COBAR VEGETATION MANAGEMENT

COMMITTEE

SUBMISSION TO THE SENATE ENQUIRY INTO NATIVE VEGETATION LAWS, GREENHOUSE GAS ABATEMENT AND CLIMATE CHANGE MEASURES

The Cobar Vegetation Management Committee [***CVMC***] wishes to comment on the impact of the Native Vegetation Laws and in doing so bring before the Senate Finance and Public Administration Committee [***the Committee***] its concerns about the impact of Native Vegetation Laws on landholders and on properties in the Cobar Peneplain Bioregion [***the Bioregion***] of New South Wales.

In 2006 CVMC prepared a report titled 'A VEGETATION MANAGEMENT PLAN FOR AREAS INVADED BY NATIVE TREES AND SHRUBS IN THE COBAR PENEPLAIN' [***the Plan***] that outlined the changes in vegetation that had occurred since first settlement of the area by Europeans.

A condensed version of this report appears as **Appendix 1** of this submission and a hard copy of the full report has been forwarded by post.

The original Plan was prepared to show how the vegetation of the Cobar Peneplain had changed in a period of about 140 years and to illustrate the degree to which the increase in invasive native shrub density had impacted on the pastoral productivity of the Bioregion's landscapes.

In addition to its historical perspective and documentation of the spread and impact of invasive native shrubs, the Plan provides positive guidance to Government as to how the provisions of the NSW Native Vegetation statutes could be modified to allow pastoral / agricultural production to coexist with remnant native vegetation in the Bioregion.

CVMC wishes to comment only on the impact of the Native Vegetation Laws as they impact the Bioregion and has no comment on the Greenhouse Gas Abatement and Climate Change Measures topics.

In particular CVMC has comments to make on topics 1[a], 1[b] and 1[c] of the terms of reference.

Term 1[a] – ***'any diminution in the land asset value and productivity as a result of***

such laws.'

CMVC considers that the Native Vegetation Laws are too prescriptive and inflexible to allow for day to day or season to season land management decisions to be made in a timely manner.

The current Native Vegetation Act and its predecessor – the Native Vegetation Conservation Act – impose restrictions on the use of lands in the Bioregion that were not envisaged when the lands were sold or leased out to landholders by past Governments.

These restrictions pose limitations on land use for landholders with a long term property development vision and particularly on those landholders who bought into the Bioregion immediately prior to the enactment of the Native Vegetation laws.

This leads to the need for compensation arrangements that are discussed under Term 1[b].

Opportunities to control native shrub invasions at the early stages after germinations are limited and eventually, as these shrubs increase in size, pastoral and agricultural productivity are decreased.

Decreased productive capacity translates directly into reduced land asset value. The graph in Section 2 of the document constituting Appendix 1 illustrates this point well.

It is acknowledged that the NSW statutes allow for control [ie. removal] of native vegetation regrowth that has grown since 1st January 1983 in the Western Division section of the Bioregion and 1st January 1990 in the Central Division section of the Bioregion.

In addition, under the provisions of the Native Vegetation Regulation a landholder who has a property vegetation plan prepared for his / her land may be able to clear older regrowth if it can be proved that the land on which the regrowth has developed has bee cleared pursuant to rotational farming practices on at least two occasions since 1943 in the Western Division and since 1950 on land not in the Western division

However, regrowth removal is expensive and difficult to achieve on land that still retains a scattered cover of old native trees that are not allowed to be cleared. It is also difficult to justify the expense when the livestock carrying capacity of holdings in the Bioregion has been so impacted in a negative way by past native shrub invasions.

Landholders who own this type of country have limited the capital available from current incomes for this work and have a limited capacity to borrow and repay loans from financial institutions

Removal of invasive native shrubs on land that has been cleared for agriculture in the past is a simpler, but still expensive, task and there need to be more flexible approaches to allowing more cultivation and cropping at appropriate times to prevent invasive native shrub establishment.

Term 1[b] – *'compensation arrangements to landholders resulting from the imposition of such laws'*

There are no overarching compensation arrangements for landholders affected by the provisions of the Native Vegetation laws in New South Wales. However, the CVMC notes that there may be some instances where individual landholders may be compensated by the local Catchment Management Authority for managing a particularly valuable native vegetation remnant.

CVMC has read the Consultation Draft of the 'Australia's Native Vegetation Framework' paper and notes with interest the highlighting of the values of remnant native vegetation to ALL Australians – not just individuals.

The way the current system works in New South Wales, the greatest majority of people 'footing the bill' for remnant native vegetation conservation are individual landholders who are forced to conserve the remnants because they are not allowed to clear them. ***In fact these areas have become de facto National Parks and Nature Reserves.***

These individuals are not receiving any State or Federal Government assistance for this altruistic task and in fact are out of pocket to the extent that they not only have bear the cost of lost opportunities from production from land that cannot be developed but also have to annually spend money on weed and pest animal control and fence repairs from relatively unproductive country.

When the importance to all Australians of native vegetation conservation, as emphasised in the 'Australia's Native Vegetation Framework' paper, is considered it is time to consider a real contribution from ***ALL AUSTRALIANS*** to ensure that native remnant vegetation is conserved and improved in condition.

If it is true that the conservation of remnant native vegetation does benefit all Australians as discussed in the 'Framework' paper, then all Australians should contribute to the program in a monetary way.

This can be achieved by committed State and / or Federal Governments paying, from consolidated revenue, for the ongoing land management inputs, lost productivity costs and reduced land asset value borne by individual landholders.

There has been a precedent in terms of the Medicare levy/ that benefits all Australians. Why not a Native Vegetation Management Levy that would compensate individual landholders for their inputs, lost production and reduced land asset value.

Term 1[c] –' the appropriateness of the method of calculation of asset value in the

determination of compensation arrangements'

In New South Wales there are no general compensation arrangements in place and so CVMC is not aware of any relevant asset valuation methods used to determine compensation payable.

Stuart Mosely
Chair
Cobar Vegetation Management Committee
4th March, 2020

Appendix 1

SUMMARY OF THE VEGETATION MANAGEMENT PLAN FOR AREAS INVADED BY NATIVE TREES AND SHRUBS IN THE COBAR PENEPLAIN

NOTES

- This Summary should be read in conjunction with the full report titled *'A VEGETATION MANAGEMENT PLAN FOR AREAS INVADED BY NATIVE TREES AND SHRUBS IN THE COBAR PENEPLAIN'*
- Details of references quoted in this Summary are provided in the full report.

1 Area of Applicability

This Plan applies to that part of the Cobar Peneplain Bioregion that falls within the Western Catchment Management Authority [WCMA] area and the Cobar Shire.

2 Public Recognition of the Problem

- the aim of the Plan is to facilitate achievement of the environmental, social and economic objectives of the NSW Native Vegetation Act 2003 in a section of the State where invasion by native trees and shrubs over the past 130 years has led to a reduction in the health of the broader environment and the vegetation in particular.

