Submission to Productivity Commission Inquiry:

Impacts of Native Vegetation and Biodiversity Regulations

Submitted by: AgForce Queensland

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1. About this Inquiry

Introduction

Queensland is the second largest state in Australia, covering approximately 173 million hectares. AgForce is the peak rural lobby group in Queensland that represents over 7,000 producers of cattle, grain, sheep and wool. These broad-acre industries use 80% of the Queensland land mass for production and most regional and rural economies are dependent on these industries directly and indirectly for their livelihood. Broad-acre agricultural activities contribute significantly to the State and Federal gross domestic product. In Queensland the cattle industry is worth $2.7 billion, the sheep and wool industry worth $180 million and the grains industry $750 million per annum.

In terms of biodiversity planning, the State has been divided into 13 bioregions, 24 sub-regions, 16 catchments and 125 local government planning areas. In addition, regional planning schemes have been developed, such as SEQ 2000 and now SEQ 2012. Vegetation and water planning has been developed for regional areas and recent programs have resulted in the formation of Natural Resource Management Planning groups under the National Action Program for Salinity and Water Quality. Cross border arrangements have been developed for the Murray Darling Basin and the Lake Eyre Basin. The Great Barrier Reef will have its own Reef Protection Plan.

The facts above and those in the Appendices highlight that Queensland is a diverse state in terms of vegetation and natural resource management. In fact it has been described for biodiversity purposes as being 'mega-diverse'.

Queensland has the most variable climate in the world. We experience severe droughts and floods. Wildlife and vegetation have adapted to these extreme levels of disturbance so that successful species are resilient and capable of surviving, although in many cases in quite different landscapes than before the disturbance. When landholders improve the pasture cover and availability of water, they will improve the prospects for many species while reducing the prospects for others. These are the so-called winners and losers in the biodiversity stakes.

There is very little trend and condition data for many species. We cannot predict with certainty whether a particular set of activities will be any better or worse for a suite of species. This uncertainty in our knowledge has resulted in an arbitrary use of the 'Precautionary Principle' and nature based definitions of sustainability. There is no evidence to show that agriculture in Queensland has caused the extinction of any species. In fact the recent discovery of a number of species thought to be extinct, such as the Mahogany Glider, suggests we are a long way from understanding all the wildlife in this very large and comparatively intact landscape in Queensland.

AgForce Queensland, in this submission, will focus on the impacts of current regulations. We will show that the most likely outcome is the alienation of the people who are required to achieve the purposes of ecologically sustainable land use; the landholders who manage 80% of the state. If we are to develop sustainable enterprises in a landscape that is underdeveloped and still being mapped and understood, we will require the active participation of landholders in an adaptive framework. As our knowledge and information systems grow we need to take steps to ensure that practices are linked to the capacity of the natural systems, including our variable climate.

Participation in the process is a product of trust. Reviews of the Landcare movement may well show that participation is being put at risk by duplication, lack of trust and ever increasing 'top down' changes to policy for natural resource management. Vegetation planning groups participated in two and a half years of developing regional guidelines to be told that they had to do it again under different criteria. Having entered into a new process in good faith, they have just been told that significant parts of their new guidelines may be overtaken by a deal between the Commonwealth and the State.

In many circumstances, to maintain an economically viable enterprise, producers seek to improve the productive capacity of the land they occupy. This involves the engagement of the very people who provide the key to ensuring that the environmental values in the landscape are protected while ensuring economic profitability. That is, rural producers need to be able to maintain financial returns to meet debt obligations, family obligations and provide for retirement in the future, while protecting 'proven' environmental values. Vegetation management, when planned and soundly managed, can result in sustainable agricultural production and ecological outcomes.

AgForce Queensland will show, in this submission, that the current approach to natural resource management is unworkable and will not achieve ecologically sustainable land use. We will show, through our survey responses, that the current processes are characterised by alienation and isolation from decision-making processes and, in many cases, despair.

Government has failed to address the impacts of development restrictions and threatens to further restrict areas that had been developed. Institutional impediments remain to diversification and property build-up which further restricts progress.

This Inquiry presents a significant opportunity to highlight the failure of governments to develop a vision for agriculture, before wholesale structural adjustment comes to the stage of crisis management.

Conclusion:

AgForce members face many challenges: drought, commodity price fluctuations and exotic disease threats are but a few of the problems that producers face on a daily basis. These threats are not new, however, and producers are extremely adept at managing their enterprises to cope with these. What is extremely difficult to deal with, however, is the current barriers to long term security of access to land and water that form the foundation of producers' confidence in investment and development of their properties. The introduction of significant laws and regulations in the last five to ten years and governments' interpretation of such laws and regulations are without a doubt the main threats to producers' abilities to sustainably manage their operations.

The increasingly strident calls for private landholders to forgo their commercial aspirations in favour of public benefits for which there is no acknowledgment let alone financial assistance, structural adjustment or compensation, is the gravest threat to the long term investment in the future technology and best practice farming methods.

This submission forms the first part of the AgForce initial response to the Productivity Inquiry. AgForce will be preparing further evidence of the severe impacts of this legislation on its members and will be submitting this information in due course. AgForce is also keen to host visits to some key case study properties that clearly illustrate this impact in north Queensland (July 30th) and south western Queensland (in August). Through this submission, the visits to key case study properties and the delivery of further information, AgForce will provide the Productivity Commission with sufficient evidence to highlight just how unfair, divisive, ineffective and inequitable the introduction and application of State and Commonwealth vegetation and biodiversity legislation protection has become.

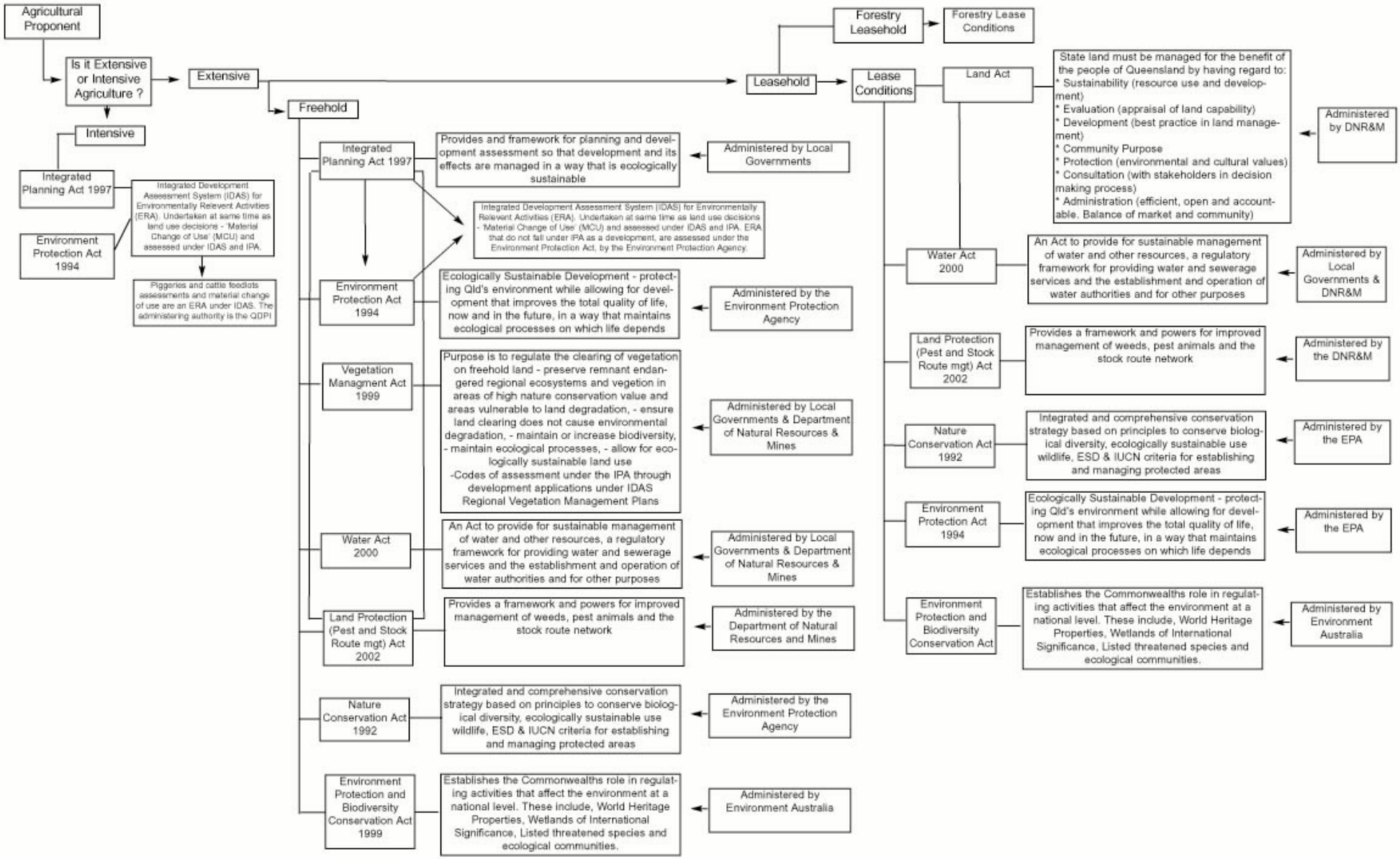
Legislative Framework

The following flow chart illustrates the complexity of legislation that covers environmental issues in Queensland. It highlights the difficulty primary producers have in understanding the web of laws which *may* impact actions undertaken on properties. While the Acts have different objectives, the overlap between them is clearly evident in this diagram. Added to this legislative web are the Federal laws that add yet another layer of complexity. The Federal Act concerned is the *Environment Protection and Biodiversity Conservation Act 1999* (*EPBC Act 1999*).

