property rights australia

Property Rights Australia

Submission to:

Senate Finance and Public Administration Committee

Native Vegetation Laws, Greenhouse Gas Abatement and Climate Change Measures

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Executive summary

The economic impact of vegetation management regulation on the pastoral industries is driven by the relationship of pasture yield to tree density. Understanding this relationship is central to understanding the nature and magnitude of the economic costs of vegetation management regulations. In our submission we provide a brief outline of the exponential nature of the effect of tree density on pastoral productivity. We submit that regulators display little understanding of this relationship or the unique nature of Queensland's grazed woody ecosystems which comprise approximately 50% of the state's land mass. This contributes to the costs being disproportionately borne by rural landholders.

A review of recent literature discussing economic costs and diminution in land values resulting from changes to vegetation management regulation is presented. In 2004 the productivity commission identified that any reduction in net farm returns will translate into a commensurate decline in property values.[1] The commission undertook a case study in Murweh Shire which indicated that annual average returns to cleared land would exceed those for uncleared land by $8.20 *per* ha to $15.90 *per* ha for the period 2003 to 2040.[1] This corresponded to another study undertaken by the commission that found the net present value of forgone future returns from clearing restrictions in Murweh Shire for 1999 – 2040 would total $42.3m to $124.4m.[1]

Two case studies based on verified reductions in development potential of actual grazing properties are presented. These indicate diminutions in land value of $759,200 (38% reduction in market value) and $1,116,500 (24% reduction in market value) respectively.[1] These findings are reconciled with a simple economic analysis and are consistent with earlier findings of the productivity commission and other researchers. The findings from one of these case studies has then been more broadly applied across a total of 83 properties in the same region for which some of the key attributes are known. This indicates a potential diminution in value over these properties of $22.5m. It is also submitted that vegetation management regulations, in addition to diminution in land

values, have broader indirect economic and community impacts. For example investment in land development projects is likely to be significantly reduced, and the scale of the livestock industries (and associated industries such as transport, fuel, rural merchandise, motor dealers, meat processing and export) is limited when compared to what would have otherwise been attainable in the affected regions. Opportunities to combat declining terms of trade through productivity enhancements are also further limited, with the viability of undeveloped properties likely to be threatened. The intergenerational transfer of rural properties is also impeded.

Property Rights Australia

Property Rights Australia (PRA) is a non-profit organisation of primary producers and small business people from rural Queensland concerned about the continuing misappropriation of property rights by regulation. This organisation was formed to seek recognition and protection of the rights of private property owners in the development, introduction and administration of policies and legislation relating to management of land, water and other natural resources. Established in South West Queensland in January 2003, PRA's membership now extends across the state and all major rural industries. PRA is not affiliated with any political party.

Our members are committed to balanced development of their businesses in both economic and environmental terms. While we support the need for sensible regulation, we are concerned that the economic costs of ongoing natural resource management reforms have been disproportionately borne by rural landholders.

Our Submission

Our submission focuses on the **impact of native vegetation laws on landholders**; in particular, **the diminution of land asset value and productivity** as a result of these laws and other related matters.

We have used the Committee's Terms of Reference to assist us in developing this submission. We have not attempted to address all the issues under consideration. We have focussed our commentary on the areas we feel well qualified to address.

PRA acknowledges its limitations and does not offer content to the submission on the items outlined in the Terms of Reference relating to greenhouse gas and carbon pollution reduction schemes and associated policy discussions. However, commentary and opinion has been included in an effort to add value to the discussion.

Our submission is presented in the following sections:

1. A summary of the extent and nature of Queensland's woodlands and the tree-grass relationship. This tree-grass relationship explains why the economic costs of forgone clearing are significant.

2. A review of recently published literature which discusses the economic costs and diminution in land values associated with vegetation management regulations.

3. Two case studies of actual properties, one in south west Queensland and one in central Queensland, using both valuation methodology and economic analyses to demonstrate the diminution in land values attributable to recent regulatory changes.

4. Appendix 1 provides background and commentary on the pattern of recently introduced changes to vegetation management regulation in Queensland.

Please note that we use the term 'landholder' to encompass the role of land steward in its broadest terms. 'Landholder' includes stewards of the land with freehold tenure as well as those managing the land *via* the multitude of leasehold and other tenure arrangements.

Similarly, we use the beef industry as the main discussion point for industry activity, not to exclude other commodities, but purely due to the fact it is by far the main industry in extensive agriculture in Queensland.

1.0 The Extent and Nature of Queensland's Woodlands

The impact of vegetation management legislation on land values is ultimately driven by the extent to which the laws impact on the productive capacity, or the potential productive capacity, of the land. In this section we outline some key concepts important to understanding these impacts on productive capacity.

1.1 The extent of wooded vegetation in Queensland

The land mass of Queensland is approximately 173 million ha. A significant amount of this area has always been naturally unwooded open plains, however approximately 117 million ha is estimated to have originally contained woodlands.

Most recent estimates of the current extent of wooded vegetation within Queensland indicate there is approximately 88 million ha of wooded vegetation (Statewide Land & Tree Cover Study 2008).[2] This area of wooded vegetation is equal to approximately 75% of the original extent of woodlands, and represents approximately 51% of the state's total land mass.

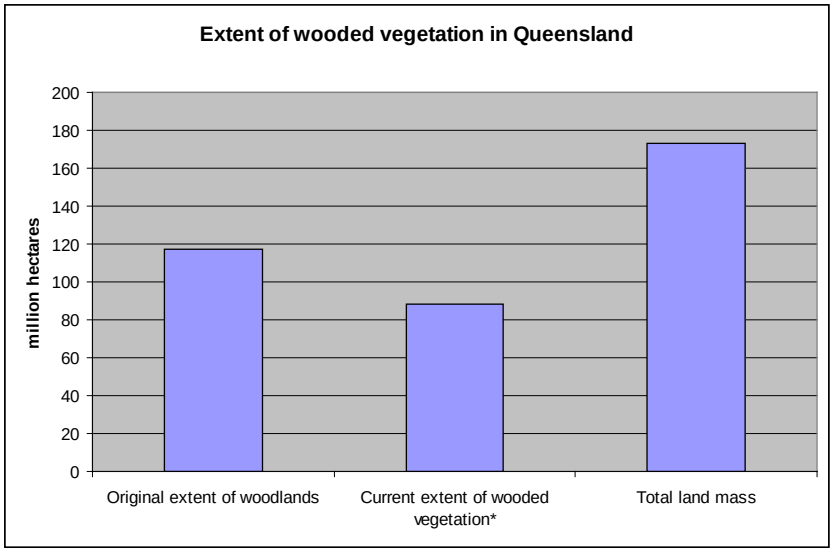

Figure 1: Extent of wooded vegetation in Queensland

Given the extent of the area of land in question, which is predominately used for grazing, any impact on its productive capacity can potentially translate into significant cumulative statewide impacts.

1.2 The tree-grass balance

Wooded vegetation contains both woody vegetation, and grasses. In the natural environment there is a competitive interaction between trees and grasses, with the proliferation of woody species held in check by grass fuelled fires which suppress woody seedlings. Trees compete with grass for sunlight and water, thereby suppressing the proliferation of grasses. The interaction of these competitive effects holds the woodland in balance or 'equilibrium'.