- land degradation has manifested itself in many ways including a general increase in density of native trees and shrubs, a decrease in native ground cover, reduced pastoral productivity and water and soil loss from the system.

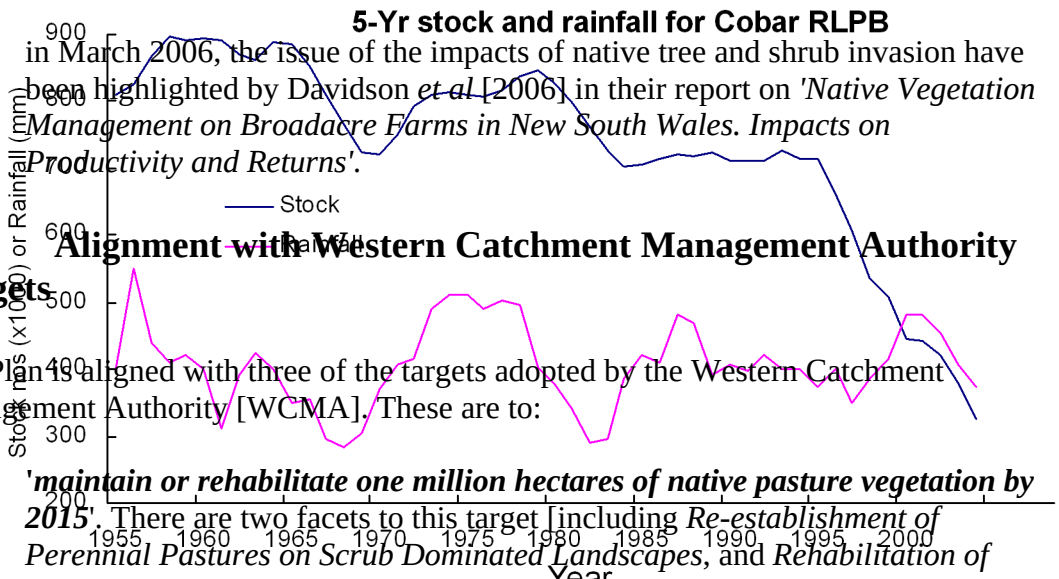
- concerns about the impact of native tree and shrub invasion in the region have been held since the late 1800s when the New South Wales Government found lessees abandoning their holdings in the Cobar Peneplain and was forced to spend public money to remove the scrub to allow further pastoral use of the land.

- the native shrub and timber invasion problem has been highlighted by the Royal Commission into the Condition of the Crown Tenants in the Western Division of New South Wales [1901], an article in the NSW Agricultural Gazette in 1930 [Carn, 1938], the report of the Inter-departmental Committee on Scrub and Timber Regrowth in the Cobar – Byrock District and Other Areas of the Western Division of NSW [Anon, 1969], comments by members of the Nature Conservation Council of New South Wales [McLoon and Messer, 1988] and most recently by the Wentworth Group of Concerned Scientists [2002].

- The Wentworth Group noted that there was a need to control native shrub invasion in the semi-arid and arid pastoral areas of Australia and cited problems in the mulga lands of western Queensland.

- the comment applies equally to the Cobar Peneplain region and, in particular, that section of the Cobar Peneplain covered by this Plan. **Figure 1** shows how domestic livestock numbers [and thus productivity] have declined markedly in the Cobar Rural Lands Protection Board [RLPB] district between 1955 and 2004.

Figure 1 – Cobar RLP Board Stock Numbers 1955 to 2005



- in March 2006, the issue of the impacts of native tree and shrub invasion have been highlighted by Davidson *et al* [2006] in their report on *'Native Vegetation Management on Broadacre Farms in New South Wales. Impacts on Productivity and Returns'*.

3 Alignment with Western Catchment Management Authority Targets

The Plan is aligned with three of the targets adopted by the Western Catchment Management Authority [WCMA]. These are to:

- '***maintain or rehabilitate one million hectares of native pasture vegetation by 2015***'. There are two facets to this target [including *Re-establishment of Perennial Pastures on Scrub Dominated Landscapes*, and *Rehabilitation of Lands Suffering Soil Erosion and Pasture Loss*];

- ***'conserve high conservation value vegetation communities by ensuring that they are not cleared or otherwise affected'*** ; and

- ***'ensure that Sustainable Agriculture Management practice is carried out by 50% of landholders by 2015'.***

4 Overview of the Problem

- historical evidence is presented to show the change in the appearance and density of the native vegetation over a large portion [if not all] of the Cobar Peneplain over the past 140 [approx.] years. This data has been sourced from sworn evidence before Royal Commissions and similar inquiries, from written accounts of scientists, early pastoralists and clergymen, from government reports and from a large number of research projects

- the first warnings of the impending problem were supplied by von Lendefeld and Dixon in their learned papers delivered before the Linnaean Society [NSW] [1885] and the Royal Society of South Australia [1892] respectively.

- it is evident that a great change has occurred in the appearance of the country in the region as it transformed from generally open woodland [with some denser patches of trees and shrubs] into a generally densely native shrub and tree invaded landscape in which many of the regrowth trees exist at such densities that they will never develop into trees that will provide nesting hollows etc of value to native wildlife.

- it is of concern that there is a general view promulgated by environmentalists and some sections of government that the ecosystems that exist today are those that should be regarded as examples of the pristine or norm. They are not, and in fact are very different from those of the 1860s when pastoral land use began.

- there is a need to reverse the currently widely held view that a tree and shrub invaded landscape is *'pristine and best'* and to accept that managing the tree and shrub invaded areas of the Cobar Peneplain in such a way that takes it back towards its open grassy woodland structure of 140 years ago is, in fact, maintaining and improving biodiversity.

- also of concern is the fact that the parameters used in the Property Vegetation Plan Developer computer tool as well as in the specifications contained in the ***Invasive Native Scrub Assessment*** section of the ***Native Vegetation Regulation 2005 Environmental Outcomes Assessment Methodology*** for dealing with invading native tree and shrub species may not reflect this pristine benchmark situation on the Cobar Peneplain.

- in other words, there is a need to accept that, for the Cobar Peneplain Bioregion, clearing to maintain an open woodland structure should be a form of Permitted Clearing in terms of Section 18 of the Native Vegetation Act 2003.

- further, there is a need to regard periodic clearing of invading native tree and shrub species [INS] in the Cobar Peneplain as Permitted Clearing and / or a Routine Agricultural Management Activity [RAMA] - as allowed for in the Native Vegetation Act 2003.

- clearing frequency should be flexible and controlled by the Western CMA in order to cope with random occurrences of seedling germination and establishment to maintain an open vegetation structure.

- Clearing should be permitted on selected areas of individual holdings where clearing of invading species will not cause other environmental damage such as soil erosion.