The key point is that the interpretation of the different requirements of State and Federal Legislation requires considerable advice. This can create difficulties for

producers. As an example, regrowth reverting to 'remnant' vegetation under the *Queensland Vegetation Management Act 1999* (*VMA 1999*) draws reference to height and density to the pre-clearing vegetation. Under the *EPBC Act 1999*, consideration is given to the 'quality' of the regrowth compared to preclearing vegetation considering the presence of the climax species, mid story and ground vegetation.

The impact of these Acts and the inconsistencies between them create a high level of uncertainty for producers in terms of their right to develop and manage their properties. They also create significant expense in seeking advice and approval under each Act. The aim of this submission is to quantify, through examples, just how severe these impacts have been on producers and the extreme financial and personal impacts that have arisen as a result of government departments' application of these laws.



Note: See Appendix Two for further analysis of the complexity of these Acts

2. Issues

2.1 Impacts on Landholders and Regional Communities

AgForce Case Studies

The process of selecting and examining individual cases was designed to gain an improved understanding of the impacts of native vegetation and biodiversity legislation on land managers and to provide a detailed illustration of the impacts on farm businesses. The steps involved in developing the case studies are presented below.

(1) Identifying and Selecting Case Study Participants

Potential case studies were identified through discussions with the AgForce State Council and through a general overview survey sent to members. Six cases were selected that cover a range of issues highlighted as relevant within the issues paper compiled by the Productivity Commission and that were based on meeting the objectives of the inquiry.

Key criteria for selecting case studies were the availability of detailed property and financial information or clear records of interaction with government departments administering the legislation, as well as a willingness to make this data available for economic and social analysis.

(2) Case Study Information Collection

For each case study, a property description was compiled that was relevant to the nature of the regulatory impacts being assessed. For example, where the administration of the *Land Act 1994* and restrictions on future tree clearing on leasehold land was the key issue, the current operations (stock numbers etc) and the property's vegetation management plans (outlining future operations) were accessed. Financial information, including estimated costs associated with complying with the legislation, were also collected.

(3) Analysis of Case Studies

The case studies analyses are divided into various sections. Where possible (given details available) the following concepts have been addressed:

- Impacts on financial/production outcomes

- Impacts on capital value of property
- Compliance costs
- The personal impacts of the application of these laws on the case study families.

CASE STUDY ONE

The following case study is 'typical' of the situation faced by a vast number of sheep and cattle producers across Queensland who have not fully developed their properties. While it would have been possible, given the time and resources, to conduct an in-depth analysis of many properties, the stories of how the new legislation has impacted properties' operations are similar. Many of these affected landholders had purchased either leasehold or freehold land at various stages of development, with the purchase price reflecting the development potential of the land for agriculture, whether grazing, cropping or other pursuit. This example highlights just how severe the impacts the new legislation have been.

(1) Property Overview

The property described in this case study is approximately half freehold and half leasehold. The owner has a background in rangeland research and is an ex employee of the Queensland Department of Primary Industries (QDPI). This case describes the realistic management situation facing many producers related to the restrictions placed on vegetation management on their properties.

Measurements show that tree canopy increases at a rate of about 1% per year. Canopy covers up to about 10% have little impact on pasture production, but increases in coverage above that have a drastic effect. Over 35% tree cover reduces pasture production to about 20% of potential, with this coverage quite attainable in 20 years without continuing management. This has a direct impact on production and will mean significant reductions in productive returns in the future if the management of vegetation is restricted (researched by Ian Beale, formerly of the QDPI).

(2) Production Costs/Losses associated with Native Vegetation and Biodiversity Legislation

The following table illustrates carrying capacity of the property with existing management practices and the impact on future carrying capacity with the current restrictions on vegetation management.

Year	1992	1999	2022	2022	2022
Tree management			As normal	After moratorium (on leasehold portion)	After Moratorium (over the entire property)
Dry sheep Equivalents	2,800	3,500	6,500	3,980	1,450
Cattle (dry)	84	105	195	119	43

The inability to fully develop this property and to manage the regrowth vegetation will have a dramatic impact on the potential growth and future productivity of this property over the long term, as indicated by the carrying capacity figures in the table above. The difference in carrying capacity between developed and undeveloped country will mean that stocking rates are significantly reduced. Management costs, (in terms of mustering stock, wild dog impacts on stock and control costs) are also increased significantly when vegetation cover increases.

The current ban on vegetation management on leasehold land will most likely mean that development of the freehold country would not be economically viable, as the carrying capacity would be reduced to a level where stock numbers would not generate sufficient income to support the family.

The estimated direct loss in earnings over the next 20 years is in the order of $2,000,000. The vegetation management restrictions affect the most productive part of the property's development, as the returns from the current level of development meet costs and allow for slow progress. The future development will ensure the business reaches a profitable level.

(2) Property Value Impacts

The vegetation management restrictions will also have a very drastic effect on the value of the property. Land values prior to restrictions have been in the order of $125 – $150 per dry sheep area. For 6500 DSE, this property has a potential value of $800,000 to $1,000,000. 1500 DSE suggests a maximum of $225,000 and most likely less, because of the inability to expand or develop.

For landholders, the value of their property is their investment in superannuation. The future social costs are immeasurable.

CASE STUDY TWO

Goshen Station, Mount Garnet

(1) Property Overview and Background

The property details in terms of size and land use are presented below in Table 3. The leasehold property was purchased in 1997 for $1,320,000 WIWO (Walk in Walk Out) and is a Pastoral Holding Grazing lease that currently supports three families.

Table 1: Property Area, Tenure and Land Use

	Hectares
Leasehold Land (PH)	19,684
Total Property	19,684

Cleared land	321
Uncleared leasehold land	19,363
Stock numbers (cattle)	2400
Current carrying capacity on undeveloped country	1 beast/9.64 ha.
Carrying capacity on developed country	0.8 beast/1ha.

This case addresses issues arising from the administration of the *Land Act 1994* and the renewal of a pastoral term lease and the *Nature Conservation Act 1992*, which defines the interest of the Queensland Environmental Protection Agency in establishing a Conservation Agreement over state leasehold land. The process of lease renewal (lease expiry being 2006) has been both lengthy and complicated, with additional and changing demands from various government departments arising during the process.

The following comment from a letter by the leaseholders to the Minister indicates the emotion surrounding this case,

> *'We are deeply concerned as to the manner in which your Departments have operated, secretly and with no consultation or inspection. It is very disturbing to be told that, as the lessees, we do not have any say in what is our livelihood'.*

- In July 1996, negotiations with the then Department of Natural Resources (DNR) began with the property's previous leaseholders, who had applied to renew and upgrade their lease to a Grazing Homestead Perpetual Lease.

- In August 1997, the property was sold to the current leaseholders, who continued with the lease renewal and upgrade.

- In October 1998, valuation of the property was conducted by the DNR.

- In March 1999, a meeting was held between the property leaseholders, the DNR and Queensland Parks and Wildlife Services (QP&WS) regarding the lease renewal. At this meeting, a small boundary change involving the relocation of the park boundary to the property side of the Gorge was discussed. The leaseholders' documentation of the discussion is as follows:

  National Parks were not interested in the part of Herbert Falls on their property for fear of litigation. QP&WS were not interested in a parcel of 7300 hectares offered for sale to them by the previous leaseholders, as these ecosystems were already represented in the neighboring National Park and the DNR rejected the idea of removing that land from the lease as it would make the property unviable.

- On 3rd Dec 1999, there were indications that the EPA was interested in certain areas of the property.

- On 14th Dec 1999, the EPA claims on the property were made available to the leaseholders, who consequently put all management plans on hold and sought more detailed information relating to the claims, as well as clarification of the discrepancies between DNR, QP&WS and EPA advice.
  - The EPA claim included 10,460 hectares or 53% of the property. Some 7300 hectares of the area included in this claim was the land offered by sale to QP&WS by the previous leaseholders.

- On 21st March 2000, a meeting was held with a property consultant employed by the leaseholders and the EPA. At this meeting, two options were negotiated:
  1) they could continue the application for a GHPL (Grazing Homestead Perpetual Lease) and sign a VCA (Voluntary Conservation Agreement) over most of the property as identified by the EPA, or
  2) They could change the application to a lower PH (Pastoral Holding) lease and sign a VCA over one smaller lot of 133hectares.

  The second option was agreed to by the leaseholders in writing on 24th March 2000.

- On 30th May 2000, confirmation of this arrangement from the EPA was received.

- On 22nd Feb 2001, an application for a Low Key Tourism operation was lodged with the DNR. This followed the filming of the television series 'Survivor' on the property and subsequent tourism-related inquiries. Approval was granted on 11th April 2001.