1.3 Woodland thickening

The wooded vegetation in Queensland, which represents half of the land surface area, has been predominately utilised by grazing for 100-200 years. Grazing by domestic animals artificially removes or 'harvests' the grass, which in turn interrupts the natural fire regime that keeps the trees and grass in balance.[3] Consequently, under grazing, woody vegetation tends to proliferate or 'thicken'. The proliferation of woody species, because of their competitive effects, displaces grasses which further impedes fires. If not managed, this situation can lead to the establishment of a new equilibrium where grasses are essentially completely displaced by woody vegetation. Time series photographs illustrate this point, as shown by the following two photographs taken on a property near Charleville.

Figure 2: Photographs of 'Wongalee' homestead Charleville, 1957 (LHS) and 1994 (RHS)

This phenomenon is not unique to Queensland, or Australia, however the situation in Queensland has been succinctly outlined in Burrows' (2002) forty year perspective on rangelands studies in that state.[3] Burrows described the tree-grass relationships, tree-shrub dynamics, fire regime impacts, and the difficulties of assigning attribution of change in woodland structure.

1.4 The effect of tree population on pasture yield: The key driver of economic impacts

The productive capacity of a grazing enterprise is determined by the availability of pasture for grazing. The competitive effect of tree populations on pasture yield has therefore been of great interest to graziers and researchers alike, and a significant amount of research has been undertaken in Queensland's woodland communities concerning these effects.

The most commonly reported finding in studies of Queensland woodlands reveal what is termed an "Exponential Decrease" relationship of trees to grasses (Scanlan, 2002).[4] This means that as tree density increases, grass yields decrease at an increasing rate (*i.e.* exponentially) as shown on Figure 3.

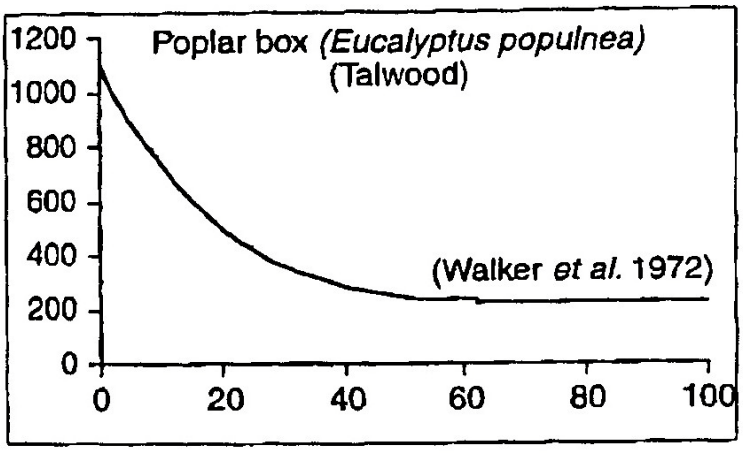

Figure 3: Effect of tree retention % on pasture yield (Kg/Ha)[4]

in *Eucalyptus populnea* woodlands.

Beale (1999) further refined this relationship and demonstrated that grass yield tends to plateau between 0% and 10% canopy cover as shown in figure 4.[5]

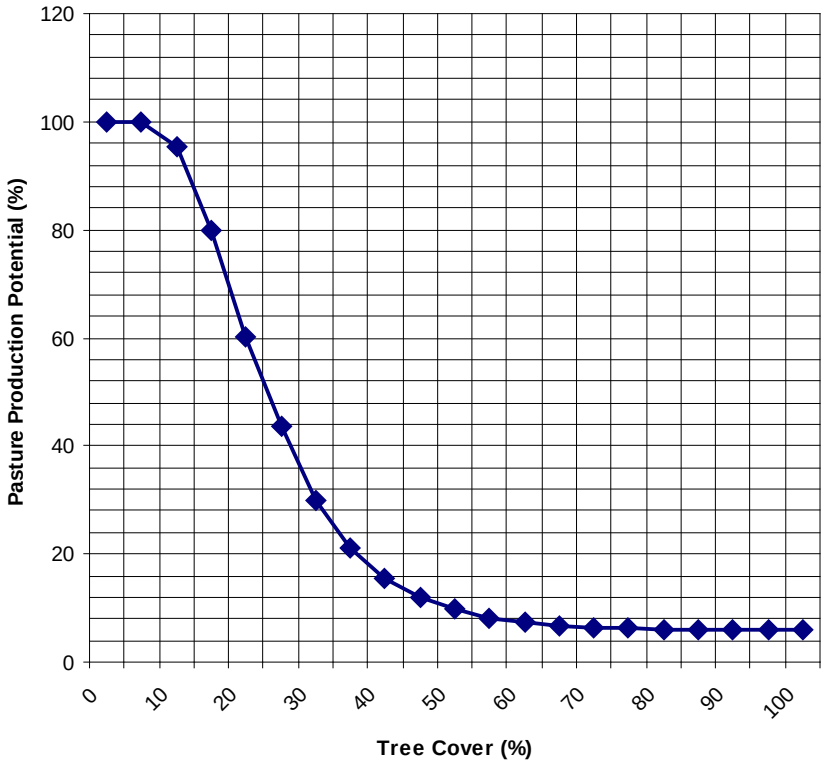

Figure 4: Effect of tree retention % on pasture yield potential in woodlands. (Beale, 1999)[5]

This relationship is caused by the fact that in a woodland at any given point the understorey may be subjected to influences from a number of trees, with the aggregate competitive effect increasing as tree density increases.

The significance of this relationship is that it explains the following:

1. Pasture yield and hence productive capacity of grazing land is very sensitive to tree density.
2. Clearing trees can result in a massive increase in pasture yields.
3. Woodland thickening, if unchecked, will lead to a reduction in pasture yields and productive capacity over time.
4. The management of woodland thickening can significantly enhance pasture yields and productive capacity.

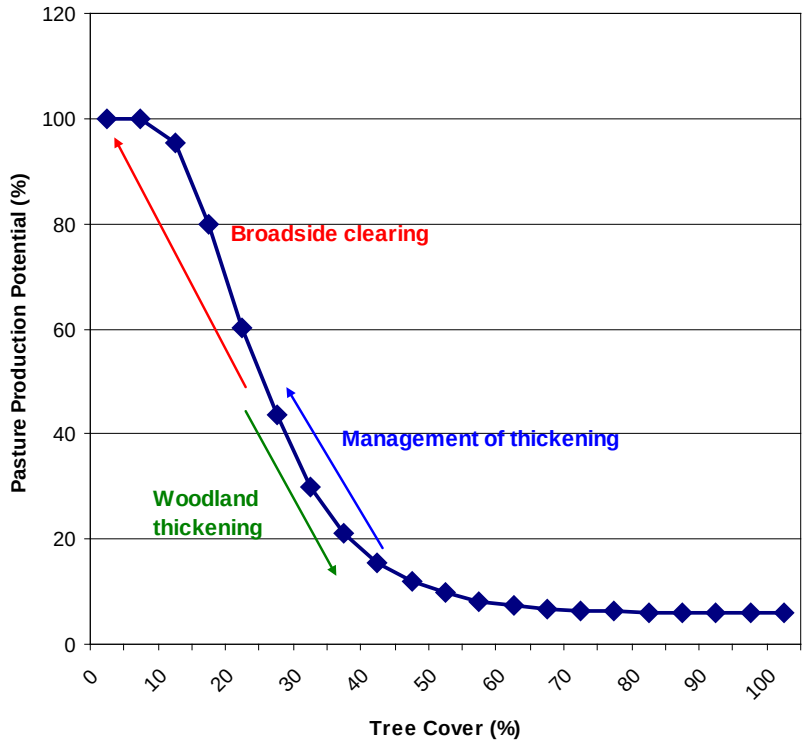

Figure 5: A diagrammatic representation of points 2, 3 and 4 above.