4 Historical Perspective

This historical perspective details the changes in the appearance and composition of the vegetation of the Cobar Peneplain that have occurred since the 1860s when pastoral settlement began.

4.1 Vegetation Changes from the 1860s to 1900

- the first Europeans to travel into the Cobar Peneplain were the explorers Sturt and Mitchell.Sturt, in particular, recorded the occurrence of extensive areas of open woodland or forest with a grassy groundcover.

- Sturt also recorded the existence of what appear to be mulga scrubs during some of his forays into the Peneplain from its margins but there is no mention of large areas of the landscape being affected in the way they are today.

- many of the early accounts of the Cobar Peneplain vegetation that were provided by people who knew the area in the 1860s and 1870s indicate large areas were occupied by open woodland through which it was possible to see clearly for a number of kilometres.

- these same observers pointed out that in the 1870s, in particular, the white cypress pine [*Callitris glaucophylla*] began to increase in density from an original scattering of older trees in an open woodland setting to a dense forest of seedlings and later saplings.

- the accounts describe the vegetation in the following areas prior to 1900 and generally from an 1860s or 1870s perspective – Cobar, Mount Hope, Honeybugle, Babinda, Panjee, Booroomugga, Paddington, Gunderbooka Range, New Years Range, Mount Oxley, Gongolgon to Byrock, Cobar to Nyngan, Hermidale, Wilga Downs, Coronga Peak and Nymagee.

- in the era before pastoral settlement the country was subjected to periodic and probably relatively frequent bush fires, probably as a consequence of a combination of burning by Aboriginal people and fires started by lightning strikes. The earliest record of fire wiping out large areas of vegetation comes from a comparison of the accounts of Charles Sturt in 1829 and Major Thomas Mitchell in 1835. Both described the vegetation between the Gunderbooka Range and the Darling River.

- once the country was settled and stocked and the grasses and herbs that comprised the groundcover were eaten down by sheep and cattle, there was less chance of fires started by Aboriginal people or lightning burning out extensive areas. The 1880s rabbit invasion further exacerbated this situation by further depleting ground cover.

- according to the early observers, the regular fires kept large areas of the Peneplain as an open woodland-type community and those areas that were not burned on one occasion were probably burned on another.

- without competition from native groundcover species and in the absence of regular fire, inedible Invasive Native Shrubs were able to proliferate. One early pastoralist, James Gormley [1921], recorded his good fortune in being able to 'get out' of his Cobar Peneplain stations before the shrub invasion became a problem after the 1870s.

- Anon [1959] describes the community that existed over a large area of the Cobar Peneplain in the 1860s and 1870s as a disclimax community that was prevented from reaching its climax development by the repeated fires. With the removal of the impact of fire, this community has been allowed during the past 140 or so years to progress towards and, in many instance, attain its

climax.

- the natural biodiversity of the landscape would have been high both in terms of the number of flora and fauna species present and the number of each species present at that time prior to pastoral settlement. Thus, progression towards the climax community [or invasion by native tree and shrub species] can be considered to be detrimental to biodiversity.

- the aim of this Plan is to achieve a vegetation community structure approaching that existing in the 1860s that was more productive and provided a greater diversity of habitat, flora and fauna than exists currently.

4.2 Vegetation Changes from 1900 to the 1950s

- there have been a number of documented white cypress pine germination events in the Cobar Peneplain region and adjacent areas since 1900. The years include 1939, 1945, 1952, 1955/56, 1962 and 1968.

- Carn [1938], in an article in tne NSW Agricultural Gazette, highlighted the developing problem of non-edible shrub invasion in the Western Division east of a line from Ivanhoe to Bourke.

- Darley and Condon [1956] and Anon [1959] also reported concerning invasions of native tree and shrub species [including bimble box, mulga, punty bushes, budda, hopbush and turpentine] in the Cobar region.

4.3 Vegetation Changes from the 1950s to the Present

- the Interdepartmental Committee '*…to investigate and report on the problem of scrub and timber regrowth as it affects parts of the Western Division of New South Wales, and the Cobar-Byrock in particular, …*' [Anon, 1969] identified a large number of properties in the Cobar – Byrock region as having >25% to >50% of the property invaded by trees and shrubs.

- the situation described in 1968 was a very serious one that was addressed to some degree by the NSW Government of the time.

- Wells [1969] provided an early quantification of the increase in INS species in the Cobar district in the 1960s. He recorded a 66% increase in the number of INS species present along a set transect over a 24 month observation period

- later, Walker [1976] describes an INS observation trial conducted over a period of 10.5 years [between 1964 and 1975] near Cobar under grazed and ungrazed conditions. Densities of INS on the ungrazed plots increased from a mean of 269 shrubs / ha to a mean of 1231 / ha [an increase of 358%] while those on the grazed area increased from a mean of 769 shrubs / ha to a mean of 1548 / ha [an increase of 101%].

- Gardiner *et al* [1998] used Landsat Multispectral Scanner digital imagery to estimate the distribution, density and change in woody shrub cover over time in western New South Wales. The study area extended from west of Broken Hill eastward to about halfway between Cobar and Nyngan. They showed that INS invasion is continuing both in terms of increased density of invasion and in extent of areal occurrence between the 1970s and 1990s. This work **s**hows that the Cobar Peneplain area has generally the highest degree of woody vegetation cover within the whole study area and that woody cover increases in the Cobar area of 41% to 60% were very common while woody cover increases of 61% to 80% and 81% to 100% were all too frequent. The authors conclude that financial constraints associated with lowered productivity prevent effective woody shrub control by graziers and that the continued increases in shrub cover suggest that productivity declines will continue.

- work reported by Harrington [1979] that was carried out on 'Oakvale' near Coolabah, recorded a shrub density of approximately 6000 plants per hectare [1m to 2m spacings between individual shrubs] in 1974 on typical sections of the research site. He further noted that ".. *Shrubs are now so dominant that there is no grass fuel to support a fire and the widespread fires of the summer 1974-75 only entered the margins of these woodlands*."

- Hodgkinson and Harrington [1985] reported that shrub density on the land described by Harrington [1979] as supporting a shrub density of 6000 plants / hectare had increased under ungrazed conditions to approximately 9,100 shrubs per hectare by 1977 as a result of higher than usual rainfall - an increase of 52%. **This number of shrubs translates to an average spacing of about 1.1 metres between individual plants**. These authors used a number of potential INS control treatments in their research but the overall conclusion from their work was that invasive native shrubs continued to increase in density under all treatments and that clearing of shrubland without follow up ploughing / cropping etc leads to the creation of a worse problem than existed initially.

- Harrington [1985], at 'Tundulya', Louth in a mulga shrubland, recorded that shrubs increased in density from 1,700 per hectare to 4,200 per hectare in the eighteen months between March, 1983 and September, 1984 during a period of above average rainfall. This was an increase of 147% in shrub numbers in the eighteen months.