- Close to the end of 2001, well over a year since an agreement with the EPA to move forward on the renewal of the lease, it was advised that the process for

renewal needed to be restarted due to the exposure the property had received during the filming of 'Survivor'.

- On 20th March 2002, a meeting was held between the DNR, a property consultant and leaseholders. The leaseholders were now officially advised that all previously involved Departments, along with the Queensland Film Industry and Queensland Tourism Council, would have to be consulted as stakeholders. Contact was made with the EPA and the leaseholders were led to believe that their position had not changed.

- At some point during 2002, a tree clearing application was submitted for part of the property (previously of no interest to the EPA). This caused the EPA to change their position significantly to requesting a VCA on the whole property (which was flatly refused) and then on half the property that lies south of the road (which was also refused). Agreement was eventually reached for the EPA to visit the property, observe how it was being managed and to 'ground truth' their assumptions.

- On 22nd January 2003, the EPA, QP&WS and DPI inspected the areas of the property concerned. After seeing the property, both the EPA and QP&WS gave verbal assurances that the renewal process would go ahead as planned and that they would work together to forward it.

- On 14th February 2003, correspondence from the EPA indicated what the leaseholder described as 'a complete turn-around' and the renewal of the lease would be subject to conditions that restricted clearing and management of the land appropriate to a grazing enterprise.

(3) Production Costs/Losses associated with Native Vegetation and Biodiversity Legislation and Impacts on Property Values

In order to demonstrate the impacts of costs and returns on this business from native vegetation and biodiversity legislation, four scenarios have been developed that illustrate the management decision options available under the regulations of the *Nature Conservation Act 1992*, *Land Act 1994* and the *Vegetation Management Act 1999*.

An important issue that must be considered is the lost production that has resulted from the years of negotiation and uncertainty about the future of the lease. The lack of confidence in making investments and the inability to develop the property in a natural progression has stagnated and significantly reduced returns in recent years.

Possible future options (all of which have significant impact for family):

Scenario One: *Existing EPA proposal for a Voluntary Conservation Agreement is signed and lease renewed*

While the leaseholders have refused absolutely to sign a VCA over half of their leasehold land, the impacts if they were to sign an agreement are significant. Representatives from both the QP&WS and the DNR&M have indicated that they consider the lease to be unviable with the imposition of a VCA over more than half the property. It would reduce the stocking rate by around 60%, which would mean a reduction in potential income from the cattle enterprise in the order of $330,000. Fixed costs would need to be spread over a smaller cattle herd, reducing profits significantly. This property, which currently supports three families, may be unviable even for one family. The costs of maintaining the condition of the land under the VCA would also add considerable additional costs with no returns.

The market value of the property would be significantly reduced under this scenario, given the reduced earning capacity of the leasehold as a cattle enterprise.

Scenario Two: Existing *EPA proposal for a Voluntary Conservation Agreement is not signed and the lease is not renewed*

If the State Government does not renew a lease, the leaseholders are only entitled to compensation for the value of the capital improvements on the property. The $1.3million paid for the property only 10 years prior is mostly lost.

Scenario Three: A *Voluntary Conservation Agreement is signed over the original proposed area of 133 hectares and the lease is renewed; however, further development and management of tree thickening is restricted under proposed vegetation management regulations*

The inability to use 133 hectares only slightly reduces the stocking rate, given the country's carrying capacity at present, and therefore only reduces returns from the cattle enterprise marginally (less that 1%); however, thickening is occurring and has already reduced the stocking rate on the property. The region's average carrying capacity is 1 beast/5 hectares. At present, this property has a carrying capacity of .8 beasts/1 hectare on developed land and 1 beast/9.6 hectares on uncleared land; an overall carrying capacity of 1 beast/8 hectares. With the current rate of thickening and the inability to manage the vegetation on the property due to restrictions under the *Vegetation Management Act 1999*, this carrying capacity is predicted to reduce to 1 beast/20 hectares within ten years. This would reduce returns from the cattle enterprise by 43%.

Scenario Four: A *Voluntary Conservation Agreement is signed over the original proposed area of 133 hectares and the lease is renewed and future development plans are fulfilled.*

This is the preferred option of the leaseholders and was the original agreement made with the DNR&M and the EPA in initial lease renewal discussions. The viability and future of the leasehold property would be secured, improving returns by 65 % when fully developed, based on current returns/head cattle and without including the costs involved in the development and ongoing management.

At this stage, given the extremely difficult negotiations so far, this option seems unlikely.

(3) Compliance Costs

In addition to the costs and returns of managing the property as a cattle enterprise, the leaseholders have incurred substantial costs in complying with the legislative requirements, but even more costly has been the drawn out process of negotiations driven by indecision and changing positions of the EPA. A conservative estimate of these compliance costs is in the order of $10,000, which includes time, professional advice, phone calls, paper work and transport to numerous meetings.

(4) Personal Costs

While there are large economic costs, the personal costs associated with a process that is so drawn out and where the goal posts are continually shifted (orchestrated by one party) is extremely high. One of the key issues is that individuals from the EPA have failed to stand by their word, appeared to be deceitful and displayed a distinct lack of concern for the people involved.

The pressures and frustration of lack of certainty and trying to manage a business without the ability to plan for the future has been extremely stressful on the individuals involved and on relationships within the business and the family unit. There are three families who work within this business and all of these have been severely impacted in terms of their futures, their economic survival and their health.

CASE STUDY THREE

(1) Property Overview

The property details in terms of size and land use are presented below in Table 2. The property was purchased in 1999 for $600,000 with 1096 hectares developed.

Table 2: Property Area, Tenure and Land Use

	Hectares
Leasehold Land (PH)	12,300
Forestry Lease Land	11,023
Total Property	23,323

Cleared land	3509
Uncleared leasehold land	8791
Stock numbers (cattle)	1150
Current carrying capacity	1 beast/20 ha.
Carrying capacity on developed country	1 beast/16 ha.
Carrying capacity on undeveloped country	1 beast/34 ha.

A Property Vegetation Management Plan (PVMP) was approved by the DNR on 29th May 2001. Incorporated within this plan was approval to clear 2413 hectares of remnant (1443 hectares) and regrowth (970 hectares) vegetation. The two-year permit to clear this vegetation expired on 5th June 2003 (with approximately half of the remnant vegetation yet to be cleared) and an application to extend this permit for an additional year was submitted to the DNR&M on 5th May 2003. Clearing was not completed within the two-year period due to drought conditions and the necessary supplementary feeding of stock. The average cost of clearing is $65 per hectare.

The carrying capacity of land cleared over the past two years, without improved pastures, is in the order of 1 beast/16 hectares, in comparison to 1 beast/34 hectares on uncleared land. Calving rates also differ significantly, with a 70% calving rate on cleared land and only 45% on uncleared areas on the property.

(2) Production Costs/Losses associated with Native Vegetation and Biodiversity Legislation

The Property Vegetation Management Plan outlines future development plans to clear an additional 126 hectares of regrowth and 3093 hectares of remnant vegetation. The inability to fully develop this property will have a dramatic impact on the potential growth and future productivity of this property on a long term basis and make the business operation unviable. The difference in carrying capacity between developed and undeveloped country will mean that stocking rates are significantly reduced. Inability to clear the areas proposed within the PVMP will prevent the property from supporting the two families currently working within the business.

(3) Property Value Impacts

The value of agricultural production country is determined by a number of factors. One key factor is the development potential of the property, obviously influenced by the prevailing legislation determining the rights to the use of land and water resources. This

property was purchased under the understanding that development (selective clearing and pasture development) would be possible under the existing legislation with the appropriate plans and permits. The current uncertainty surrounding the ability to undertake any development not only impacts on the immediate and long term returns from production but also significantly reduces the value of undeveloped land.

(4) Compliance Costs

Compliance costs are considerable, including the purchase of maps and mapping software, GPS and permit fees, along with the time taken to gather all the information and compile plans. It is estimated by these landholders that their costs would be in the order of $5,000 - $10,000. While considered a necessary business development expense, the recent increased restrictions on vegetation clearing may render this investment worthless.

(5) Personal Impacts

The personal impacts on this family resulting from the application of this legislation have been significant. What was considered a viable property (given development opportunities) is now regarded as marginal. The plans to develop would have enabled this family to incorporate the next generation (their son) into the property, enabling two families to earn a living from the property. This now appears unlikely, destroying the plans for the son's future and leaving the family facing early retirement.

The level of frustration, the costs of dealing with the issue and the associated stress levels have taken a toll on the entire family. Previous plans now seem unattainable and the family is uncertain about what to do now. This case provides a classic illustration of the impact of changes to environmental legislation on the lives of individuals.

CASE STUDY FOUR

(1) Property Overview

This property is under a GHPL which consists of 42,000 acres of which approximately 25% – 30% is cleared. About 5,000 acres were developed when the property was purchased and an additional 5,000 acres were developed under permit last year. They do not have any current permits to clear. Costs of improvements are $80,000 in clearing costs, $10,000 in cleaning out dams and $4,000 in upgrade of fencing.

(2) Property Value Impacts

The property was purchased in April 2002, for $1.4 million. The property was bought by its previous owner in the early 90's for about $1.2 million.