The impacts of vegetation management laws on productivity and land asset value are driven by this relationship and the '*exponential decrease'* shape of the curve. This exponential response of productivity to clearing is in practice also significantly amplified by two key changes to the production system that land clearing enables. These changes are not reflected in figure 5; they are:

1. Introduction of improved pasture species which further enhance pasture yields.

2. Intensification of pasture and livestock management techniques which increase the conversion efficiency of available pasture.

The importance of this relationship to regulation is that it is only well understood by frontline rangeland managers and scientists, and is not well understood by regulators, who tend to have a simplistic view of trees and grasses and the relationships between them.

In essence, the relationship means that the cessation of clearing comes at a significant economic cost. It also demonstrates that if grazing is to continue in Queensland's rangelands, woodland thickening must be able to be managed appropriately. Any regulatory regime which removes the ability to maintain the tree-grass balance will ultimately result in the eventual loss of all grazing utility and a reduction in biodiversity through the excessive proliferation of woody species. This is supported by Burrows in his paper presented at the Harry Stobbs Memorial Lecture given in 2002:[3]

> *"There is a widespread reluctance amongst government regulators and conservationists to openly acknowledge the general negative effect that tree-grass competition has on pastoralism; in particular, that the woodland communities now protected from clearing could in time lose their livestock production capacity, with serious impacts on management of the remaining pasture on the landholding.*

This is a consequence of continued thickening up of tree and shrub populations under grazing, along with the implications of Bray et al.'s findings.

To appreciate this point, we need to know the rate of change in tree-shrub basal area over time. Yet even after 150+ years of pastoralism, this subject still arouses considerable debate, despite a wide range of evidence indicating that there has been significant structural change in most woodland communities since livestock grazing commenced. Unfortunately, I consider that vested interests have clouded perspectives - especially amongst many who see pastoralism as an affront on Queensland's landscape, or amongst those who do not have any comprehension of differing woody plant-pasture responses under livestock grazing." [3]

A brief summary of the development of the Queensland vegetation management regulatory regime from 1995 to the present is provided here in Appendix 1.

2.0 Literature review

This section of our submission will highlight significant literature published since 2003 relating to the issue at hand. The Productivity Commission Inquiry in 2003 assembled significant literature to that date.[1]

2.1 Productivity Commission

The Australian Government Productivity Commission commenced an inquiry into the impacts of native vegetation and biodiversity regulations in 2003 and published its report including recommendations and findings in 2004. The inquiry collated and analysed a large amount of literature and specific submissions as part of their process.

The Productivity Commission received evidence from about 180 landholders and their representatives regarding the negative impacts of native vegetation and biodiversity legislation. The commission also notes they received very little evidence about positive impacts, although many submissions did acknowledge the benefits of sustainable resource management practices. Many more submissions were received from other sectors with interests in the aforementioned legislation.

Their inquiry received and assessed a large number of submissions and subsequently requested further reports, opinions and solution papers in order to assess the practical and economic impact of native vegetation and biodiversity legislation.

The Productivity Commission estimated that the economic impact of broadscale clearing restrictions could be significant. It explored these economic impacts at two shire levels, in Moree and Murweh,[1] as well as commenting on the numerous personal accounts submitted. In the Murweh Shire study it indicated that annual average returns to cleared land would exceed those for uncleared land by $8.20 *per* ha to $15.90 *per* ha for the period 2003 to 2040.[1]

This corresponded to another study undertaken by the commission that found the net present value of forgone future returns from clearing restrictions in Murweh Shire for 1999 – 2040 would total $42.3m to $124.4m.[1] The commission also noted that the widely documented phenomenon of woodland thickening could progressively crowd out grazing activity on large tracts of grazing land in Queensland if cost effective counter-measures were not permitted.

The Productivity Commission addressed the diminution of land asset value and productivity arriving at the conclusion given below:

> *"Any reduction in expected net farm returns will roughly translate into a commensurate decline in current property values. Evidence was received from a number of participants about the increasing gap between the values of uncleared and cleared land, where the gap cannot be explained by the costs of clearing and differences in land quality.*
>
> *Furthermore, a reduction in anticipated returns or simply an increase in the risk premium because of the uncertainty surrounding the impact of native vegetation regulations will also affect farm investment and the willingness of finance providers to lend. Finance providers have not participated in the inquiry, although a number of landholders provided evidence, some on a confidential basis, that lending institutions had reduced the valuation of their properties as a direct result of the impact of, or simply the uncertainty created by, native vegetation regulation. This had reduced their assessed equity in the property and, hence, worsened their risk status."* [1]

The situation has not changed.

We also would like to draw your attention to the Commission's findings regarding the implementation of regulatory best practice. In 2003/4 the Commission found that wider application of 'best-practice' principles of regulation would introduce greater transparency, accountability and reduce procedural complexity.[1]

> The Commission concluded that more fundamental reform is warranted for several reasons:
>
> - Regulation of native vegetation clearing is inflexible, prescriptive and 'input' rather than 'outcome' focussed.
>
> - Regulation of clearing is a partial measure; it does nothing to ensure ongoing management of native vegetation or its regeneration. Landholders have been disincentivised from caring for and regenerating native vegetation.
>
> - Jurisdictional regulation has led to confusion over the issue of landholder and community responsibility.

Regulation may be an efficient instrument in some circumstances, but current regulations have been imposed with insufficient consideration of the nature of the problem to be addressed and the costs and benefits of current regulation relative to other approaches, including less prescriptive regulation.

The inquiry also noted the importance of local landholder knowledge of the landscape was vital in formulating the criteria for vegetation management. Combining this with scientific facts will lead to better solution discovery that undertakes significant steps towards dealing with the wider issues. The commission also suggested that devolution of responsibility to regional institutions that can provide genuine local consultation and decision making would need to be sufficiently resourced and provided with flexibility and authority to deliver.