- Walker and Green [1979] studied the effects of the 1974 – 75 wildfires in the Cobar region on a range of native trees and shrubs at six sites in the Cobar region. They showed that fire had a variable impact on survival of INS species with some species being severely affected and others hardly affected at all. This work also illustrated the ability of particular INS species to re-establish rapidly after fire to produce a dense infestation.

5 Objectives of the Plan

- The objectives of this Plan are to provide for the management of the

vegetation occurring on properties in the region in a manner that is consistent with the Objects of the **Native Vegetation Act 2003** and the **principles of ecologically sustainable development.**

5.1 How the Plan Meets the Objectives of the Native Vegetation Act in Relation to the Objects of the Act

[a] to provide for, encourage and promote the management of native vegetation on a regional basis in the social, economic and environmental interests of the State

- the current invaded state of the native vegetation communities is an unnatural one, given the historical evidence, and management needs to reduce regrowth density.

- reductions in regrowth density will have positive impacts on the social, economic and environmental interests of the region and thus the State.

- dense tree and shrub regrowth has reduced the livestock carrying capacity of a large number of properties in the region and is still reducing this capacity. Without positive action to reverse the trend of invasion the viability of the enterprises carried on by landholders in the region is under threat.

- economic impacts inevitably have social impacts manifested by property abandonment for productive purposes, dependence of individuals and families on welfare and like payments, lack of affordability of quality education, reduced profitability of service centre businesses, population shift etc.

- the Government is charged with the responsibility of providing for, encouraging and promoting the social and economic interests of the State and so through the Act should allow all forms of native vegetation management that improve environmental outcomes.

- the Native Vegetation Regulation 2005 Environmental Outcomes Assessment Methodology deals specifically with environmental outcomes and pays no attention to socio-economic issues. It should take these issues into account.

- the 'shrub monoculture' that covers so much of the Cobar Peneplain certainly does not provide the variety of habitat that was present prior to the 1860s and 1870s. Grasslands / open woodlands are rare and so the fauna and flora species [ie. biodiversity] that are favoured by such habitats are disadvantaged. It is recognized that there are some species, particularly fauna species, that may be favoured by dense shrub infestations but equally there are many other species that are disadvantaged.

[b] to prevent broadscale clearing unless it improves or maintains environmental outcomes

- it is contended that the invasion of the Cobar Peneplain by native trees and shrubs is a retrograde environmental trend and that reversal of this process by

removal of regrowth on sections of the Cobar Peneplain would improve the biodiversity.

- allowing removal of regrowth as permitted clearing and / or as a Routine Agricutural Management Activity, would result in this rehabilitation work not being regarded as broadscale clearing.

[c] to protect native vegetation of high conservation value having regard to its contribution to such matters as water quality, biodiversity, or the prevention of salinity or land degradation

- the shrub-invaded remnant native vegetation communities that occur over the majority of the Cobar Peneplain are not regarded as having high conservation value.

- biodiversity would be improved regionally by controlled clearing to remove invasive native shrubs and trees.

- dense INS is commonly associated with bare soil surfaces lacking the sediment trapping capabilities of grassland / herbland species. Under these circumstances, water also tends to concentrate and form rills and gullies that are obvious signs of land degradation in the region.

- re-creation of open woodland habitats with good ground cover levels is considered a positive outcome by ameliorating water quality deterioration and land degradation.

- salinity is generally not a problem of concern in the Cobar Peneplain region and few visible expressions of the problem exist. Re-creation of open woodland communities would provide an adequate means of preventing development of salinity problem if such were predisposed to occur.

[d] to improve the condition of existing native vegetation, particularly where it has high conservation value

- native vegetation over much of the Cobar Peneplain region has deteriorated over the past 140 or so years. While much of this vegetation has not been assigned a 'high conservation value' tag, it is nevertheless native vegetation and should be improved in condition using the agricultural land management practices detailed in this Plan.

[e] to encourage the revegetation of land and the rehabilitation of land, with appropriate native vegetation

- the Cobar Peneplain has been highly invaded by INS and as such is in need of rehabilitation to restore the condition that existed prior to the 1860s and 1870s.

- what is required is not revegetation *per se* but the development of a tree, shrub and ground cover that representative of the historical vegetation cover over most of the region. Development of this more appropriate native vegetation

community structure is equivalent to the rehabilitation of the land – **with appropriate native vegetation.**

5.2 In Relation to the Principles of Ecologically Sustainable Development

[a] The precautionary principle – namely that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

- there is adequate anecdotal and scientific evidence of the changes that have occurred. These provide a 'word picture' of the original community structure that is the benchmark to be aimed for to restore community condition. This indicates that the precautionary principle does not need to be invoked.

[b] Inter-generational equity – namely, that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.

- on the Cobar Peneplain, the equity in terms of ***the health, diversity and productivity of the environment*** has been decreasing for over one hundred years. It is now time to undertake the restorative measures needed to ensure that this decline is arrested and to achieve an improvement.

- the principles and measures outlined in this Plan will ensure that intergenerational equity prevails and that future generations inherit the lands of the Cobar Peneplain in a better condition than the present generation received them.

[c] Conservation of biological diversity and ecological integrity.

- the Plan provides for the conservation of biological diversity and ecological integrity within the Cobar Peneplain by aiming to return at least a proportion of the total area to a state where it provides both a good representation of the habitats that existed prior to European settlement. This provides the basis for improved biodiversity and ecological integrity.

[d] Improved valuation and pricing of environmental resources

- a reversal of the broader community and government thinking is required in relation to the Cobar Peneplain. There is a a distorted view that equates dense tree and shrub cover with good / excellent environmental health, and with biodiversity – both in number of species and abundance of individuals of each species. No evidence supports this view in the Cobar Peneplain context.

- the natural corollary to this change in thinking is a need to reassess the environmental and productive values of the Peneplain lands in their present condition.

- valuations can be expressed in dollar terms, or can be expressed in terms of vegetation and biodiversity values. Obviously with dollar valuations actual productive capacity is very important.

- the situation is less straightforward in relation to vegetation and biodiversity values. Issues such as community structure, community and habitat diversity [including availability of a balance of foraging resources for fauna of the open and more shrubby communities], presence of nesting hollows etc, numbers of species present and numbers of individuals of each species, all require valuation.

- this Plan aims to address this fourth principle of ecologically sustainable development by contributing to the knowledge of environmental valuation by providing the opportunity for a positive change as a consequence of responsible vegetation management under the Native Vegetation Act 2003.

6 Landforms and Vegetation Communities of the Cobar Peneplain

- the Cobar Peneplain physiographically consists of three main geological structures, each imparting different landscape characteristics to the country. The largest portion of the region has parent rock material of steeply dipping shale and siltstone with some quartz intrusions. In the south-east and south, the parent material is predominantly granitic in origin, while along the western edge, flatter-bedded sandstones and quartzites govern the character of the landscape. Minor areas of volcanic outcrop also occur in the north. Similarly, in the west there are areas of country of aeolian origin composed of soil material that has blown in from nearby alluvial plains.