Recently, after considerable development, the property was put back on the market at $1.9 million and was advertised for about six months. In late April of this year, after significant rain, it was decided to auction the property. The auction was conducted by Ray White Rural and took place in Biloela on the 29th May 2003 at the Sheraton. There was considerable interest in the property, indicated by the number of inspections; however, a number of interested parties withdrew their interest after the Beattie Government announced the moratorium on applications for clearing on the 16th May.

A reserve was set at $1.4 million; however, the property was passed in at auction for $1.05 million. Negotiations are continuing and they are hoping to increase the price to $1.4 million to sell.

CASE STUDY FIVE

This case study is based on a property in the parish of Stone in northern Queensland.

- In 1988, the landholders attempted to gain a more secure tenure on a particular lease.

- Following inspection by the Department of Forestry, upgrade of tenure was denied, as 1500 hectares (with a carrying capacity of 1 cow: 30 ha) was required for State Forest. As compensation for the acquisition of the land, the family was offered two priority Special Leases over block A (special lease for 30 years) and Block B (special lease for 30 years). The Agreement was signed and came into affect on the 10th June 1989. From the special lease land, a further 6000m^2 (0.6ha with a carrying capacity of 1 cow: 2 ha) was resumed for a road; no compensation was offered.

- After the passing of the *Nature Conservation Act 1992* and following the introduction of the Mahogany Glider Conservation Plan, the landholders received a letter from the Hon. Tom Barton on the 20th October 1995. It stated:

  In view of the existence of the habitat on your property and its importance to the survival of this endangered species, I have asked officers of my department to contact you with a view to entering negotiations to establish a Nature Refuge Agreement over your property should you be prepared to consider this option.

- Meetings relating to the Nature Refuge and Mahogany Glider took place with various department officials on the 26th September 1996, 17th April 1997 and on the 30th June 1997.

- On the 6th August 1997, three Department of Environment (DoE) officers and a University professor (whose names are known but not documented here) met with the landholders in order to discuss the Nature Refuge. At this stage, the landholders had already applied for leases to be upgraded. Due to the respective timeframe for the leases, only one was subject for consideration (as 80% of the term of the two leases had not passed).

- The government officers met with the family and informed them that if they did not sign the Conservation Agreement to allocate a particular area as a Nature Refuge, the leases would not be renewed. Furthermore, the delegates made a verbal agreement with the family that if they were to surrender a certain portion of the land, freehold status would be granted to the remaining land.

- On the 27th November 1997, the Hon. Mr B Littleproud wrote to the family informing them that, 'In accordance with the requirements of section 44 of the NCA 1992, I hereby give notice of the proposal to declare about 4,608 hectares of your property (part lot C, D, E, A, and all of lot F) as a Nature Refuge'.

- The offer was supported by verbal offers (on several occasions) to freehold the remainder of lot C. The Conservation Agreement was signed during a meeting on the 20th April 1998 on the basis that if they signed the 4,608 hectares (with a carrying capacity of 1 cow: 30 ha) into a Nature Refuge, then freehold status would be attained for Lot C (1500 acres). This offer was a verbal agreement and no formal documentation was signed in relation to the tenure upgrade. During this meeting, the family was told by a government officer from the DoE, who stated, 'If you don't sign this Conservation Agreement, you will not be given another lease,' (the delegate's name is known but not documented here). The Conservation Agreement was subsequently signed.

- A meeting took place on the 4th May 1999 in relation to the granting of freehold status to Lot C. The minutes of the meeting acknowledged the commitments concerning Lot C that were made to landholders by the then Department of Environment at the time the VCA was signed. A government officer apologised that the process to date had been misconstrued by former departments but offered his full assistance.

- Additionally, at this meeting, the DNR informed the landholders that Native title had not been extinguished on Lot C. The DNR then suggested that granting of freehold status to Block D (2430 ha of hilly and heavily-wooded country). The family was not satisfied with this arrangement, as the country was relatively unproductive for cattle grazing; however, the DNR officials insisted that the timber was valuable.

- As of the 13th December 1999, 2 226 ha (with a carrying capacity of 1 cow: 30 ha) of Block D was resumed by the DNR and incorporated into State Forest. Five hundred acres of Block D was offered to the landholders in the form of a new 50-year Term Lease for grazing purposes. A grazing permit was also issued over the remainder of Block D.

- At no point in any negotiations were the landholders offered any form of financial compensation (apart from $10,000 in weed control on the Nature Refuge area) and no increase in tenure security has been achieved.

- The family has been dealing with government departments and delegates since mid 1989. The youngest son has now permanently left the family farm due to the stress and unhappiness surrounding the property.

- Due to land 'acquired' by the government the reduction in carrying capacity is equivalent to 278 head of cattle which is equivalent to an annual income loss between $85,00 and $00,000.

CASE STUDY SIX

Mahogany Glider Case Study A – Lot 26

- Two different landholders own a half share of a freehold property, which will be referred to as Lot 26. The land is used for grazing and comprises 1816.65 hectares, none of which is cleared.

- The two owners wished to sell the property in 1995 and found buyers who required one condition: the property would be bought for $800 000 as long as permission could be granted to clear 500 acres by the 22nd of September, 1995. A contract was drawn up according to this condition.

- Permission to clear was not granted, however, due to the requirements of the Mahogany Glider Draft Conservation Plan endorsed under the *Nature Conservation Act 1992*. Consequently, the sale fell through.

- As compensation, the State Government offered $320,000 for the property. Although both owner parties regarded this offer as inadequate, after years of fighting, one owner decided to sell their half to the Government for $160 000. To date, the landholders who decided to accept the offer have not received any money from the State Government.

Mahogany Glider Case Study B – Lot 5252

- Lot 5252 is a Pastoral holding with an area of 10,900 hectares. The current owners acquired the property through a succession plan from their parents in 1992. The property is also suitable for cropping.

- The landholders applied for a tree-clearing permit in early 1992 to clear 3,000 hectares. Inspection was undertaken by the DNR, DoE and DPI. The DoE wished to delay the clearing indefinitely unless an agreement between the landholders and the

government departments could be reached in the form of a Conservation Agreement as a Nature Refuge.

- When the lease for Lot 5252 was up for renewal in 1977, some 1,000 hectares was resumed by the State Government and re-leased as a special lease. This lease was taken by the State Government in the early 1990s and cut into lots of approximately twenty hectares for farmers to purchase as freehold land for sugar production. Although this area was critical habitat for the Mahogany Glider, it was cleared of trees in 1995-96 (after the Mahogany Glider Conservation Plan). This land adjoined the area relevant to the application for a tree-clearing permit.

- In January 1992 a valuation by Taylor Byrne of Lot 5252 arrived at $2.624 million.

- In 1998, the State Government instructed Taylor Byrne to value the property for acquisition purposes and the valuation arrived at $1.9 million. The decrease was attributed to the enforcement of Mahogany Glider Conservation Plans and the new tree clearing guidelines.

- This valuation was reviewed in 2001 and remained unchanged while other local properties were increasing in value. The property has yet to be compulsorily acquired by the State Government because a reasonable offer has not been proposed.

AgForce Survey Results

Background

In an attempt to effectively gauge the impacts of native vegetation and biodiversity regulations, AgForce conducted a survey of its members, a copy of which can be perused in Appendix One. From the surveys distributed, 92 were returned via email, fax and post. This chapter summarises these responses and in doing so, attempts to encapsulate the impacts of native vegetation and biodiversity regulation on producers.

The responses outlined in the following subsections are quoted verbatim from the survey responses.

Following the format of the previous case studies, this section will classify the survey responses under several key areas:

(1) Compliance Costs
(2) Loss of Income/ Production Possibilities
(3) Capital Value Loss
(4) Personal Costs
(5) Community Costs

(6) Government Perceptions
(7) Perverse Outcomes

(1) Compliance Costs

Due to the raft of regulation and legislation imposed by both Federal and State Governments, producers have been forced to incur costs in order to meet requirements under these laws. Compliance costs can be best described as any costs imposed upon farmers as a result of introducing management change in response to new legislation.

There is a cost to all farmers associated with complying with regulation and legislation. Examples include time spent completing relevant paperwork and payment of professional fees, such as consultants preparing property plans and the purchase of specific computer mapping programs. Time spent attending regional meetings can also be considered a compliance cost and these meetings are crucial for producers to attend as the outcomes can result in dramatic natural resource management ramifications. The cost of compliance has increased as more regulations and legislation have been introduced.