2.2 Australian Bureau of Agricultural and Resource Economics (ABARE)

ABARE has investigated through a number of reports the costs of native vegetation preservation in terms of effects on productivity and efficiency. Davidson *et al*. (2006) focussed on quantifying the impacts of land development forgone in Southern and Western Queensland.[6]

Davidson *et al*. (2006) also noted the process used for regulating native vegetation management was quite important. The 'command and control regulation' approach is unlikely to allow the net benefits to society from using native vegetation to be maximised either across regions or through time.[6]

Productivity growth and improvements in efficiency have increased for a long time, including changes in the areas of native vegetation for most properties. This change in stock underpins viability and also continued to deliver some conservation outcomes for future users.

2.3 Other researchers

Carrying capacity is a major determinant of on-farm cash operating surplus (Slaughter 2003)[7] and increased / increasing levels of native vegetation will continue to have negative effects on grazing enterprises of these landholders. It is in this context that most productivity and economic assessments reviewed assumed existing cleared areas would remain cleared.

Graziers tend to discuss their preference for landscape management in timeframes of 10 to 20 years. In this context the time span for returning to an area for controlling regrowth or thickening is governed by many issues, including rainfall patterns of the preceding years, impacts of controlled and uncontrolled grazing and other natural processes.

Anecdotal evidence suggests that many landholders' control activity is being forced into much shorter cycles, particularly regrowth control, in order to keep the areas in a condition that precludes them from absorption into regulated areas. Not only does this add to the costs borne by the landholder, but in some instances is counter to their landscape health preferences.

Sinden (2002, 2004, 2005)[8, 9, 10] has explored the issue of the diminution of land asset value and productivity in pastoral and cropping areas of Northern NSW and in particular the Moree Plains Shire. Sinden also found there was willingness by landholders to retain remnant native vegetation at a certain level. Although it appears this fact is not taken into consideration when legislation is designed. 'Appropriateness, effectiveness, efficiency and equity' are four areas of national policy that need to be addressed according to Sinden (2002).[8]

Significant academic and practitioner effort has been channelled into defining and quantifying the importance of key ecosystem management choices and their functions in driving for key landscape impacts. In Queensland, a number of papers have been published in an effort to describe the impacts of particular management systems *e.g.* reduced grazing impact to increase ground cover, in order to deliver particular ecosystem outcomes *e.g.* reduced sediment load into the Great Barrier Reef lagoon.

These papers[8, 9, 10] did not directly quantify the impact of particular legislation changes on profitability and productivity; their analyses were based on estimating the impact of particular management strategies aimed at delivering specific results. Donaghy *et al.* (2007) explored the relationships between grazing management activities and sediment loads in water and eventual deposit in the marine area of the Great Barrier Reef.[11] They identified that one of the key impediments to reducing sediment loads as a result of changed grazing practices is the lack of private incentives. In their study it was financially detrimental to move grazing and cropping systems to the point where ecological results were "sufficient" to meet 'off site' requirements.

Current government policy (Reef Water Quality Protection Plan) is clearly directed at reducing sediment loads into that particular marine area.

MacLeod and McIvor (2005)[12] explored the production / environment trade-offs with grazing land intensification *via* case study approach for 4 properties in the sub-tropical woodlands. The objective of their paper was to outline the current management regimes ecological health and to compare it to an alternative scenario that was consistent with particular ecological principles and thresholds.

The scenarios involved increasing tree densities and restricting grazing access, and therefore the main economic impact was on the number of stock carried and projected turnoff rates. The economic outcomes were fairly adverse from the private landholders' perspective. What is of note is the robust understanding of ecosystem process and the implications of altered management practices.

MacLeod and McIvor (2005) also noted that an iterative approach through a number of scenarios is quite useful to assess the impacts of the change in the identified attributes used to describe ecological health.[12] The attributes cover both ecosystem function indicators and describe conservation of biodiversity.

Kaur *et al*. (2006) investigated benefits or losses from clearing trees to develop pastures in Central Queensland.[13] They estimated net private benefits through bio-economic modelling over a projected 50 years. One of their findings showed that clearing benefits the landholders in terms of net private financial benefits over the long-term, however these benefits can not be generalised for all tree types. Their research also indicated, for the tree communities studied, the benefits delivered through increased pasture production following clearing had varying rates of decline in most cases. Similarly, other ecological indicators such as nutrient levels, soil properties, and plant diversity were amended over time post clearing.

2.4 Literature review summary

Economic studies are important in demonstrating the effects of regulations and choices, however there is a human cost that tends to go unnoticed. Often, the ability to continually manage woody vegetation for many businesses is the key to viability. In essence, as the ability to manage this vegetation is removed and more area tends to regrowth, thickening and woodland it forces the business to carry their cost structure on a declining productivity base.

The land's productivity base is directly linked to its asset value. Not only does a decline in productivity result in an erosion of income, but an eventual decline in asset value into the future.

The studies reviewed showed a distinct positive relationship between reductions in woody vegetation and increased grazing productivity. They also show threshold levels of woody vegetation where symbiotic relationships occur. The studies indicated that these relationships vary between vegetation communities (woodland types) and the relative spatial distribution of the woodland type across a landholding. A local consultative approach is needed.

3.0 Case Studies

As part of this submission we consider it appropriate to conduct case studies into two properties to investigate the impact on market value by the amendments to native vegetation laws. One property is located in the mulga country near Charleville while the other is located in Central Queensland in the Clermont Area. These are not hypothetical scenarios and the subject properties and their attributes discussed in this section are "real life" examples. The owners are known to the authors. Property description, property name and owners have not been identified for this exercise. Concern has been expressed by landholders about the public release of information which may identify particular properties. Whilst there are privacy issues, primary concern relates to potential negative impacts on future marketability of any properties identified.

In addition, we have applied the findings from one of these case studies across a broader regional basis where some details concerning the total area of land affected are available to us. This has been done to provide some indication of the scale of diminution in value and potential knock-on effects on a regional basis.

3.1 Identification of case studies and development potential

The changes to the vegetation management regulation introduced in May 2004 effectively banned broadscale clearing of remnant vegetation in Queensland from the end of 2006. This represented a major impact on the scope for future development on many properties. Properties with potential for further development that was allowed under existing clearing codes had that potential abruptly removed. As a result the market value of these enterprises suffered significant reductions. The purpose of the case studies is to demonstrate these impacts on market value.

Legislation changes affected enterprises throughout many areas of the state. Two affected properties have been identified that represent diverse location and country type. One is in the mulga lands of South West Queensland and the other in Central Queensland.

At the time of these changes some financial assistance was provided to affected enterprises under the Vegetation Management Assistance Framework. Part of the eligibility assessment undertaken by the former Department of Natural Resources, Mines and Water (NRMW) involved a confirmation of the area of land affected (CALA).

In its assessment of CALA the department assessed each property against the clearing codes that would have applied had a clearing application been made prior to the 2004 clearing ban. A CALA assessment therefore provides an 'official' assessment of a property's development potential that was removed by the legislative changes. In our assessment of the diminution in market value of the case study properties, we have adopted CALA assessment as a measure of development potential forgone as a result of the 2004 legislative restrictions.

3.2 Assessment methodology

To demonstrate the impact on market value a desktop assessment has been conducted on two properties. This involves applying certain valuation principles based on available information. Unfortunately, time constraints have not allowed detailed inspections of both the subject properties and relevant sales. These assessments therefore do not represent formal detailed valuations of each property but represent a macro or broad assessment of each to demonstrate the order of magnitude of impact on market value caused by legislation changes.

