation retention and remnant size will vary from area to area and species to species.

Conservation may also be achieved by "managing land differently," rather than by "locking up." For example, by moving from continuous grazing towards managing a section primarily for biodiversity. Consideration then needs to be given to how to utilise the production based part of the property. However, the bottom line is that changing our agricultural practices and land management on the rest of the property, to include biodiversity considerations, will improve sustainability.

3.   Give conservation priority to vegetation in good condition

The Save the Bush Tool Kit (Bushcare manual) provides techniques to help landholders assess the health of bush, scattered farm trees and watercourses. These tools are the first step in assessing and identifying good vegetation.

The Tool Kit doesn't determine how much vegetation we need. Instead, it includes a basic "grab bag" of suggestions to action, depending on the assessed condition. However, given the aims of Buschare and the National Vegetation Initiative the kit works on the assumption that we should retain whatever we have got and increase the size of remnants.

4.   Enhancing Remnants

Although many remaining isolated species are non-viable in their current state, they act as a valuable nucleus to enhance and extend the remnant. If these very small areas are not extended, sooner or later they are likely to be affected by dieback and, eventually, be lost.

Land Management Units and land capability could be adopted as the basis for determining where additional vegetation should be located in the landscape. The need to develop linkages over a regional scale should also be considered, as should the need to address land degradation and multiple objective plantings.

Briggs and MacIntyres' work suggests that 40 hectares is needed to maintain healthy remnants. However, realistically, this is more than farmers will attempt. So, they recommend that current remnants be enhanced to a minimum of 10 ha for revegetation. N.B. This is NOT the minimum size for clearing down to.

Table 1. **Vegetation Codes for Soil Landscape Units used to determine vegetation distribution.**

SLU Code	SLU Name	Veg	pH -from Dubbo	Sodicity	Permeability
Alh	Lachlan	RS	>5<6	4L	High
Alr	Little River	RR	>4.6<6	4L	High
Amd	Macquarie-Dubbo	RR	>5	5	Moderate
Ami	Mitchells ck	RS	>5	4L	High
Enb	Nubingerie	WYP	>5.5	5	Moderate
Ewg	Wongarbon	WYP	>5<6	5	Moderate
NKBll	Larras Lee	WA	>4.5<5.5	2C	Mod-low
NKBmn	Manildra	GY	>4.5<5.5	4C	Moderate
NKBna	Nangar	GW	>4.5<5.5	4C	Low
NKByv	Yeoval	WY	>4.5<5.5	4C	Low
RBEar	Arthurville	GW	>4.5<5.5	4C	Moderate
RBEbm	Ballimore	GW	>4.25<5.5	1C	Mod-low
RBEtl	Tillings lane	TP	>4.5<5.5	3C	Moderate
RPbi	Belowrie	GRP	>5<6	4L	Low
RPbr	Black Rock	TP	>4.5<5.5	3C	Moderate
RPcu	Curumbenya	TD	>5<6	4C	Mod-low
RPsh	Splitters Hill	GW-GY	>4.25<5	5	Mod-low
RSdu	Dulladerry	TS	>4.5<5.5	1W	Moderate
RSgd	Greydene	TS	>4.5<5.5	1W	Moderate
SLcs	Catombal	TP	>4.25<5	3L	High
SLdw	Dowd	WP	>5<6	5	High
SLgl	Glennie Ridge	TP	>4.25<5	2L	High
SLmy	Mandagery	TS	>4.25<5	3L	High
SLyp	Yahoo Peaks	TS	<4.5	2C	High
SSgg	Gullengambal	TS	<4.5	2C	High
SSgu	Gumble	TP	>4.6<6	2C	High
SSki	Killonbutta	WA	>4.25<5	2C	High
SSox	Oxley	GRP	>4.5<5.5	2C	High
TRwc	Wellington Caves	WA	>5.5	5	Moderate

<u>Vegetation Codes</u>

GRP   Grey Box - Cypress pine - Blakely's Red Gum Association
GW   Grey Box - White Box Association
GW-GY Grey box-white box Association. OR White box - yellow box association + white cypress
GY   Grey Box - Yellow Box Association
RS   River Red Gum / River She-Oak
RR   River Red Gum
TD   Tumbledown gum community
TP   Tumbledown red gum - Black cypress pine association
TS   Tumbledown gum - Red Stringy bark -Red Ironbark Association
WA   White Box - Apple Box Association
WP   White Box community + White cypress
WYP   White Box - Yellow Box Association + Cypress Pine
WY   White Box - Yellow Box Association