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28th September, 2006

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Dr. John Williams,
Chairman, Natural Resources Commission
G.P.O. Box 4206
SYDNEY. NSW 2001

Dear Dr. Williams

Re: Invasive Native Scrub and all that

I am responding to your invitation in a recent letter to *The Land* for comments and submissions about the INS Review –to which I will respond in a later letter, having been less than impressed with some aspects of that Review. In the same issue of *The Land* was an announcement of a proposed study on the causes and effects of woody weeds to the tune of \$3 million. Having had “feet on the ground” involvement with invasive native scrub for 59 years, I have written to the Minister with an expression of interest to do the job for somewhat less than #100,000.

37 of those 59 years were in various public service capacities, and 22 years as a consultant, including to landholders in the regions afflicted by woody weeds. My initial experience of the problem was as research officer and botanist with the Soil Conservation Service, based on Condobolin in the Central West, in charge of research and extension over the western half of NSW, from 1947 to 1958.

My time in that role in the 1950s, coincided with the arrival of the second generation of scrub and timber regrowth, this serving to occupy any space left by the first invasion dating from the 1870s, and begin the re-infestation of much of the 300,000 ha or so in the Western Division which had been cleared by the widespread ringbarking in the late 1800s and early 1900s.

I was later involved in directing research in that region from Head Office in Sydney from 1962 to 1968. Towards the end of that period I was a member of Inter-departmental Committee established by the then Minister for Lands in February, 1968 – “to investigate and report on the problem of scrub and timber regrowth as it affects parts of the Western Division of NSW and the Cobar-Byrock district in particular.” On that Committee I was initially representing the Soil Conservation Service and later the Western Lands Commission, in the latter capacity serving also as the Committee’s research officer and subsequently writer of the Committee’s report.

In the period from 1978 to 1984, as Western Lands Commissioner, I served as chairman of a later Inter-departmental Committee, with the same representation as the former committee, administering the Cobar-Byrock Pilot Rehabilitation Scheme, set up by the then Labor Government, under the Western Lands Act, 1901. The principal concern of the original Inter-departmental Committee was the adverse effects on the viability of the holdings which had been established by the Western Lands Commission on behalf of the State Government under the post-WWII War Service Land Settlement Scheme.

I have enclosed an extract from the Committee's Report labelled as Attachment A, this also including some discussion of the causes and effects (in reverse order) as they were perceived at that time. Among the effects discussed were the effects on the land, the effects on grazing capacity, effects on sheep husbandry, property management and operational costs, and, most importantly, the effects on the financial resources of the landholder. Being still involved with woody weeds you will appreciate that I have had a long-standing relationship with invasive native scrub in the Western Division.

I have also written a book "*Out of the West*" launched by Premier Carr at Cobar in August 2002. This details the history of land use in the Western Division, dealing in turn with the Aborigines, land settlement, the pastoral industry, dryland farming, water conservation and use, land condition, the border fences and national parks. One of the chapters on dryland farming discussed the history of the invasion of scrub and timber, dealing with the initial invasion in the 1870s and 1880s and the several subsequent generations of invasive native scrub from the 1950s to as recently as 1998-2000. I am enclosing a copy for your personal library.

I have another book well advanced for publication as a limited edition on "*The Status of the Vegetation in the Western Division.*" This deals with the several groups of tree species as well as shrubs, grasses and forbs, discussing, among a range of other things, their current frequency and distribution as determined by landscape types in comparison with their pre-settlement frequency and distribution. The book is intended for departmental staff in the region and other people and organizations which may be interested.

In support of that above-mentioned expression of interest, I had prepared a brief outline of the causes and effects so that the Minister could appreciate that there was already a great deal known about those matters. This is enclosed as Attachment B providing information on the well-known causes and the compounding effects which are now blighting an area in western NSW some 1.8 times the size of Tasmania. Most of the outline of compounding effects in Attachment B was developed from the contents of that earlier Inter-departmental Committee report and the research involved in developing that report.

Although the earlier and most recent INS Review papers still persist with the notion that there is debate about the 1870s generation of invasive native scrub, there can be no denying the obvious. People in the real world have been well aware of the several factors involved in the causes of the original invasion, arriving in the West Bogan and Cobar

region in the early 1880s, and over the western slopes and nearer western plains around the same time. Those pre-settlement grassy woodlands were of scattered poplar box and very scattered white cypress pine. There were occasional areas of dense scrub as described by explorers in their journals in the 1830s and earlier. The pine was the principal species (in terms of frequency) involved in that initial invasion, the box being much less frequent, but often very dense in run-on situations.

That initial invasion was reported widely in local newspapers in the 1880s, and in much evidence to the 1901 Royal Commission on the Western Division in 1901. The Royal Commission made special mention of the effects of the scrub as a cause of the rural depression in the Cobar region at that time.

Since then there have been several further invasions of native tree and scrub species, the 1950s (which created the problems discussed in Attachment A), the mid-1970s (which added greatly to those problems), and the mid 1980s and late 1990s. These several further generations have greatly increased the density of invasive native scrub over the loamy red earths (kandosols) of the Cobar-Bourke region.