Market value is defined as the estimated amount for which an asset should exchange on the date of valuation between a willing buyer and a willing seller in an arms length transaction, after proper marketing, wherein the parties have each acted knowledgeably, prudently and without compulsion.

The market value approach has been used where consideration has been given to the comparable sales evidence available around the valuation date. Assessments have been made on an improved basis bare of any stock and plant.

A number of factors are taken into consideration when assessing the market value including:

- Rainfall
- Location and access
- Country classification
- Vegetation mapping status
- Highest and best use
- Carrying capacity
- Country development and potential
- Water (natural and artificial)
- Improvements

Consideration has been given to these principles for the case study assessments.

3.3 Assessment date and rural property market

The identified case studies have a highest and best use as cattle grazing enterprises. The greatest impact of recent changes to vegetation management legislation occurred around 2005 to 2007. The changes will have an ongoing impact, however for the purposes of these desktop assessments consideration has been given to sales generally in the period from 2005 to 2007.

The rural property market in Queensland showed a general strengthening in values through 2005 to 2007 even though many areas suffered severe drought at the time.

3.4 Safe carrying capacity

The Queensland Department of Primary Industries' (QDPI) safe carrying capacity model was developed in south-western Queensland during the mid to late 1990's. The model was tested and applied to numerous properties on a voluntary basis. The model provides a reliable method of calculating safe carrying capacity estimates for properties and is based on a number of factors including:

- Rainfall
- Productive capacities of various country types
- Pasture utilisation rates which encourage an improvement in pasture and land condition as well as production
- Allowances for factors affecting pasture production (timber / woody weed density)
- Flooding frequency

This model was primarily designed for mulga lands and associated land types however similar principles can be applied to other grazing areas of the state. It was used extensively by the state for undertaking property level carrying capacity assessments as an essential prerequisite for accessing enterprise reconstruction assistance schemes in the 1990's. A key feature of the model is an ability to objectively assess the direct impact of tree density on pasture yields for a given land type.

3.5 Carrying capacity

Carrying capacity reflects the long term productive capabilities of a property and is an assessment of long term average number of livestock that can be grazed on the property in a sustainable manner. Actual numbers of stock carried at any point in time *i.e.* the stocking rate will vary around carrying capacity, according to current conditions.

Over the long term average stocking rate should approximately equal the carrying capacity of the holding. An assessment of carrying capacity assumes all areas having access to stock water and the implementation of industry standard management practices. Carrying capacity is most accurately expressed as an 'Adult Equivalent' (AE) for cattle properties.

3.6 Beast area value

Beast area value (BAV) is a common method of comparison used in the grazing property market. This relates directly to carrying capacity and in a sale represents the value paid for the area of land required to run one adult equivalent.

3.7 Case study: Property 'A'

Property "A" consists predominately of mulga land types and is located in the Charleville Area within Murweh Shire. This property has the following attributes:

Average rainfall: 460mm (18.5")

Area: 18,980 ha

Tenure: Freehold

Country description:

Land systems on the property are mulga and poplar box dominant, with areas of beefwood, ironwood, corkwood, silver leaf ironbark and kurrajong. Soils are predominantly deep red earths.

Highest and best use: Cattle grazing

Water: Watered by an equipped bore and a number of earth dams.

Improvements and development:

The property is reasonably improved for grazing with fencing, yards, water facilities and buildings. About 7,846 ha (41%) has been cleared with the balance of 11,134 ha (59%) comprising remnant regional ecosystems containing standing timber.

Vegetation mapping status:

A property map of assessable vegetation (PMAV) has been registered over the property. This indicates 7,846 ha is mapped as category X vegetation.

CALA assessment:

In June 2006, NRMW assessed the area affected to be 11,048 ha or 58% of the property. A later PMAV over the property increased the area of assessed category X vegetation (able to be cleared) which effectively reduced the affected area (CALA) to 7,643 ha or 40% of the property. This reduced CALA area of 7,643 ha represents the development potential of the property that has been lost; this has been used to assess the diminution in market value.

Carrying capacity (present development):	1 AE to 20.0 ha (949 AE)
Carrying capacity (potential):	1 AE to 10.0 ha (1,898 AE)

Assessed diminution in market value:

(1)	Assessed market value present development with potential:	
	18,980ha @ $105 per ha improved ($2100 *per* BAV)	$1,992,900
(2)	Less assessed present market value present development without potential:	
	18,980ha @ $65 per ha improved ($1300 *per* BAV)	$1,233,700
Reduction in market value		**$759,200**

NB: This represents a 38% reduction in market value.

Sales evidence: Sales in the locality indicate beast area values ranging from $1100 for blocks with limited development and no potential to $2600 for better quality properties in developed states. The market generally demonstrates a discounting of the beast area value for properties that have yet to realise their potential, as compared to similar properties that have already achieved their development potential. Issues such as direct development costs, development period and risk of realising the potential are all factors that the market would consider. A beast area figure of around $2100 for properties with scope for development is indicated by the sales evidence. This property sold in 2007 for $1,200,000, which supports the assessed market value without any potential.

The premium the market is prepared to pay for a property with development potential over a property without development potential (in this case $759,200) should reflect the value of the economic opportunity afforded by the development opportunity. We have reconciled the figure derived above through a further analysis of the value of this economic opportunity.

It is reasonable to assume the market would consider the final value of the property if the development were to be fully realised, less the cash costs of development. A prudent purchaser would then discount this gain to reflect the risks *e.g.* financial and seasonal risks involved in undertaking a development project, as well as the considerable time taken to develop the property and realise the gain.

Assessed market value with development potential fully realized	
18,980 ha @ $240 *per* ha improved ($2,400)	$4,555,200
Less purchase price with potential (18,980 ha x $105)	$1,992,900
Less cash costs of land and infrastructure development	
7,643 ha @ $120 *per* ha	$917,160
Potential cash gain	**$1,645,140**
Discounted 10 years @ 8% *per annum*	
Risk free discount rate plus an allowance for profit, seasonal, financial and other risk.	
Value of the economic opportunity	
(Reflecting the premium payable for development potential)	**$762,018**

NB: Assumptions include; no inflation, if inflation were factored into the realisable value following development the discount rate would have to be increased to include inflation. The opportunity cost of required capital is not factored into the analysis; if it were the income able to be derived from the property during the development period would also have to be included. No allowance is made for any real increase in underlying land values over the development period.

The order of magnitude of the lost economic opportunity is consistent with the reduction in market value assessed through sales comparison methods ($759,200). It is conceded that the above is a simplistic economic analysis; however time constraints in preparing this submission require that it be so.

3.8 Case study: Property 'B'

Property "B" is a partially improved beef cattle grazing property located in the Clermont Area in Central Queensland.