It is important to note that these compliance costs are solely borne by producers in order to achieve native vegetation and biodiversity outcomes for the whole of the community. The examples in Table 3 (taken directly from surveys) highlight the significant compliance costs that have arisen as a result of the legislation:

Table 3: Compliance Costs Associated with New Legislation

Examples of Compliance costs	**Total Cost**
• Significant costs and time associated with drawing up veg. management plans, meeting with financial counsellors, accountants and solicitors, attending meetings, developing computer skills and the considerable costs associated with generating information and documentation, making substantial numbers of telephone calls. Absence from property and tasks at hand – 90 days @ 200/day = $18 000 direct costs in lost work time; $6000 in software, phone calls, computer materials; $2000 in fuel; $2000 in solicitor and accountant fees. (ref # 12)	**$28,000**
• GPS, mapping program and tutoring, PVMP and PMP (ref # 1)	**$10,000**
• Can't grow fodder and hence have to buy in feed (ref # 16)	**$15,000**

• Property environment policy and contracting a consultant to assist with understanding legislation and regulations (monthly cost) (ref # 9)	**$2,500 + $500/month**
• Due to restricted fodder (mulga) harvesting, feed has had to be brought in – first time in 46 years of ownership this cost has been seen (ref # 10)	**$10,000**
• Due to extra time being used up non productively to satisfy some government requirements, at least two days of every month are taken up with this type of office work (@ $150/day). (ref # 11)	**$3,600 pa**
• We prefer to hire a consultant at our expense to deal with government on our behalf, fearing government departments are not on our side and will try to put it over us. (ref # 13)	**$5,000**
• Permits and plans (ref # 20)	**$4,000**
• Maps – satellite ($1800), computer software (pinpoint) ($1500) (ref # 35)	**$3,300**
• One person needs to spend 3-4 weeks per year in the office (ref # 26)	**$2,000**
• Time on RVMP and NRMP of western catchments – at least one day per week for the past three years. Maps to do a PMP ($100), we however have not done it to their standard and will have to spend another weeks work on it. Permits ($200). My wife now spends 1 ½ to 2 days per week keeping up with the changes, instead of working on the property. (ref # 27)	**$2,100**
• Permit cost ($260), Plan cost ($300), Time - wages ($2000). (ref # 29)	**$2,560**
• Satellite imagery ($ 1200), computer-mapping program ($1000), preparing a development plan ($2500). (ref # 34)	

• Pondage bank restrictions deny production. Weed eradication more expensive as the dozer has to avoid trees and clearing fence lines can be more complex. (ref # 35)	**Unknown**
• Maps - we have receipts ($616.90), Every time I attend a meeting in Emerald it costs me $30 in fuel – let alone the cost of my time. (ref # 36)	**$616.90 + $30 fuel per meeting**

Below are other comments by producers in relation to compliance costs.

Survey Response # 3

"We as producers assess the current mentality as 'user pays', we feel that the full cost of installation and maintenance of any legislation will be forced to be borne by us, the producers. The current proposals are asking producers to pay for permits, property plans and audits and subsequently we would also have to pay for correspondence and consultation with government departments.

Question, at the end of all this document preparation and audit costs, does anyone foresee the producer receiving a better return on his capital investment or for his commodity? Our answer is "NO". Any other business would want to see some financial return for investment of time, resources and money.

We don't know how your budget looks, but we can tell you ours looks very sad, having just with stood the worst drought on history. We as producers, do want to be economically viable, with finances available for development, with finances available to plan for retirement, and with finances to maintain our operations and families.

Our Example:
A property plan for a property of 2500 acres is completed by hiring a professional with such equipment as laptop computer and GPS to assist with preparation of property map

- 1 day to inspect, assess and hold discussions with owner $1000
- Travel cost to and from the property 100km from nearest town $ 300
- 1 day to compile the information producing maps and documentation $1000
- ½ day to meet with owner and finalise the documents $ 500
- Audit costs $1500

Cost of current printouts from government departments

- Aerial photos of property $ 7
- Satellite imagery of property $ 27
- Vegetation Maps, current and proposed if possible $ 26
- Miscellaneous Costs such as stationary, telephone $150
- Owners time and lost productive costs (40hrs @ $20) $ 800

TOTAL **$ 5 310"**

"The situation is becoming untenable"

The example below also illustrates additional costs of complying with legislation.

Additional Costs associated with Managing Remnant Vegetation

The management of vegetation undoubtedly imposes costs on property owners. While potentially enhancing biodiversity, considerable resources are required for the management of animal and plant pests in areas of remnant vegetation. Recent changes to the *Land Protection (Pest and Stock Route) Act 2002* in Queensland requires landholders to manage animal and plant pests on their land whether cleared or remnant.

Remnant areas are greatly reduced in their ability to provide productive returns and in contrast are more likely to increase costs to the enterprise through payments of rates and other costs associated with managing that land area.

In worst case scenarios in Queensland prosecutions have been made where producers have cleared invasive species under the impression that as declared pests they were able to do so only to be subsequently fined for failing to make a development application.

Example

Photos (not attached) taken by the landholders show the area cleared of Chinee Apple (Ziziphus mauritiana). Chinee Apple is a declared plant of Queensland and is categorised as a P3 – which refers to plants whose numbers and/or distribution are to be reduced throughout the state or the relevant parts thereof.
This country has been cleared for about 18 months and the infringement notice was issued in May 2003. After a couple of phone calls to the Department of Natural Resources and Mines, the infringement notice has been put on hold until a further inspection can be made by DNR&M. The reason why the notice is on hold is because the timber cleared was Chinee Apple, a declared plant. The Chinee Apple was cleared due to its density. In most patches people could not ride, drive or even walk through, which made the country difficult to manage. Due to the density of the Chinee Apple, most other trees were suffering, from lack of water and nutrients, and there was little to no grass cover. Mature, healthy trees were kept, but some other trees were cleared, as it was impossible to clear the Chinee Apple without damaging these trees.

(2) Production/Income Loss

The income loss to properties results from many enforced land management changes associated with the introduction of new environmental regulation and legislation.

Examples include the cessation of vegetation clearing and decreased water access rights and diminished property development potential.

Producers who have implemented conservative development plans have suffered the greatest income loss from new environmental regulation and legislation. This becomes obvious when comparing development plans that range, for example, from two years to 20 years. If a producer initiated a two-year plan in 1990, this plan would have been completed by 1992 and the property fully developed. If, however, the plan was implemented over a 20-year period, the plan may not have been able to be completed due to diminished vegetation management and water rights. Producers in such situations have now, due to the new environmental regulation and legislation, lost the opportunity to fully develop their property.

Furthermore, the new environmental regulation and legislation leaves producers who have spent thousands of dollars attempting to receive tenure upgrades wondering why they bothered. A tenure upgrade is a desirable process for both the producer and the environment, as it elevates the ownership and indeed stewardship of the land. The recent introduction of new environmental regulation and legislation has affected all forms of land tenure and in effect diminished the differences between leasehold and freehold land.

The examples in Table 4 and 5 highlight the impact of either an individual or multiple Acts on survey participants.

Table 4: Single Act Impact

Act: VMA 1999 Income Loss: $**80,000 pa** Explanation: To shift the laneways from the fence line imposed a cost of $70 000 because DNR&M put a retention corridor on both sides of the fence. The lost production of 4000 acres which would carry 200 breeders results in a loss of $80,000 pa. (ref # 32)
Act: VMA 1999 Income Loss: **$52,000** Explanation: Income loss from extra 1000 sheep that could be carried yearly, therefore this would result in 27 bales of wool, which would equal approximately $52,000. (ref # 14)
Act: VMA 1999 Income Loss: **$9,360 pa** Explanation: When we purchased this place sums were done as to what we could run. Now that the productive area has been cut, the number of cattle units we can run per area has to be less. Therefore the overhead costs per productive area are greater. To put a dollar value on it: carrying capacity = 1 beast to 4 hectares. For 240 ha that equals 60 head. 60 head on agistment at the current rate of $3 per head per week = $180 per week for 52 weeks = $9,360 pa. (ref # 35)

Table 5: Multiple Act Impact

Act: VMA 1999 & EPBCA 1999 Income Loss: **$60,000.00 pa** Explanation: We lodged an application for a permit to develop country with the DNR&M on 1st December 2001. Consideration of this application has just been put off for a further 3 months. This property is nearly all Coolabah, Belah, Gidgee and Brigalow soil types with Mitchell Grass plains. It appears at this stage that we may be expected to retain in a natural state as much as 80% of the property. This will have a huge cost on the productive potential of the property and the sale value. This type of country was once considered the most valuable and now potential buyers prefer to avoid this property. To recognise the productive potential of this property those timbered soil types that would support Buffell grass need to be developed. At this stage most of those land types on this property are described as endangered or of concern. If we are unable to use the soil types mentioned we estimate our annual gross production losses at approximately 35% or $60,000 pa. (ref # 2)
Act: VMA 1999 and Water Act 2000 Income Loss: **$140,000** Explanation: 200 head less that I can run using $700/head this equals $140,000 lost income per year (ref # 26)
Act: VMA 1999 and Water Act 2000 Income Loss: **$250,000- spent to upgrade lease tenure – for what?** Explanation: We have a property with 1% cleared land and will not be allowed to further develop it. Went through the process to upgrade our tenure to freehold land and now we are not allowed to develop it. We spent over $250,000 when upgrading from leasehold to freehold land. Now that it is freehold our rights have been taken away anyway. (ref # 29)
1 Act: VMA 1999 and Draft State Rural Leasehold Land Strategy 2003 (DSRLLS) Income Loss: **very large** Explanation: Only 5,000 acres of a 30,000 pastoral holding lease cleared and the possibility of 27,000 acres of state forest being withdrawn the income lost will be very large. (ref # 1)

Act: Tree clearing proposal Income Loss: **Lost half our potential income** Explanation: Clearly the impacts on long-term viability and sustainability are immeasurable. We have made long-term financial commitments and undertakings based on assumptions of the nature of FREEHOLD tenure, which included having the rights as a landholder to responsibly manage our own property without unreasonable government intervention. What possible long-term benefits are there for us, as landholders, in having paid out our original lease in the 1990s, granting us supposed FREEHOLD status? Based on the draconian legislative restrictions, we are unable to run the additional 1200 head of cattle we anticipated being able to run by 2008 (which would have doubled our present income.) (ref # 12)
Act: Land Act 1994, VMA 1999 and Water Act 2000 Income Loss: **Lost approximately one third of our annual income** Explanation: We have a block of 13,700 acres of which we have pulled approximately 4500 and have applied for a permit 13 months ago and have been refused because the vegetation is said to be on the threshold. Hence we have lost approximately one third of our potential annual income. (ref # 27)
Act: Land Act 1994 and VMA 1999 Income Loss: **$54,740 pa** Explanation: The difference in carrying capacity between 1:7 and 1:5 on 1600 ha is 92 LSU where 1 LSU is the equivalent of a 425kg steer. On today's market at $1.40/kg would be worth $595.92 such steers would have a gross value of $54,740 pa. (ref # 36)

(3) Capital Value Loss

The recent introduction of new environmental regulation and legislation has severely restricted the development potential of land. It is important to remember that the development potential of land is an attractive attribute of a property, particularly when it is for sale.