However, the mid-1970s generation also extended the problem over the mulga sandplains further west and north to the South Australian and Queensland borders, the belah-rosewood country on calcareous brown earths (calcarosols) through the central and south-western parts of the Western Division.

In Attachment C enclosed, I have used Beadles vegetation map of western NSW to develop an estimate of *The Extent of Invasive Native Scrub in the Western Division*. This now totals some 11.45 million hectares of a total of only 18 million hectares of country which will be susceptible to such invasion.

I was also recently involved with two other botanists and land management scientists, also with long experience in the Western Division, in developing the 115-page report (plus maps and illustrations) on *A Vegetation Management Plan for Areas Invaded by Native Trees and Shrubs for the Cobar peneplain* for the Cobar Vegetation Management Committee. The other two members of that team were the lead author and one of the co-authors, respectively, of the monumental "*Plants of Western NSW*" which now serves as a well-thumbed reference on that subject for most landholders in the Western Division

The three authors of *The Vegetation Management Plan ...* are all graduates in agricultural science from Sydney University, and have all been soil conservationists involved in having the CSIRO land system surveys adopted in western NSW. Two of the authors of that plan have been long-standing fellows of the Australian Institute of Agricultural Science and Technology. All three have also been involved in developing the Western Lands Lease Management Plans providing detailed information on land form, soils, vegetation, erosion and management problems and safe carrying capacity for every property in the Western Division.

The above-mentioned Vegetation Management Plan, which was rushed through in a few weeks to get it before a deadline set by the Natural Resources Commission, has now been with that body for five months. That is more than long enough to have absorbed its contents and its rather simple solution to what has been a serious problem to landholders in the Cobar region for the last 30 years or more.

In those several months I have developed a further appraisal of the need to start doing something about the seriously degrading environment under those huge areas of invasive native scrub in the Western Division. A copy of *The Way Ahead for Management of Invasive Native Scrub in Western NSW for Favourable Environmental and Socio-economic Outcomes* is enclosed as Attachment D.

That appraisal provides an outline of the nature of the environment in invasive native scrub, its origins and extent in that region, and draws attention to the stark contrast in the soil surface cover in the dry sclerophyll forests in higher rainfall regions and that under the scrubby forest in low and medium rainfall regions. It also points out that the Western Division has been under strict vegetation management since 1901, and particularly over the last 50 years or so since the bulldozer and anchor chain first appeared on the scene.

It also discusses the “rules” which applied to cropping and associated native pasture regimes which have provided an environment with some resemblance to the original grassy woodlands, and how those rules, and associated limitations on cropping, have kept clearing and cropping to less than 10 % of the districts in which it has been permitted (actually less than 2.0 % of the total area of the Western Division). Pages 298-328 of my book (under separate cover) what has been happening over the last 50 years or so in respect of vegetation management.

Most importantly *The Way Ahead ...* outlines the need to encourage landholders to undertake cropping/ pasture regimes, not only to provide for a reversal of their economic misfortunes, but to provide a mosaic of such areas which will enhance the biodiversity of those particular areas, and also the seriously degrading biodiversity of the all-surrounding scrub-infested lands.

It also shows how this can be accomplished with a minor amendment to the Native Vegetation Act, 2003, and the abandonment of the PVP Developer for the assessment of clearing applications in the Western Division. It also proposes a return to the previous approach using local knowledge and mere brainpower to assess the suitability of a landscape for such a regime, or the alternative pasture/cropping regime based on minimum till which is gaining acceptance on the western edge of the wheat belt.

Most importantly, it also discusses the masses of relevant information available from previous State government activities in the Western Division, and outlines how that information (available for every property in that region) was used in working with the landholders in developing plans for clearing and an associated cropping/pasture regime.

The appraisal also makes a series of recommendations as to how this approach can be accomplished with the Western Lands Commission working in association with the relevant Catchment Management Authorities for field inspections and subsequent approvals (or refusals when appropriate). Most importantly also, it does away with the need for compliance officers, but instead has the inspecting officers working in association with the landholder in developing his plans for vegetation management – as used to happen before the PVP Developer and the largely inapplicable, impractical and inappropriate Environmental Outcomes Assessment Methodology (EOAM) got in the way.

It is appropriate to point out that

- under the former “rules” (Schedules of Conditions with similar but simpler objectives to the EOAM), and
- the limitations on the total area which could be cropped on any one property,
- and assuming that every property in the areas regarded as climatically suited to such regimes based on occasional cropping took up their full entitlement, it would still leave 80-85 % of the otherwise totally affected landscape under that environmentally degrading scrub.

The above percentages line up very impressively with CT3b (Catchment Target 3b) in the Western CMA Blueprint – which states that no more than 35 % in total is cleared for change in land use – what are we waiting for ?

See also MT3b (Management target 3b) – decrease area of scrub-dominated landscapes by 200,000 ha within 10 years – but not until the Native Vegetation Act is fixed up.