Average Rainfall: 630mm (25")

Area: 20,300 ha

Tenure: Leasehold (perpetual lease)

Broad country description:

The property comprises a mixture of vegetation including lemon scented gum, lancewood, bendee, poplar box, silver leafed ironbark, bloodwood, forest & river red gum, bottlebrush and rough barked apple. Soils range from medium to coarse grained sedimentary rocks, to deep red earths, sand plains and alluvial plains.

Highest and best use: Cattle grazing enterprise

Water: Artificially watered by bores and dams.

Improvements and development:

The property is reasonably improved for grazing with fencing, yards, water facilities and buildings. Approximately 1,235 ha (6%) has been cleared and seeded to improved pastures. The remaining 19,065 ha (94%) is classified as remnant vegetation and contains areas of standing timber.

Vegetation mapping status:

Version 5 (RE03) regional ecosystem mapping indicates 1235 ha (6%) is mapped as non-remnant. A property map of assessable vegetation (PMAV) has been registered over the property which has "locked in" these areas mostly as category X with some smaller areas shown as category C.

CALA assessment: In June 2006, NRMW assessed the area affected to be 5873 ha or 29% of the property. This area represents the development potential of the property that has been lost and has been used to assess the diminution in market value.

Carrying capacity (present development): 1 AE to 14.0 ha (1450 AE)

Carrying capacity (potential): 1 AE to 9.0 ha (2255 AE)

Assessed diminution in market value:

(1) Assessed market value present development with potential:
20,300ha @ $230 per ha improved ($3220 *per* BAV) $4,669,000

(2) Assessed market value present development without potential:
20,300ha @ $175 per ha improved ($2450 *per* BAV) $3,552,500

Assessed reduction of market value **$1,116,500**

NB: This represents a 24% reduction in market value

Sales Evidence: Sales evidence indicates beast area values ranging from $2000 for forest blocks with little development and no potential, to $4500 for well developed properties in the locality. Sales of blocks that are in developed states similar to or slightly better than the potential of 'B' are showing around $3500 to $3900 *per* beast area. There is little sales evidence of properties similar to 'B' that still have potential for development. The market generally demonstrates a discounting of the beast area value for properties that have yet to realise their potential, as compared to similar properties that have already achieved their development potential. Issues such as direct development costs, development period and risk of realising the potential are all factors that the market would consider.

The premium the market is prepared to pay for a property with development potential over a property without development potential (in this case $1,116,500) should reflect the value of the economic opportunity afforded by the development opportunity. We have reconciled the figure derived above through a further analysis of the value of this economic opportunity.

It is reasonable to assume that the market would consider the final value of the property if the development were to be fully realised, less the cash costs of development. A prudent purchaser would then discount this gain to reflect the risks *e.g.* financial and seasonal risks involved in undertaking a development project, as well as the considerable time taken to develop the property and realise the gain.

Assessed market value after development potential is fully realised:	
20,300 ha @ $406 *per* ha improved ($3,650 *per* BAV)	$8,232,778
Less purchase price with potential (20,300 ha x $230)	$4,669,000
Less cash costs of land and infrastructure development 5,873 @ $120 *per* ha	$704,760
Potential cash gain	**$2,859,018**
Discounted 10 years @ 8% *per annum* *Risk free discount rate plus an allowance for profit, seasonal, financial and other risk.*	
Value of the economic opportunity (Reflecting the premium payable for development potential)	**$1,324,278**

NB: Assumptions include; no inflation, if inflation were factored into the realisable value following development the discount rate would have to be increased to include inflation. The opportunity cost of required capital is not factored into the analysis; if it were the income able to be derived from the property during the development period would also have to be included. No allowance is made for any real increase in underlying land values over the development period.

The order of magnitude of the lost economic opportunity is consistent with the reduction in market value assessed through sales comparison methods ($1,116,500). It is conceded that the above is a simplistic economic analysis; however time constraints in preparing this submission require that it be so.

3.9 Regional case study

The legislative changes of 2004 affected many enterprises. Two shires significantly affected are the Murweh and Paroo Shires in South West Queensland, because both shires still contained large areas of woodland considered suitable for development to improved pastures. In 2007 Murweh Shire's wooded vegetation cover was estimated at 63% and Paroo's at 54% (SLATS Report 2007).[2] This is equivalent to 5.125 million ha.

As outlined earlier, many properties had the extent of their affected area assessed by the Department of Natural Resources and Mines as a precursor to obtaining financial assistance of up to $100,000 (a non repayable grant to be spent on alternative property improvement options). This affected area was known as the CALA (Calculation of area of land affected).

Devine Agribusiness assisted in excess of 250 rural businesses across Queensland to have the CALA assessment undertaken and to put their case forward for assistance. Of these, 83 properties were contained within Murweh and Paroo Shires. Based on land area these 83 properties account for approximately 25% of the combined land area of the two shires. We have used this subset of 83 properties to demonstrate the broader, regional implications of the removal of their development potential. The key attributes of these properties are outlined in the following table:

Regional case study dataset	
Number of properties	83
Total area	2,215,748 ha
Average size of rural property	26,696 ha
Total CALA area	685,262 ha
Average CALA *per* property	8,256 ha
Average CALA as % of property area	31%

The average size of these 83 properties appears to be consistent with the areas estimated average property size. The Australian Bureau of Statistics indicates the average landholding in the South West NRM district (which covers the particular shires) at approximately 27,558 ha. (ABS, in report 71250DO005_200607 Agricultural Commodities: Small Area Data, Australia, 2006-07).[14]

The tenure of the landholdings in the data set is a mixture of leasehold and freehold titles. Very few of the holdings are pastoral holdings, with the majority of leases being perpetual or free holding leases. Market evidence is yet to indicate a large discrepancy between perpetual leases and freehold tenure, and for simplicity, no tenure stratification has been undertaken.

The properties consist of the usual land types that are located in the Murweh and Paroo Shires. The mulga bioregion is typified by flat to undulating plains with strips of low hills. The dominant vegetation types are mulga and eucalypt woodlands. The alluvial flood plains of the Warrego and Paroo Rivers and their tributaries are the main drainage systems running through the area.

This region has the following attributes:

Average rainfall:	539 mm (Morven in the East) to 331 mm (Eulo in the West) (Clewett *et al*. 2003)[15]
Area:	2,215,748 ha (combined rural holdings in dataset)
Tenure:	Freehold and various leasehold tenures
Highest and best use:	Cattle grazing
Water:	Watered by river and creek systems with most properties also utilising constructed water systems including equipped bores, piping, troughs and earth dams.

Improvements and development:

The average across the dataset is assumed to be reasonably improved for grazing with fencing, yards, water facilities and sufficient buildings.

Vegetation mapping status:

A Property Map of Assessable Vegetation (PMAV) has not been registered for every property in the dataset. Estimation of category X areas is not possible from the records collated by Devine Agribusiness.

CALA assessment:

Through the process at the time, the Department of Natural Resources and Water assessed the area affected to be 685,262 ha or 31% of the total area of the sample properties. This represents the area of land (out of the subset of 83 properties) that was deemed suitable for development under the pre-2004 clearing codes that could not be developed following the removal of their development potential.