Table 6 provides a plethora of examples where the capital value of properties has been affected as a result of recent changes to environmental and biodiversity regulation and legislation.

Table 6: Effect of New Legislation on Capital Value

Capital Value Loss	Explanation
$500,000	We consider our capital losses in the area of $400,000 to $500,000 (ref # 2)

$400,000	Our leasehold land has lost $200,000 and $200,000 on the freehold. (ref # 32)
$175,000	Would be $35/acre for 5,000 acres therefore our capital value lost equals $175,000. (ref # 14)
$ 158,000	About $ 100/ha has been lost for a 1,580 ha farm which equals $158,000. (ref # 35)
Over $1,000,000	Bought an undeveloped property for $520,000, which will stay undeveloped now that can't develop – the property value would have trebled if we could have developed it. (ref # 13)
No development potential	We are currently marketing our holding and the imposition of these restrictions is inhibiting us from offering a property with development potential. We are being penalised as a result of over clearing along the eastern seaboard. (ref # 10)

We sold our property outside of Emerald in 2 blocks (Sept. 2001). Both blocks were similar size but the 2nd block was better country. The first block was fully developed and sold for $1.95 million at auction. The second block had restrictions to further land clearing (due to the VMA 1999) and passed in at $1.1 million, luckily it later sold for $1.75 million. Many potential buyers walked away after looking at maps of potential tree clearing. (ref # 6)

(4) Personal Costs

Personal costs are obviously extremely difficult to quantify. They do, however, represent a very real 'cost' of the new environmental regulation and legislation. Many producers reported increased levels of stress, family tension and anxiety due to the uncertainty (or inability to proceed with plans) associated with the recently introduced environmental legislation. The following are producers' statements relating to strain caused by the introduction of this legislation at a personal, family and health level.

- 'Two members of this particular family are being treated for depression and panic attacks – The uncertainty of the future for two generations and the education of a third makes for a very nervous lot of people, therefore most of us forget what it's like to be happy. How can we make any decisions when we have got a government that controls those decisions? Constant tension has resulted – people don't want to stay on the land – One family has left the others will leave as soon as we can sell.'

  (ref # 23)

- 'Daunting prospects have cause family friction, stress and unhappiness leading to insomnia and depression requiring medication.'

  (ref # 1)

- 'My son now sees his inheritance diminished and holds me personally responsible for not seeing the 'writing on the wall' – recriminations have followed.'

  (ref # 36)

- 'We are constantly angry and frustrated. All the people we talk to are in the same state. Many are desperately waiting for some rain so that they can sell out and leave this mess. My time is nearly up here and we need to go soon. The sale price for the property is our superannuation and that has been slashed.'

  (ref # 2)

- 'My Property already has approximately 80% remnant vegetation. The other 20% is growing quickly. If I can't get it cleared before they declare it remanent vegetation I will have to look at ecotourism. However I don't think any body would like to come to a place where they can't see more than 100 yards in front of them or they can't access the place because the tracks are overgrown because I can't clear either side of the gullies and creeks. It is getting harder to find the cattle in the regrowth which they call remnant. If the tree clearing legislation is not sorted out soon I will have a property not worth a cent. Too hard to manage and too hard to sell. I am 45 years old and in that category that is finding it very hard to find a job. I have 20 years of farming left in me but without my farm I probably have 20 years of unemployment in front of me.'

  (ref # 8)

- 'We are debating the point "Is there a future for our son on the land?" There is now so much ineffective government legislation it gives rise to the question – are they serious in wanting to support people in agriculture?'

  (ref # 10)

- 'We are completely uncertain of the future and this means decision-making is very difficult. With three sons it also makes succession issues very uncertain. We are very disillusioned and stressed and feel that energy that used to be directed towards productivity is now used up fighting for our rights. We now tell our sons that they would be better off with a different life other than being on the land. I am very angry that bureaucrats have destroyed a way of life to this extent.'

  (ref #11)

- 'My wife has just been working full-time for the past several years to contribute to our income and our development aspirations, driving a 190 km round-trip daily, as our projected farm income has been stagnated. She's just a nervous breakdown trying to do twenty things at once. I have had to take up the gap in the property and domestic workplace left by her absence. We have both been working 14-hour days. We now have no future options to pursue our dreams, and our past efforts appear to have been in vain. Also – see government perceptions - I have spent two years in a Regional Vegetation Management Planning Committee working out a Regional Vegetation Management Plan believing that, if we got it right, it would be a win-win situation for all stakeholders concerned. The rug has, literally, been pulled out from under us. I cannot imagine in my wildest dreams how the State Government, knowing the sustained efforts that had been made by concerned stakeholders in a supposedly consultative process, could declare a Moratorium under the circumstances.'

  (ref # 12)

- 'Our son and grandson want to take over (4th generation) but wonder whether it will be possible to cover the costs. We are in utter despair at the stupidity of government. Making us scapegoats for the interests of Australia. We do not want compensation. We just want to do our job!'

  (ref # 14)

- 'We have told our children they are better to find a future elsewhere. We don't know whether there is any future left for anyone on the land now. Our family is going through a very stressful time because we can see the impact this is going to have on our business. We don't know what the future holds for us and our children.'

  (ref # 20)

- 'The next generation is very wary of farming.'

  (ref # 24)

- 'Our two sons work away from the farm and we can see little future for their viability on the land.'

  (ref # 31)

- 'Recent changes have left us feeling very frustrated and angry and wondering why we are still on the land.'

  (ref # 32)

- 'The continuing uncertainty and pressure to comply with increasingly complex regulations has led to increased stress levels which have required medical help.'

  (ref # 34)

- 'Government changes have impacted on us personally, to the extent that it has impaired our vision for future development and advancement with any confidence. Producers have issues with succession planning. The drift to city dwelling from the regional areas continues at alarming rates. The next generation of primary producers having already left the family business because viable financial primary production is deteriorating with each passing year. Primary production is already a stressful business given conditions, circumstances and the amount of responsibility assumed by each person, if governments keep adding to pile, confidence will wane from your everyday, Mum and Dad operation which supports them and their family.'

  (ref # 3)

(5) Community Costs

Given that most rural and regional communities are partly or completely dependent on rural industry for their survival, any negative impacts on producers has significant flow-on effects for the community. Most employment in rural towns is generated directly and indirectly by the rural sector. Contractors especially have been severely affected by the moratorium on further development. Many of these contractors had invested (and borrowed) significant funds to purchase equipment for development, clearing of regrowth (which is an essential property management issue), and other uses. This equipment is now lying idle and contractors cannot afford repayments due to lack of work. This has further flow-on effects to machinery suppliers, fuel suppliers and town businesses, as people move due to lack of employment.

A formal economic study would provide further evidence of the community costs. AgForce, however, was not in a position to undertake such a study (or commission a consultant) and alternatively wrote to Shire Councils asking them to express their opinion concerning the impacts the new environmental regulation and legislation has had on their communities. Few responses were received, however, although Warroo Shire (see below) was an exception. Other shires did reply via email, stating that they

believed the implications were yet to fully affect their communities, but would undoubtedly become clear in the near future.

Waroo Shire Council Response

As yet the native vegetation and biodiversity legislation is not impacting heavily on Council. Warroo Shire expects to finalise its IPA Planning Scheme by October 2003. I believe that the major impacts will fall from next year as State Planning Policies and legislation relating to the environment become more heavily enforced.

Council's administrative role will certainly increase and the cost associated with that administration, including additional employment, will increase dramatically, as State Government Departments have a decreasing number of personnel on the ground in rural areas.

I feel that the economic and social impacts on primary producers as a result of increasing legislation is immense. This has a flow on effect to agribusiness and regional business. One can see the downturn in the business of the tree clearing contractors as a prime example. These people buy fuel and parts in the region and have virtually ceased business.