- the Cobar Peneplain region currently largely supports mostly dense shrub-invaded woodlands which, in their pristine state, would have been open woodlands containing an understorey of herbs and grasses. Areas of dense mallee and open grasslands also occur.

- the main communities that occur are listed in the Plan document. They are arranged in broad groups determined by their structure or form - the groups consisting of forests and woodlands, mallee, shrublands and grasslands.

- the vegetation community that is most suitable for removal of the INS understorey is the Bimble Box – White Cypress Pine Community. Smaller areas of the Red Box and Mulga Ccommunities would be suitable for INS removal

- these communities are quite widespread throughout the area covered by the Plan; and all other vegetation communities discussed ar most unlikely to be disturbed in any way as they do not occur in areas likely to be developed

7 Biodiversity Issues and Invasive Native Trees and Shrubs

[INS]

- the Cobar Peneplain is a relatively biodiverse region because of the wide range of ecological niches or habitats that occur within its boundaries.

7.1 Cobar Peneplain Fauna

- NPWS [2001] notes that 497 fauna species [mammals, birds, reptiles and frogs] are likely to have inhabited the area of the Peneplain. Eighteen of these [all mammals] have not been seen for many years and are officially presumed extinct. Another eleven species – 6 mammals, 4 birds and a snake are also likely to be extinct.

- of the 26 threatened bird species [including one threatened population] recorded within Cobar Shire, only 16 have been recorded within the area covered by the Plan.

- of the 11 animal species [mammals, reptiles, frogs] recorded within Cobar Shire, nine have been recorded within the area covered by the Plan and of these two are presumed extinct.

- the overall assessment of the impact of the Plan on threatened fauna species is that most species would not be affected in any significant way by the vegetation rehabilitation work and, in fact, many would be advantaged by provision of a greater amount of more open woodland / grassland country with enhanced habitat and food values.

7.2 Cobar Peneplain Flora

- the first published listing of the flora of the Cobar district was that prepared by Archdeacon F.E. Haviland and published in 1911. Haviland recorded a total of 337 species including 34 introduced species.

- a more recent listing [Geoff Cunningham pers. comm., 1981] records 399 species of plants from the two 1: 100 000 scale grid cells surrounding Cobar including 74 introduced species and 325 natives. The native species list includes 33 trees, 74 shrubs, four vines and 212 groundcover species.

- seven threatened flora species are listed as threatened for of the whole Cobar Shire.

- an assessment of the likely impact of the proposed vegetation community rehabilitation work under the Plan is not likely to have any significant impact on these threatened flora species.

7.3 Impact of Tree and Shrub Invasion

- dense tree and shrub invasion has resulted in the reduced persistence of ground cover species so that the suite of 212 native groundcover species previously mentioned either is present in a considerably reduced abundance and / or the total number of ground cover species is, itself, reduced.

- Ayers et al [2001] conclude in their paper 'Woody Weeds and Biodiversity in Western New South Wales' that '*Although the general statement that "nothing grows under woody weeds" is not correct, there is some truth in it. Previous studies have demonstrated that pasture production decreases as woody shrub density increases. Similar trends were detected in this study*.'

7.4 Specific Examples of INS Impacts

- in March, 2006, four properties within the Cobar Peneplain boundaries were re-inspected to compare present pasture production potential with that assessed during 1972-3 by the Soil Conservation Service of New South Wales when detailed records of tree, shrub [type and density] and pastures were made

- the March, 2006 inspection measurements showed that there were no instances on any of the properties inspected where there was a decline in tree or shrub cover on any of the land units inspected. Overall, the results show that there has been a decrease in potential pasture production of 41% on these land units since 1972/3

7.5 Biodiversity Impacts of the Plan

- under the restorative measures proposed under this Plan substantial areas of the open woodland / grasslands that formerly existed on the Cobar Peneplain would be restored and the ground cover species that are native to the area would increase in abundance, enhancing habitat variability and biodiversity values.

- studies in the Peneplain by a CSIRO / NSW Department of Primary Industries / Queensland DPI team have quantified the changes that occur when large herbivores are removed from grazing shrub invaded landscapes [i.e., that simply removing large herbivores allowed shrubs to increase]. The results of this work in progress have been summarized as follows [K.C.Hodgkinson pers. comm..] " *Changes in shrub and grass densities and species compositions in semi-arid woodlands of eastern Australia were strongly driven by rainfall patterns and amounts in the period 1996 to 2005; both droughts and 'wet periods' strongly influenced the birth and death of all species. In general terms, the removal of large herbivores [goats, sheep, cattle, kangaroos etc] from semi-arid woodland landscapes during this time, increased the density of shrubs because animal browsing kills some shrubs. Grazing by large herbivores had a negligible effect and an inconsistent effect on grass densities'*

- the 'bottom line' is that the deleterious changes in shrub density reported by

Hodgkinson [pers. comm.] will continue to be manifested in the Cobar Peneplain if a *'do nothing'*, or retain the status quo, approach is pursued.

- failure to recognize the improvements in environmental outcomes that would result from the implementation of the Plan will simply allow more of the same to develop – i.e., areas with a maximum density of invading native trees and shrubs with a low degree of ground cover, a reduced habitat suitability for native fauna and flora and a severely reduced viability for the pastoral industry in the Cobar Peneplain

7.5.1 Fauna Impacts

- many of the threatened fauna species that have been recorded from the area covered by the Plan would be advantaged by the increased habitat diversity resulting from implementation of restorative practices that re-create areas of open grassland and grassy woodland on Cobar Peneplain.

- Ayers et al [2001] acknowledge that some fauna species are not favoured by dense shrub infestations – particularly the ground-feeding and seed eating birds. However the diversity of habitats proposed under the Plan would redress this issue and provide for improved native fauna diversity.

- anecdotal evidence from landholders in the Cobar Peneplain indicates that they often see numbers of native fauna in open grasslands and crop paddocks while the adjacent dense scrubby areas are largely devoid of animal life.

7.5.2 Soil Impacts of Invasive Shrub Removal

- the Plan document provides a limited quantification of the impacts on soils of restoring grassy woodlands and grasslands that formerly existed on the Cobar Peneplain. A limited number of paired soil samples were taken in shrub-invaded and open grassland areas at seven properties on the Peneplain.

- the data show a major increase in soil organic carbon % under grass / herb pasture [including areas where Old Man Saltbush has been planted] on five sample sites. Increases in organic carbon percentages are notoriously difficult to achieve and depend to a large extent on the presence of mats of fibrous grass and herb roots that readily break down and yield the carbon stored in the soil.