As we cannot attempt to assess the overall current and potential carrying capacities of each of these 83 properties, we have only undertaken a brief economic appraisal of the value of the forgone development opportunity, and only for the actual area of land affected:

Assessed market value with development potential fully realised	
685,262 ha @ 10 ha / AE = 68,526 AE @ $2400 / BAV	$164,462,400
Less:	
Assessed market value undeveloped but with development potential	
685,262 ha @ 40 ha / AE = 17,131 AE @ $2100 / BAV	$35,975,100
Less cash costs of land and infrastructure development	
685,262 ha @ $120 *per* ha	$82,231,440
Potential cash gain	**$46,255,860**
Discounted 10 years @ 8% *per annum*	
Value of the economic opportunity	**$21,425,413**

NB: Assumptions include; no inflation, if inflation were factored into the realisable value following development the discount rate would have to be increased to include inflation. The opportunity cost of required capital is not factored into the analysis; if it were the income able to be derived from the property during the development period would also have to be included. No allowance is made for any real increase in underlying land values over the development period.

3.10 Discussion

The above estimate of the lost value of the economic opportunity for the 83 properties comprising the sample is not considered to be an exhaustive assessment. In our opinion the figure probably underestimates the likely impact due to the following conservative assumptions that have been applied:

1. The beast area value (BAV) of $2100 for 100% undeveloped land with development potential is likely to be overstated, as this estimate is derived from sales of properties that were not 100% undeveloped. As these properties had some existing level of development this was likely to have increased the BAV. We have adopted this figure as the best available as there is no direct sales evidence for 100% undeveloped land with development potential. If a lower value were to be adopted, then the value of the economic opportunity forgone would be higher.

2. No injurious affection of balance areas is included. As we have only undertaken the analysis on the directly affected areas, any affect on the value of the balance of the properties has not been considered. For a property with significant development potential, even those areas without potential are likely to take on additional market value because they will become part of an enterprise with significant scale and productive capacity, where they may have some strategic value in addition to their limited productive potential (*e.g.* as drought fodder reserves, or to enable spelling of the more productive country when seasonal conditions allow). When the development potential of a property is removed, these areas may lose some or all of this additional strategic value that they may have had.

The above estimate of the value of the forgone economic opportunity of approximately $21.5m for the subset of just 83 properties is not inconsistent with the findings of the Productivity Commission, which found that the net present value of forgone future returns to clearing in Murweh Shire alone would total $42.3m to $124.4m.[1]

However, this is only an estimate of the direct financial impact on landholders. In the course of their development, followed by the operation of these properties with expanded productive capacity, significant benefits would accrue throughout the local economy. In our opinion general economic and community impacts have also occurred. For example, the development alone (timber treatment, fencing and provision of stock water facilities) on our cost estimate of $120 / ha would inject approximately $82m into the local economy over time. In addition the above estimate indicates that approximately 50,000 less cattle will be able to be run on these properties than would have been the case had they been able to develop them. This number of cattle would directly employ a number of people locally, as well as have significant multiplier effects across the entire local economy (finance, rural merchandise, fuel suppliers, motor dealers) as well as downstream in the transport, meat processing and export sectors.

The ongoing viability of many of these properties will in our view also be threatened, as productivity improvement through improved pasture development has previously provided beef producers with good protection from deteriorating terms of trade. Productivity improvement potential has also been central to providing both the incentive and cash flow required to facilitate the intergenerational transfer of rural landholdings. With this potential removed, and the difficulty of pursuing other productivity improvements on unimproved land (such as more intensive herd management practices), it is likely that those properties with minimal existing development either already are, or are at risk of becoming, unviable enterprises.

Appendix 1

Recent History

European settlement patterns

In broad terms, the pattern of settlement of Australia and associated modification of the landscape to accommodate domesticated livestock and crop production radiated out from Sydney. The preference for temperate climes and the quest to find familiar European seasons and ecosystems dictated the progression of settlers across Australia. Some early resource booms *i.e.* gold mining *etc*. and food security issues elevated some regions and particular ecosystems in settler prominence.

The sub-tropical and tropical climates of Northern Australia resulted in large expanses of Queensland being sparsely populated by settlers. The distance between large population centres and poor access to export wharves resulted in early settlers mainly populating the easily settled grasslands. In essence, this cascading effect resulted in agricultural areas of Queensland and particularly the woodlands, being the latter areas to be "discovered" and developed. Queensland now carries a large portion of the nation's woodland conservation burden.

Historically, Queensland's woodlands have been considered an underdeveloped resource and governments have actively encouraged landholders to develop their productive capacity. Many tenure instruments administered by the Crown instructed the landholder in their responsibility to develop their land. In many instances, these instructions involved the clearing of native vegetation in order to be compliant with the lease conditions.

As recently as 1995 the culture of the former Lands Department (Queensland Government) was centred on increasing the productive capacity in regional areas as evidenced by the policies of that time and the lease conditions requiring land development to be undertaken and the ensuing regrowth to be controlled.

Additionally, landholders have received market signals from the community encouraging further development of land, these being the continued demand for inexpensive food and fibre, and consequently a demand for higher quality (younger) beef.

These incentives, when backed by state funded schemes of assistance (capital improvement *via* land clearing was tax deductible until 1982) and departmental policy have created substantial investment backed expectations of landholders based on their ongoing right to manage vegetation. Additionally, these investment backed expectations created internal markets amongst landholders based upon the lands potential productive capacity.

Community expectations

As the nation's community expectations began to shift away from land development and towards preservation ideals the corresponding signals to landholders have not emerged. The world's appetite for cheap quality beef has drowned out the weak signals to landholders regarding the local community's preservation values and priorities.

Government response, since 1995, to this marked shift in community expectations has been to continually amend existing legislation or impose new regulations. Initially, the new regulations were well accepted by landholders as a reasonable attempt to address preservation concerns in concert with the continued economic development of the state's woodlands. However, recent (1999, 2003, 2006, 2009) regulation which essentially prohibits any further development of woodlands is now viewed by landholders as being politically driven by 'green' interest groups.

The policy making processes that result in new regulations, over the last decade or so have become less efficient and equitable. The current policy making process relies heavily on an impositional approach and is not confined to Queensland; Halpin (2002) identified parallels in New South Wales' vegetation policy development.[16]

Legislative progression

Vegetation management (and associated land development) in Queensland is regulated by:

- Land Act 1994 (leasehold land)
- Vegetation Management Act 1999 (freehold land)
- Vegetation (application for clearing) Act 2003 (all land)
- Vegetation Management Amendment Act 2000 (all land)
- Vegetation Management and Other Legislation Amendment Bill 2004 (all land)
- Sustainable Planning Act 2009 (replaced the Integrated Planning Act 1997)

1995 - Leasehold guidelines were introduced to assist government and landholders to address preservation concerns raised by the greater populace. The guidelines related only to leasehold lands and grew out of a relatively transparent and regionally based consultative process.

1999 - Vegetation Management Act (VMA) was introduced in tandem with amendments to the Land Act (1994) and Integrated Planning Act (1997). For the first time, vegetation on freehold land was regulated. Concurrently, the leasehold guidelines from 1995 were set aside and a state-wide policy was introduced. At this time it also became obvious that the Federal Government was not going to provide compensation to landholders for their part in preserving and managing key landscape features for the community. The state government at the time amended the VMA with the Vegetation Management Amendment Act (2000).