Land valuations continue to rise at this stage, but will be affected I feel from 2004 by the legislation. Local employment is static and population trends are positive to the tune of around 1.5%. The drought certainly has seen the regional economy suffer and it will be some time before cash flows can be improved. Local business houses are suffering because of this. If the primary section income is further eroded, it will impact detrimentally on local business houses to the extent of closures.

(6) Government Perceptions

The relationship between primary producers and government departments has become extremely strained, especially during the last few years, due to the recent increase in regulation and legislation. The Government's attempts to achieve biodiversity outcomes have come at the expense of certainty for landholders, which has been diminished as the Government has increasingly regulated agricultural practices.

The AgForce survey questioned the relations between government departments and landholders concerning these issues. Responses to this question were extremely emotive and forthright. These responses reflect the depth of frustration, anger and sadness at the application of these laws by government officials and the callous disregard some government officials have expressed towards landholders. Following are some examples taken directly from the survey responses that highlight this issue.

- 'The most dramatic change has been to the **relationship** between landowners and government operatives. In the past DPI officers were friends, advisors and confidants. No more. Can we trust them? What is their agenda? We avoid dealing with government departments.'

  (ref # 17)

- 'We had an unannounced inspection from the DNR to see if we'd complied with our permit. Quite rude. We are also aware of a similar inspection on a neighbouring property where a locked gate was removed from its hinges to gain access to the property without the owners consent. The owner would have co operated if they'd had the foresight to contact him in advance.'

  (ref # 4)

- 'I have spent two years in a Regional Vegetation Management Planning Committee working out a Regional Vegetation Management Plan believing that, if we got it right, it would be a win-win situation for all stakeholders concerned. The rug has, literally, been pulled out from under us. I cannot imagine in my wildest dreams how the State Government, knowing the sustained efforts that had been made by concerned stakeholders in a supposedly consultative process, could declare a Moratorium under the circumstances.'

  (ref # 12)

- 'Any dealings I have with DNR&M are based on the level where I must be absolutely accurate or else I will be charged with something but the DNR&M do not have to be accurate or right and they have unlimited time and resources to place me in an uncertain position indefinitely.
  No other examples but - If the trees and the environment are so valuable for clean air, water, salinity management and a home for wildlife and fauna, instead of turning us all into the enemy and the cause of the problem we could have been employed as the custodians of this environment and managed the issues for mutual benefit. The officers and zealots who have been set the task of getting us don't come from this country, don't live here, buy their homes far from here and will go as soon as they can. The real problems are the dishonesty and the misinformation. The main issues are politics and complying with agendas that aren't environmentally based. There are genuine concerns about the environment and the community out there that will still be there even if the government destroys all of us.'

  (ref # 2)

- 'Great uncertainty. Almost afraid to do anything lest big brother turns up with a big stick. Feel disenfranchised.'

  (ref # 35)

- 'We have dealt with government departments at both regional and head office levels. We find the majority of persons trying to convey information to the public do not have a sound and comprehensive understanding of the legislation nor the tools used when assessing the impact of their legislation. Even persons employed by government departments are being kept in the dark by their own admission, so how can producers have confidence when dealing with any department that the information is correct and that the understanding, comprehension and implications from legislation are being imposed correctly without detriment to themselves, the producer.

  We are very concerned about the way resources are currently mismanaged by government departments. We have had experiences with representatives from government departments who have absolutely no comprehension or knowledge of certain areas, (could not even identify grass types, could not work out which way water flowed) try to advise us (4 generations of knowledge and experience) how best to manage our land and resources. Give us a break!!! Why don't departments get their own house in order, before questioning / up-ending someone else's livelihood.'

  (ref # 3)

- 'On a small matter of clearing a fence line along a main road, delay with inspections by various officers of the Department, assessment of regrowth as important source of seeds for regeneration and lack of understanding of what was requested, reasons, reasonableness and practicality, frustration with the overzealous implementation of policy etc. Sorry, no positives.'

  (ref # 7)

- 'We prefer to hire a consultant at our expense, to deal on our behalf fearing government departments are not on our side and will try to put it over us – at a cost of $5000.'

  (ref # 13)

- 'Time taken to go to fruitless meetings cannot be calculated. We have endless consultation but the decisions are made regardless of our input. We have freehold country but that has been devalued under this government. Continued – Our dealings with Gov. dept. have been totally negative, as you cannot get answers. Staff seem to loath to advise – we are ruled by people who have no experience of the land (hands on experience).'

  (ref # 14)

- 'Numerous trips and time has been involved in attending planning workshops and community awareness meetings. Then to find this is almost disregarded. Some people have been asked on occasions to represent on some committees, and now have totally lost all confidence in the system.'

(ref # 18)

- 'Used to have an excellent relationship with DNR&M. Relationship is now one of mistrust and anger. Muzzling of government agencies by the current Qld Government means we do not know what is truth and what is lies. Eg A report on the recent leasehold guidelines meeting in Quilpie was changed to two lines saying that the meeting was well attended!'

(ref # 19)

- 'It also impacts in the fact that were trying to run a cattle operation and it is getting more and more that way that you need to spend more of you time trying to keep up with the government's changes and organising things to fit their legislation that we have less and less time to get on with the business that actually makes us the money. There would be a meeting a least one a week lately on water issues, veg management, natural resource management planning etc that we are invited and pressured to attend. I am just lucky that I have staff working for me and have the ability to attend meeting that I think relevant and the business just keeps going. What about the smaller operations which there are a lot more of. There must either be a real drain on their business as every time they attend one of these meeting they loose a days work or they can't afford the time and thus don't get the opportunity to learn what is going on or have their say in matters that may affect them.'

(ref # 21)

- 'No body will give a straight answer as to what can be done now because – they don't know themselves; they are unsure how long the current legislation or maps will remain current; and theirs is a consistent bias toward keeping as many trees as possible.'

(ref # 22)

- 'All communications have been negative. They seem to deem you as guilty of 'raping' the land, and in fact of just trying to stay on the land. Grazier appears to be a dirty word. The more that government can throw at us the better to suit the city electorate and the green team – showing them how we are violating 'their' land. No help with applications, in fact total hostility.'

(ref # 23)

- 'Vegetation officers are very busy and in our area are resigning.'

(ref # 24)

- 'I have made the decision to sell a timbered leasehold property because of regulation. In selling the leasehold property I requested a tree clearing permit copy to go to the agent, 4 requests, 4 positive answered – 'it will be faxed' – to date no such copy has been faxed.'

  (ref # 25)

- 'We have always done the right thing – This area was cleared 1860-1880 and well and truly cleared by 1950. Our forefathers left tracts for conservation and biodiversity we are not being recognised or rewarded for being proactive sustainable farmers we are being branded the same as reckless environmental vandals.'

  (ref # 26)

- 'I had an issue over a power line coming through my property – EPA is a department that is out of control – EPA identified a butterfly around Leyburn in Bull oak – they have spent a lot of money replanting Bull oak – it has now been discovered at several other locations.'

  (ref # 28)

- 'We have found our local DNR&M vegetation officer administering the regulations to tree clearing to be very frustrating to deal with. His assessment of property improvements in time consuming and unrealistic with a very negative attitude to us and development. Our proposal to put in a laneway to an existing fence line without clearing more than an allocated amount was rejected because it may give leeway for further clearing by future owners. Questions we have asked him have still not be answered a month later.'

  (ref # 32)

- 'The maps for our area were wrong, requiring a lengthy process to have them changed. The DNR&M required several extensions before the permit was granted; but once granted no extension was give to us hence I have had to employ extra farm hands so that clearing and normal management operations can take place.'

  (ref # 33)

2.2 Efficiency and Effectiveness of Environmental Regimes

Perverse Outcomes

One of the most unfortunate outcomes of the recent environmental legislation is the 'perverse outcomes' that have resulted. In Queensland, this has been exacerbated by the fact that the state is currently undergoing significant negotiations between the Commonwealth and the State in relation to tree clearing laws. This process, to date, has been acrimonious, completely non-transparent and the result will be further significant impacts on AgForce members.

The current systems and conservation policies have imposed a set of restrictions that are unlikely to achieve sustainability and will result in a range of perverse outcomes.

These perverse outcomes include the following:

1. Accelerated clearing rates rather than reductions;

2. Clearing that targets high conservation values;

3. Bureaucratic processes that reward those who clear and penalise those that retain native vegetation, through:

    - Prescriptive regulations that are subjective and lacking natural justice and procedural fairness – alienating resource managers,

    - Policies that use nature-based definitions of sustainability rather than balancing production and conservation – alienating resource managers,

    - Information systems that are incomplete, exclusive and lacking in rigour, resulting in many high conservation values remaining unrecognised,

    - Alienation of landscape managers where policies are based on enforcement to achieve compliance,

    - Likely over-utilisation of residual productive areas,

    - Loss of opportunity to create alternate land uses and diversification, resulting in unviable enterprises,

    - Failure to investigate alternative means of achieving biodiversity targets, such as eco-system payments and other incentives,

    - Impediments where dissimilar title and title restrictions impede diversification and build-up, such as single purpose leases and term leases,

- Impediments where amalgamation of areas is made difficult through survey standards, costs and policy,

- Policies that do not integrate natural resource management, such as treating forestry as a single policy issue for political reasons,

- Short term approvals that encourage a 'use it or lose it approach'.