- the two sites where organic carbon % did not improve to any degree were infested with the native, but not endemic, noxious weed, galvanised burr [*Sclerolaena birchii*] that has a less fibrous root system.

- nitrate nitrogen was also generally higher on the areas devoid of invasive trees and shrubs – a further indicator of improved soil health associated with removal of INS

7.5.3 Connectivity Issues and Biodiversity

- this Plan will ensure that connectivity is maintained between remnants of shrub invaded lands and communities that are not rehabilitated.

- unrestored corridors 300 metres wide would remain around the boundaries of all properties ensuring that a total 600m corridor was present in such areas. Other corridors, a minimum of 100 metres wide, would remain between all blocks of cleared land and areas where shrub removal practices are used.

- overall, a relatively small amount of the area covered by this Plan would be cleared of INS given that corridors associated with drainage lines, hilly areas, blocks of cleared land will remain and be linked to remaining uncleared land there will be a large area of the Peneplain that will remain basically in tis present state.

7.5.4 The Issue of the Non-native Vegetation Criteria

- criteria 16 and 17 of the '**Invasive Native Shrub Assessment**' [Chapter 7 in the *Native Vegetation Regulation 2005 Environmental Outcomes Assessment Methodology*] require that clearing will not 'maintain or improve' environmental outcomes if any non-native annual or perennial vegetation is introduced to the cleared area.

- this is a puzzling requirement given that Haviland [1911] noted that 34 species of introduced plants were present, and often widespread, in the district prior to 1911 and Cunningham [pers. comm.] noted that there were 74 introduced pasture and tree species [including 72 pasture species] recorded in approximately the same area by 1981.

- given the high degree of invasion of the native pastures in the Cobar Peneplain and, in particular, the fact that introduced legumes have been documented in the pastures for almost 100 years, it is difficult to discover the logic behind the restriction on [introducing] sowing the same or similar species. It is not as if the native pastures are pristine. They are not.

- obviously no sane person would be consciously introducing exotic plant species with deleterious capabilities but there are non-native species that have the capacity to increase ground cover and provide forage for native fauna and domestic livestock and to improve ecosystem productivity and diversity. These should be permitted to be sown. To prevent their use is illogical.

8 Description of Best Management Practices [BMPs] for Improving Vegetation Condition

- since the land was initially settled it has primarily been used for wool production with limited cropping and haymaking [used initially for feeding horses and draught animals]. The advent of large machinery in the 1960s permitted clearing and cropping on a larger scale. Waterspreading and water-ponding schemes were also established under strict management

guidelines on suitable lands to enhance productivity.

- cattle and goats, as well as sheep breeds suitable for meat production, have been utilized, specially in the past decade, as the wool industry has faltered.

- the harsh and variable climate of the Peneplain limits many other land use options.

8.1 Vegetation Management Options at the Landscape Scale

- clearing followed by regulated intermittent cropping and associated [principally] native pasture development has been the most extensive and successful approach adopted by many landholders to address INS encroachment on cleared or naturally open land [where it exists] to achieve greater viability and sustainability.

- with the continued encroachment of INS, increased pressure is continually being placed on the uninvaded areas [cleared or natural] as the natural pastures in uncleared shrub and timbered areas diminish and fail to produce adequate feed to support a livestock enterprise.

- this detrimental impact on the pastoral industry also affects the diversity of native flora and fauna species present.

- restorative clearing that allows both sustainable pastoral production as well as environmental enhancement is now severely restricted under the Native Vegetation Act and its Regulation and through the use of the PVP Developer.

8.2 What Vegetation Management Options Exist at the Landscape Level ?

There are a number of recognised INS management options that can be used by Cobar Peneplain landholders to restore and maintain the balance in the three vegetation layers [tree, shrub, ground cover] and to arrest the present continuing decline in biodiversity. These include:

- **Cropping and Pasture Rotation** - this management option has been the most successful in the rehabilitation of landscapes that are suffering from the encroachment of medium to dense INS on soil types that have appropriate capabilities for cultivation. The loss of perennial grasses [in some areas total loss], herbages and annual species has been considerable and soil organic carbon levels have been shown to be low under the monoculture of woody species. This management practice has allowed native pasture recovery during the pasture phase of the rotation as well as improving soil health and economic returns to landholders. In addition, the cereal crop rotation with pastures provides a capacity to fatten livestock to prime condition as well as to maximise breeding percentages

Native Pasture Re-establishment - this management option has been successful in establishing native pastures that have been out-competed by INS. The ploughing option is critical on soil types that are capable of cultivation to remove the INS competition. This management option will require 20% of the rehabilitation area to be retained as INS to form a mosaic across the landscape.

- **Native Pasture Re-establishment on Soil Types Without Cultivation Capabilities** - Carefully managed grazing with strategic seasonal rest periods will encourage the return of a more diverse mix of native species during this phase. Total grazing pressure management used this option will improve the development of native pastures.

- **Waterspreading -** the availability of additional runoff water from adjacent INS invaded ridge sites that is harvested by a series of banks provides a much more secure water supply for stimulation of growth and yield of the initial and subsequent cereal crops. This additional water ensures that when the site becomes an area of native or mixed pasture sufficient moisture is available to maintain a stable and dense pasture cover with productive and biodiversity values

9 Actions Necessary to Stimulate Improvement in Vegetation Condition

- there are a number of reasons why clearing of regrowth and INS should not be classified as "broadscale clearing". The solutions proposed in this Plan allow the return of treated areas to their former open, productive and healthy landscape state – not clearing of trees and scrub that were a natural part of the landscape.

- given the former Premier's statement that he was going to put an end to broadscale clearing of "*remnant vegetation*", this rehabilitation of the landscape would not qualify as clearing of remnant vegetation as more than 90% of the Cobar Peneplain region supports a very different community to that existing in the pristine state when grasslands and grassy woodlands were common. This invaded landscape is not remnant vegetation in the true sense.

- any solution to the INS problem must be an economically viable solution if rehabilitation is to take place. There is sufficient evidence available to show the value of farming and cultivation to achieve economically viable rehabilitation on the eastern fringe of the Cobar Peneplain.

- the only practical way to move forward is by clearing the shrub understorey on selected lands to regenerate to native / naturalized herbage. It is very likely that re-clearing will be required at some future time to restart the process.

- leaving a proportion of adjacent country uncleared to provide a diversity of

habitats establishes an ideal situation for seed eating fauna to survive and at the same time utilise more dense habitats for roosting, nesting, protection etc.

- the ground cover species on the cleared land will also act as a seed bank for colonization of the adjacent INS invaded areas.

- poisoning or ringbarking of INS are not practical or economic options in the Cobar Peneplain in the present economic climate. Government Departments have conducted trials on chemical control and have established that such an approach is not economic in heavily shrub invaded areas.

- the requirement to retain a certain number of trees or shrubs per hectare on cleared land [as detailed in the *Environmental Outcomes Methodology*] is impractical unless they are within clumps of large timber. Such closely spaced trees and shrubs preclude the use of large conservation farming equipment.