The environmental lobby, and the INS Working Group, have a predilection for hollow-bearing box trees for their obvious value as shelter and nesting sites for a range of birds and small animals. They even insist that they be scattered through any cleared areas that may be approved. It is appropriate to point out that, in that environmentally degrading scrub, there would still be thousands of the hollow-bearing box trees surviving from the pre-settlement vegetation within a radius of 5-10 kms of any cropping/pasture development to provide nesting and shelter hollows for the species surviving in the scrub environment. Such trees occur at a density of two or three per hectare.

Those same hollow-bearing box trees would also be available to those fortunate species thriving in the alternative grass-dominant environment provided by the few landholders who have been given approval under the previous land administration authority to clear a small proportion of their previously 100 % scrub-affected holdings in an endeavour to improve their prospects of survival. Paradoxically, it is unlikely that the tens of thousands of younger box trees in the surrounding scrub environment will ever become large enough to become hollow-bearing trees.

The appraisal in *The Way Ahead* also proposes a similar approach for the neighbouring West Bogan area which also has moderate or severe scrub infestation over just under half a million hectares. This has suffered in the same way as the Cobar penneplain region from the several generations of invasive native scrub dating to the 1870s, and which is also degrading large areas of that district environmentally, with adverse socio-economic outcomes for the unfortunate landholders afflicted with large areas of invasive native scrub.

There is another point that you need to be aware of. The environmental movement, and the bureaucracy which developed the Environmental Outcomes Assessment Methodology, seem to be obsessed with the notion that environmental outcomes can be maintained or improved by thinning (ringbarking or poisoning individual trees) to a certain stem density, aiming to also retain all trees above a certain circumference. In the low and medium rainfall regions of the State, that is environmental and (for the landholder) economic madness. There are two main reasons why.

1. In those areas of western NSW infested with the several generations of invasive native scrub since the 1870s, there can be many hundreds, and sometimes thousands, of shrub plants per ha in addition to the scattering of scrubby trees that might need to be retained. in accordance with the Methodology. At the stem densities required by the INS Tool, there would not be enough ground cover vegetation for the cost of the thinning to ever be recovered in improved grazing, even in the absence of point No. 2 below. A case of economic madness for the landholder.
2. If the shrubs and trees have been there long enough to throw seed, any thinning will merely be providing space to be occupied by the trees and shrubs appearing after the next run to two years or more of above average rainfall. A case of continuing environmental madness, as well as economic madness for the landholder.

I am sorry that this letter has run to several pages but there are some serious problems which you, and the members of the Natural Resources Commission, need to be aware of. In the government's keenness to be seen to be environmentally responsible in order to attract green votes, it is creating a seriously adverse environmental problem over huge areas (11.5 m ha, heading towards 18 million with the next big wet in the far west). Parallel with that, it is creating a serious land settlement and sustainable land use problem over the same huge areas, where grazing has become and will continue to become uneconomic, no matter how large the property. A serious socio-economic problem.

One of the objectives of the Native Vegetation Act is to maintain or improve environmental and socio-economic outcomes. But the Environmental Outcomes Assessment Methodology and the PVP Developer are not interested in socio-economic outcomes. They have no mechanism for taking them into account. In this situation they are running counter to the stated objectives of the Native Vegetation Act.

That is the reason why landholders in certain areas are so angry about it. They see their livelihood slipping away with no way (in lands with very limited opportunities for diversification) of rescuing themselves with sensible and sustainable forms of land use – which would also improve environmental outcomes.

Some indication of the value of a cropping/pasture regime to the socio-economics of farming/grazing in the Cobar region can be seen from a calculation by a local grazier that he gets 80 % of his farm income from 3 % of his property, the 3 % being the area

developed for a cropping/pasture regime. The remaining 97% is scrub of very low grazing value because of lack of ground cover vegetation, and becoming worse with time.

There is no doubt that if he took the stock out of that country, the ground cover vegetation would improve marginally and slowly. Whether that improvement would ever be enough to reclaim the already widespread erosion would depend on the relative areas of bare eroding ground and that with a reasonable level of ground cover vegetation.

One of the ways that the stock can be taken out of the affected country is for the state to buy out the landholder – to recompense him for what he has paid for the improvements on the land. Unfortunately there is now not much value in the basic asset for which he pays rental to the State government – the productivity of the landscape. On a broad scale this would be an expensive operation and the State would then have the responsibility of managing the land, and the depression that this would cause in the local urban communities. The Cobar community, however, would be saved from the impending disaster by its mining industry.

There is a much cheaper way that can keep the present owners in place and still get the stock out of the degrading scrub environment. The need is to find a way of encouraging the landholders to clear sufficient of their invasive native scrub to be able to run the number of stock that will provide a reasonable income. There are lots of landholders willing to do that, but they have no hope of getting past the Native Vegetation Act and its associated PVP Developer and EOA Methodology.

I have several matters which I wish to take up with the INS Review team in respect of their August 2006 Review. I will get a copy of that response to you also in due course in the expectation that the Natural Resources Commission will be working on a favourable response to the Vegetation Management Plan for the Cobar peneplain region for the additional cogent reasons given in Attachment D.

Yours sincerely



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