This whole VMA regime was not well received by landholders, primarily due to the lack of a consultative approach, and the regulatory taking of the previously purchased right to manage vegetation on freehold land. This taking of property rights was done without compensation.

These over-arching state policies were far stricter that previous policies and the adopted framework of "regional ecosystems" continued the lack of regional flexibility. Policy implementation was also hampered considerably by the state government's inadequate resourcing of the agencies responsible for implementation.

2003 - The 'first' *moratorium* was introduced as The Vegetation (Application for Clearing) Act (2003), which prohibited the making of an application to clear remnant vegetation under the Land Act (1994) or the VMA (1999). Not only did this cease the clearing of remnant vegetation, but effectively prohibited any further management of remnant vegetation.

The *moratorium*, at the time, was enacted for an indefinite period whilst the state negotiated with the Commonwealth to refine arrangements to enable the permanent cessation of remnant clearing in Queensland with the intention that the cessation be underpinned with compensation to affected landholders.

2004 - The election promise (made prior to the 2004 State Election) to phase out broadscale clearing in Queensland by 2006 ensured an election win. The Vegetation Management and Other Legislation Amendment Bill of 2004 (VMOLA) put this promise in place.

It was also clear at that time the Commonwealth would not provide any supporting funds for compensation. Therefore the VMOLA (2004) was constructed to alleviate the necessity for the state to compensate affected landholders for their removal of property rights. A grant system was used to provide some funds to affected landholders; however the funds were not able to be spent at the discretion of the recipient. The grant had to be re-invested into their land or infrastructure *e.g.* it could not be used to retire debt or invest in non-farm assets.

The VMOLA (2004) introduced legislation to phase out the broadscale clearing of remnant vegetation by 31st December 2006. A cap of 500,000 ha was allowed for transitional clearing of remnant vegetation until the 31st December 2006 deadline. Distribution of this clearing was firstly awarded to those landholders who submitted applications to clear remnant vegetation prior to 16th May 2003, when a halt on new applications was announced.

The remainder of the 500,000 ha was awarded to landholders through a ballot process held on 17th September 2004. To be eligible for clearing under the ballot, landholders were required to apply for broadscale clearing approvals between 24th May 2004 and 31st August 2004. Those landholders who were successful in obtaining a ballot permit were required to undertake the clearing prior to 31st December 2006. The cessation of broadscale clearing forced many landholders to accelerate their development plans and clear areas of remnant vegetation they had not intended to clear in the short term.

Following the end of broadscale clearing of remnant vegetation, the VMA (1999) and Integrated Planning Act (1997) only permitted the clearing of remnant vegetation for limited purposes including fodder harvesting, thinning, encroachment clearing, forestry, public safety and the establishment of infrastructure. Development permits were required before any such clearing could be undertaken which included terms and conditions that ensured the remnant status of the permit area was maintained.

The VMOLA (2004) resulted in the introduction of Property Maps of Assessable Vegetation (PMAV) which proved a useful tool for landholders to secure development rights on their properties. PMAVs are a voluntary process whereby landholders can 'lock in' non-remnant (white) areas as either category X or category 4.

PMAVs are an attractive mechanism for landholders for the following reasons:

- They can be used to correct inaccurate regional ecosystem maps.
- Any area locked in as category X on a certified PMAV can be cleared and developed without prior approval.
- Once locked in as category X or category 4, the areas do not change regardless of any changes that may occur on regional ecosystem maps.
- PMAVs are binding on land title.

Following the introduction of the VMOLA (2004), landholders were still able to clear and develop non-remnant areas including category X and category 4 on their properties. No restrictions existed on the clearing of regrowth vegetation except on leasehold land. Regrowth clearing permits were required by leaseholders who wished to clear areas of regrowth that had not been cleared since 31st December 1989. No such permit was required for regrowth vegetation that had been treated after 31st December 1989. A permit could not be obtained if a regrowth area was once mapped as an 'endangered' or 'of concern regional ecosystem'.

2009 - The 'second' *moratorium*. After Labor's re-election in March 2009, the Premier announced that a *moratorium* on the clearing of endangered regrowth vegetation would be implemented while they decided what changes, if any, needed to be made to the current vegetation management framework. The *moratorium* was enacted through the Vegetation Management (Regrowth Clearing *Moratorium*) Act 2009 and lasted from 8th April 2009 until midnight on 7th October 2009.

This *moratorium* identified eligible regrowth of which approximately 1,000,000 ha was estimated to be unprotected by development approval instruments such as PMAVs. Maps were released by the government which identified areas of endangered regrowth vegetation affected by the *moratorium*. These maps were determined from foliage cover densities on 2006 and 2007 satellite imagery and were often found to be outdated and inaccurate.

Limited information was given by the government on the changes that were likely to occur to the legislation. This resulted in pre-emptive clearing of significant areas of regrowth vegetation unaffected by the *moratorium* in an effort to maintain development opportunities and productive capacity just in case further areas were affected by potential new legislation. There was also increased landholder demand for PMAVs over their properties to secure their development rights.

2009 - The Regrowth Vegetation Code. Following the end of the *moratorium* on endangered regrowth clearing, legislation was introduced to regulate the management of regrowth vegetation in Queensland. The regrowth vegetation that was affected included regrowth that had not been treated since 31st December 1989 (high value regrowth) and regrowth located within watercourse buffer areas particularly in the Great Barrier Reef catchment. Freehold landholders were the most affected by these new laws as previously any regrowth included within non-remnant areas could be developed without any restrictions under the VMA (1999) or Integrated Planning Act (1997).

A major development from the amendments to the VMA (1999) during October 2009 is that landholders are now responsible for determining if any regulated regrowth vegetation exists on their properties and whether or not it can be cleared or developed. Landholders are required to consult the Regrowth Vegetation Code to determine what treatment, if any, can be undertaken in regulated regrowth areas.

As the responsibility now rests with landholders, they need to be very diligent in determining whether any proposed clearing satisfies the requirements of the Regrowth Vegetation Code. Concurrently, there is no obligation on the Government to notify the landholder that their regional ecosystem mapping for their property has changed.

Summary

It is interesting to note the focus of legislative measures to protect the woodlands and remnant areas of the state seemed to be originally constructed on the premise that clearing would forever remove that woodland from the state's ecosystem. However, recent legislative and policy moves to protect regrowth areas now indicate the state recognises somewhat the peculiarities of Queensland's woodlands to regenerate and thicken, and subsequently add to the state's remnant woodland tally eventually.

There has been no corresponding relaxation of management restrictions on more mature woodland communities, despite their now recognised ability to regenerate, regrow and / or thicken if thinned or cleared.

The main feature of the Regrowth Vegetation Code (2009) in vegetation management legislation is 'self assessment'; however, the Government is still able to amend the underlying instruments (ecosystem maps, *etc*.) without notifying those doing their own 'assessment'.

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