- another compelling reason why cultivation must be part of the solution is that there are some varieties of invasive native scrub such as turpentine that can only be successfully and economically controlled by cultivation.

- when initial clearing cultivation permits were issued by the Western Lands Commission, for pasture improvement, they contained an approval for 3 crops in 9 years with further cultivation approved on a *needs* basis.

- if rehabilitation is going to take place on a large scale over the Cobar Peneplain it will only happen if properties are operating from a strong economic base. To achieve this, there is a strong economic and social argument that all properties in the area should be allowed to clear, as a minimum, the previously identified MAXIMUM ALLOWABLE AREA of clearing and cropping as a permanent land use change.

- this would facilitate development of the financial base necessary to maintain a sustainable enterprise and for purchase of machinery needed to pursue an ongoing vegetation restoration program through periodic removal of INS Such a program will ensure INS replacement by a more diverse ground cover layer that provides benefits for the soils, the environment and landholder viability.

- on the average property in the Cobar area with lands suitable for cultivation, this land use change would involve an average between 10 – 20% of the whole property area.

- above this figure, there is an opportunity for landholders, under appropriate circumstances, to rehabilitate additional INS-infested land to allow its return to a grassy woodland state

10 The 'Do Nothing' or 'Retain the Status Quo' Scenario

10.1 With Regard to Invasive Native Shrub Density

- K.C.Hodgkinson [pers. comm.] clearly places the 'do nothing' scenario in perspective. It is clear from the observations of Hodgkinson and his co-workers that the situation with INS invasion in the Cobar Peneplain is not going to improve if nothing is done about it. It is only going to get worse and particularly so if all large herbivores are removed.

- the problem of increasing INS density is also manifest on properties where land use has changed from pastoral pursuits to recreational land use. Hand in hand with the INS problem is the problem of increases in numbers of feral animals and weeds that were previously held in check by landholders managing their properties as pastoral enterprises.

10.2 With Regard to Biodiversity

- the work of Ayers et al [2001] recognizes that in the biodiversity field there are some species or guilds of species of fauna that are disadvantaged by a more or less monoculture of invasive native shrub species. These species include the seed eating species and those that require open areas for foraging. In addition, small mammals, reptiles and some birds use dense grass and herbage growth as protective cover.

- the 'do nothing' scenario does nothing to improve environmental outcomes while the proposals outlined in this Plan do.

10.3 With Respect to Equity Issues and Government Responsibility

- despite the provisions of the Native Vegetation Act, there is an equity issue that needs addressing in relation to Western Lands Leases on the Cobar Peneplain and clearing.

- lessees have had an expectation that they have a perpetual lease for pastoral [or other] purposes on land that belongs to the Crown. In return they pay an annual rental.

- it is quite anomalous to see the owner of a property [the Government] sitting back and turning a blind eye to the deterioration of its asset base. In the commercial world, any landlord who did this would be courting bankruptcy.

- in fact, many lease agreements for commercial property and agricultural land have clauses that require the lessee to undertake maintenance and improvement works – often of a capital nature - as part of the lease terms. This approach was used by early New South Wales Governments to achieve land development.

- under the Native Vegetation Act that basically prevents INS clearance on large areas of land, the Government is basically forcing the landholders of the Cobar Peneplain to allow their properties to run down in productivity and

environmental condition.

- failure to address this issue will have serious socio-economic consequences for Government.

- there is now an opportunity to rectify the situation to allow reversal of the invasion of the Cobar Peneplain by INS to be regarded as a RAMA and to allow the landholders of the Cobar Peneplain to begin to remove INS by using the restorative practices detailed in this Plan.

11 Economic Implications of INS Invasion

- the Native Vegetation Act 2003 requires economic, social and environmental issues to be considered in relation to native vegetation management..

- properties in the Cobar Peneplain region need to be financially viable to properly achieve appropriate native vegetation management. In 1989, the Australian Bankers Association noted that "*For a property to be viable in the long term, it must have shown the following characteristics;*

  - *Meet the operating, including financing costs, of the property unit*
  - *Meet the living costs of the property family*
  - *Maintain a level of investment in the property necessary to improve the property's long term productivity assets*
  - *Provide funds for investment which increase long term productivity*
  - *Demonstrate technical, management and financial competence of the property manager*

  A property needs to clearly demonstrate economic and ecological sustainability. If the business cannot achieve the above it is NON-VIABLE, and is doomed for eventual failure."

- previous attempts to control INS in the Cobar Peneplain have involved clearing for mixed farming, blade ploughing, spraying with herbicides and grazing manipulation

- various methods of clearing have been employed although the process usually involves chaining, burning, stick-raking, ploughing and an additional stick raking / stick picking.

- the only economically viable method of INS control, is to be able to grow 2-3 crops in a 10-year period in conjunction with the fire, spot spraying of scattered regrowth with herbicides and grazing manipulation

11.1 Economic Impacts of INS

Impacts on Stock Numbers

- stock numbers in the Western Division have varied greatly over the last

century due to droughts and market influences. The Cobar and Bourke RLPB districts are the only areas to record a decline from 1940 to 1992 [Wynne & Curran, 1994] [see Table below]

Cobar and Bourke RLPB District Stock Numbers

RLPB District	**1890's**	**1902**	**1940**	**1992**
Cobar	1.8m	0.3m	0.75m	0.46m
Bourke	3.5m	0.5m	1.0m	0.6m

Impacts on Landholder Income

In 1978, CSIRO noted that 48% of landholders had off-farm income. Many families in the Cobar Shire survive with off-farm income and/or diversification by working or providing contract services to the mining industry, harvesting feral goats, harvesting kangaroos for the pet food or human consumption, tourism or farming for grain or stock fattening.

- ABARE [2006] notes that Western Division stocking rates have fallen 15% since 1995. In conjunction with a depreciating resource base, the area has also been hit by poor wool prices, drought etc.

- several rural counsellors who have served the area report very low cash turnovers in the Cobar Peneplain compared to nearby centres e.g. Nyngan, Condobolin, Lake Cargelligo.

- an analysis of 19 landholders by the local Rural Counsellor during the period 1996-2005 has shown the very strong differences between mixed farming and straight livestock enterprises. They are:

- **Mixed farming** [9 landholders in sample]
  - stronger equity
  - younger
  - debt is historical [e.g. relates to property purchase or a similar event and not from drought conditions]
  - good income to debt ratio
  - better able to survive drought conditions
  - able to hold onto stock longer during a drought
  - the ability to undertake contracting due to ownership of machinery and / or labour available to generate extra cash flow
  - five landholders of the sample group have used Farm Management Deposits [FMD], mostly $80 000 to $100 000, during the study period. [Whilst drought has seen these deposits drawn down this is an extremely strong indicator of the power to undertake mixed farming in this area. A separate survey of over 70 families in the Western Division showed only two landholders using FMD's. [Bob Wynne, pers.comm.].

- **Livestock Only** [10 landholders in sample]
  - debt increasing

- highly variable debt levels with some aged landholders having no or little debt but low turnovers. The latter are often referred to as low input-low output operators.
- they access significantly more grants, rebates etc
- very low depreciation levels reflecting lack of capital to purchase assets and / or replacement machinery

Impacts on the Rural Workforce

- There is a very much reduced shearing workforce in Cobar now compared to 10 years when contract shearing teams from outside were also required.

Impacts on Succession in Farming

- Cobar grazing families, with merino sheep, do not have the next generation on the farm,
- families involved in mixed farming and / or alternative industries such as alternative sheep breeds, brush and timber production, have a much higher incidence of sons / daughters involved on the farm.

Summary of the economic and social impacts of INS

Unfortunately INS has for, many years created a scenario of:

- rural poverty
- rapid turnover of properties due to non-viability. Some of the properties are only capable of being recreational blocks. This gives very little economic support to local business and service providers and often no active land management occurs so the INS problem is further exacerbated
- further deterioration of natural resources. Due to little biomass the opportunity to burn very rarely occurs, with INS increasing.
- despair amongst younger rural males resulting in increased rates of suicide.

11.2 Economic Analysis of INS Clearing

- control of woody weeds by farming is the only practical, ecological and economical option in heavily invaded INS areas. Such development should only occur on soil types and landforms that are stable

- clearing needs to be in blocks with limited shade trees remaining within the developed area since box trees have a huge impact on crop yields due to competition for moisture . In addition, large farm machinery cannot be successfully used in areas where trees impede farming operations such as ploughing, sowing, spraying and harvesting.

- developed areas would be surrounded by uncleared lands that form corridors for use by wildlife and to enhance biodiversity

- development costs will vary between properties for a variety of reasons e.g. density of INS, rainfall, weed levels and soil fertility. However a cost of $121 per hectare has been identified as a reasonable indication of the costs involved in clearing INS up to the cropping stage, based on records supplied by Cobar landholders. .

- variable costs of wheat production in the Cobar Peneplain area are of the order of $136 / ha

- gross margins for wheat production in the Cobar Peneplain region obviously vary with grain yield and the quality of the grain. The Plan document details a range of gross margin scenarios based on a typical grain product for the area. The figures show that for a yield of 0.75 tonnes/ha the gross margin is -$1 / ha while; for a yield of 1 tonne / ha the gross margin is $39 / ha; and for a yield of 1.75 tonnes / ha the gross margin is $158 / ha

- a 'break even' analysis answers the question *'How long does it take to recover development costs?*' Using a conservative yield of 1 tonne /ha and two crops in a 10 year period, the data show that after 6 years the developed area has recovered all development costs. After 10 years the development has a cumulative balance of $97/ha when development costs have been deducted. In comparison, one hectare of INS invaded land in the region has an annual gross margin of $0.90 per hectare, or a cumulative return of $9/ha over 10 years.

- it should be noted if 3 crops are grown in the first 10 years, then with two crops grown in succession INS regrowth is better controlled and a 'breakeven' would result after 5 years, if the third crop was grown in year 5

- the Plan document provides a detailed comparison between the productive capacity and management aspects and limitations of two 16,194 hectare properties – one where INS is not controlled and the only option for production is running sheep [wethers only, no breeding possible] on an extensive basis [1 sheep/10ha] and one where development of INS invaded areas has been undertaken [up to the limits allowable under the Western Lands Commission's Maximum Allowable Area [MAA] policy] that allows grain production and associated grazing of stubbles and re-established native pastures that allows breeding of replacement sheep

- calculated gross incomes for the two property types show that the annual income from the INS invaded property is $27 200 while that from he developed propery is $79 775. This amounts to a 290% difference in gross turnover. In years with good seasonal conditions this would be greater with increases as yields rise.

- control of INS [rehabilitation of a proportion of a property to its MAA] opens the door to a wide range of productive alternatives including use of alternative livestock breeds, prime lamb production, fodder conservation, fodder sales grain sales, agistment opportunities, additional wool production and the opportunity to store fodder and grain for use in times of feed shortage.

12 The Way Forward

- these proposals acknowledge that management of native vegetation in the Western Division as a whole, including the section of the Cobar Peneplain to which this Plan applies, has been strictly controlled for more than 100 years. This control has led to the development of vegetation management options that '*work*' in that they enhance pastoral productivity, landholder viability and environmental values. At the same time these vegetation management options lead to landscape stability and biodiversity.

- there is a need to accept that the Native Vegetation Act requires the Government of the day to provide for the management of native vegetation in the social and economic as well as environmental interests of the State [and its people] – not only environmental issues.

- to do this in relation to the INS problems of the Cobar Peneplain there is a need to accept the historical evidence and research results presented in the Plan and its **Appendix 1**. These clearly show how the vegetation structure, and composition, has changed and continues to change in a negative way.

- the 'do nothing' scenario outlined in this Plan should provide a sufficiently dismal image of the consequences of not altering the criteria that govern the classification of clearing actions that are deemed to maintain or improve environmental outcomes.

- doing nothing will not provide improved environmental outcomes. It can only lead to further degradation of the environment. In doing so it will devalue the Government's land assets as well as resulting in reduced productivity and greater requirements for social and economic support from the public purse.

- it is time to recognise that the current '*legislation*' [Act, Regulation, Environmental Outcomes Assessment Methodology] creates a situation where the Government, as the land owner, is requiring its lessees to not clear INS regrowth on the false premise that the invaded state is an expression of good landscape health.

- there is a need to accept that a viable pastoral industry is the key to landholders having the resources to improve vegetation condition. To this end, there is obviously a need for landholders in the Cobar Peneplain region to be allowed to develop a sustainable farming operation based on crop and pasture rotations on a section of their properties if they are to have the resources to carry out the restorative practices described in this Plan.

- such practices are aimed at reducing INS densities and creating a range of more diverse habitats. These will provide environmental benefits for a wide range of native flora and fauna species – including the threatened species recorded from the Peneplain.

- there is also a need to revise the requirements of Chapter 7 of the Environmental Outcomes Assessment Methodology and to recognise the impracticability of retaining the numbers of stems of individual species on land that is to be treated [its Table 7.1]. The quicker the rationale for this approach is changed, the quicker will be the improvement of the environment in the Cobar Peneplain.

- the Government currently has another opportunity to change the present unworkable situation / impasse by regarding the removal of INS as a Routine Agricultural Management Activity [RAMA]. This can easily be provided for this by amending the current Native Vegetation Regulation 2005.

- finally, the restorative measures proposed in this Plan will improve the 'lot' of the Peneplain's threatened species by providing a more diverse range and area of habitats than presently exists.