- Additionally, by not implementing a complementary process of structural adjustment and removing institutional impediments, the State has guaranteed that it will not achieve Ecologically Sustainable Land Use (ESLU) or Ecologically Sustainable Development (ESD).

In essence, the introduction of Acts such as the *VMA 1999* caused large amounts of land throughout Queensland to be 'panic cleared.' That is, before the introduction of the *VMA 1999*, producers thought that their ability to clear land in the future would be lost and hence many producers who had no short term plans of clearing decided they had no option but to clear.

The following direct quotes from the AgForce member survey results further highlight many examples of perverse outcomes that have resulted from the introduction of these environmental Acts:

- *We are currently waiting to see if we can obtain an extension on our existing permit as we believe that the drought has left the country in such poor condition it would be detrimental to clear country now. However, our permit runs out in September and if it isn't extended we will pull regardless as it is obvious there will be no more permits issued.*

  (ref # 11)

- *Excess expenditure is being incurred removing (unnecessary) trees from white areas on maps to ensure they do not subsequently become coloured – This will totally clear more country would otherwise occurred if white areas were certain. I am currently removing trees. I do not wish to remove or would leave for removal in the future land uses but am forced to remove them to make sure no further coloured areas appear – This may still be futile as the emphasis shifts from current trees on the ground to perceived ecosystem potential.*

  (ref # 22)

- *I am spending money on pulling regrowth during a drought for fear of future government regulations.*

  (ref # 28)

- *What we know to be regrowth is now classified as remnant. In our class of country, it is normal practice to allow timber to become semi-mature before thinning with the retention of suitable timber for milling. Regrowth now has to be taken at a very early stage to avoid its change in status. Current 2 year permit periods do not recognise the impact of drought and financial pressures on proceeding with property plans.*

  (ref # 31)

- *Under the current Land Act we can not clear more than 10m either side of existing fence lines making it impossible to put in laneways. Property roads in vegetation areas are allocated a total width of 10m – this restricts out ability to build up heavily used and eroded roads not allowing us to protect the land.*

  (ref # 32)

- *We have been forced to do all the clearing that would have been done over a longer period in the next 12 months. Because we had to plan the clearing on a satellite image we may be clearing areas we would otherwise leave, if we were making decisions in the field.*

  (ref # 34)

These examples provide a 'snapshot' of how the Acts have in fact created more problems than solutions and how alienation and fear have driven producers to make decisions that are contrary to the legislation's initial intentions.

2.3 Adequacy of Assessments of Economic and Social Impacts

The distinct lack of accurate, in depth and realistic assessment of the economic and social impacts of this legislation has been profound.

Below is an example of the AgForce assessment of this situation prior to the introduction of the *VMA* in 1999 (as related in a Press Release).

Impact on Regional Communities

In the lead up to the legislation being debated and subsequent to its passing through Parliament, there has been NO assessment of the likely social and economic impact on individuals as well as rural and regional communities. For example small businesses, schools and other local services.

There is no doubt that the market value of individual properties will be affected where development opportunities are constrained by the Act. This will have spin-off effects on the surrounding local and regional communities, for example, small businesses, schools and other local services.

It is an absolute travesty that in the lead up to the legislation being debated and subsequent to its passing through Parliament, there has been no assessment of the likely social and economic impact on individuals as well as rural and regional communities.

Mr Welford has also said that the legislation forms an umbrella for regulation and it will be on the ground at a regional level where planning and decisions will take place. If only that were true!

Where to from here? AgForce recognises the need to develop legislation that protects a range of values in the landscape. We support a framework that operates at a landscape scale and allows regions to develop their own regional plans without the heavy hand of the Minister. In essence, regional solutions to regional problems. The framework must balance rights with risks and deliver opportunities in addition to obligations.

Unfortunately, things have not improved much from this point. Furthermore, it is one sector of the community (that is, producers) who are asked to bear the cost of these legislative tools, yet governments see fit 'not to quantify' the effect of the legislation on this sector. While AgForce has invested significant resources in attempting to quantify individual impacts of this legislation in this submission, it would require an intensive six month, highly-resourced project to quantify the effects properly.

2.4 Transparency and Community Consultation

Community consultation is absolutely vital if landholders are to be engaged in the environmental debate and if significant outcomes are to be achieved. An effective example demonstrating a move forward in community consultation can be seen in the investment of resources by Environment Australia (EA) into National Farmers Federation (NFF).

This occurred in 2002/2003 and involved the secondment of an EA staff member to NFF to assist with landholder inquiries and the referral process under EPBC. This achieved some positive results and gave landholders support (to a certain degree) in obtaining assessments and advice from Government Departments.

A negative example of consultation has, however, occurred in Queensland, where individual stakeholders have invested over two years in a regional vegetation management processes. These plans have now been described publicly by the Government as inadequate and not going far enough.

This disengagement is disappointing and results in the development of processes that do not take into account regional differences and local knowledge, which means landholders and other parties do not have ownership of issues at a local level. As can be seen in section 2.6 below, AgForce strongly supports the concept of consultation occurring at a regional level, as it achieves more positive outcomes for all stakeholders.

2.5 Consistency Between Commonwealth and State Regimes

There have been some major inconsistencies between how the Federal and State Governments have approached the development and implementation of environmental legislation. The AgForce submission has mainly focused on the State legislation, as a lot of information on the Federal legislation was developed in conjunction with National Farmers Federation and will be encapsulated in their submission to the inquiry.

It is, however, important to note some key inconsistencies, such as:

(1) The *EPBC Act 1999* seems to have focused on pursuing 'key' environmental issues which require protection, whereas the State Acts seem to have a 'blanket' approach, which results in areas being unfairly targeted as having significant environmental values

(2) The Federal systems tend to have more 'ground-truthing' involved. For example, the *EPBC Act 1999* referral process aims at examining the individual's case rather than adopting a broad landscape approach. The State assessments are based on satellite maps that have proven, in the vast majority of instances, to be incorrect and have resulted in unfair decisions being made and perverse actions being taken (as discussed in AgForce survey results that relate to white, red and green colouring on maps).

A system closer to the Federal Government's approach to identifying key issues and managing them on an individual (or regional) basis results in far more positive outcomes. On-ground testing of information will also result in better outcomes and will minimise perverse effects of the legislation in the future. The principal issue here, however, is that once again, landholders are required to gain two separate levels of approval to undertake the one activity.

2.6 Options to Reduce Adverse Impacts of Environmental Regimes

AgForce will show that there are alternatives to the current policy framework. We believe that landscape and integrated natural resource management are correlated concepts that link the biophysical and built environment and the people who live in the landscape. Policies that engage and share responsibility with primary producers will achieve attitudinal change. Understanding how to motivate producers is a prerequisite to that change.

National and State agendas have failed to create a vision past the short-term political office of many governments. As successive governments seek to reinvent the policy framework, the participants – landholders – become increasingly frustrated. The States have lost their ability to fund the necessary programs and the Commonwealth, especially with its capacity to negotiate bilateral deals with States, is now an important player.

There are some excellent examples of how a systems-based approach to integrated natural resource management at a landscape scale could operate. The first commitment from the governments will have to be that prescription in dynamic landscapes is inappropriate. Adaptive frameworks for resilient and dynamic natural systems are the logical conclusion. How we protect agricultural investment and provide certainty will be the challenge.

The recent actions of the State have come at a cost both in terms of both material loss and lost opportunities. Engagement, participation and trust are all products of the way people are treated. In the pursuit of sustainability, attitude is everything.

AgForce has always believed that in order to develop solutions for environmental issues some key principles need to be included in the overall game plan. Without the incorporation of these principles, sensible outcomes are cannot be achieved.

These key principles are:

(1) Regional focus: given the diversity of Queensland ecosystems, a regional approach is vital to the development of sustainable options for landholders. A "one size fits all approach" (which is what AgForce has experienced in the Queensland tree clearing debate) is inequitable and does not take into account the future development opportunities for those areas that have considerable potential. Consultation is an obvious subset of this principle. Consultation with key industry bodies and other stakeholders is vital to ensure all parties are 'engaged' in the process.

(2) Mapping/data accuracy: without mapping and data accuracy, incorrect decisions will be made. Mapping needs to be 'ground-truthed' and other data tested with appropriate bodies before being used as guidance on any environmental issues. AgForce has examples of incorrect mapping that has led to unfounded warrants

being issued on landholders. Development of incorrect data must be rectified if we are to address environmental issues sensibly. This will require significant resourcing; however, it is vital in order to achieve balanced outcomes.

(3) Self regulation and peer assessment is important if we are to encourage landholders to move forward in the environmental debates and take ownership of issues arising on their own properties. A 'top down' approach is seen as negative, inefficient and often results in perverse outcomes.

(4) Compensation is a serious issue that requires investment by the governments: no one section of the community should be made to pay for what is essentially a community benefit. Real and fair compensation results in just outcomes for all stakeholders, ensures the protection of sensitive areas and provides evidence of the governments' willingness to progress these issues in a sustainable and equitable fashion.

This whole issue of how to reduce environmental impacts requires significant development. Given the short time frame for this submission, AgForce has only briefly addressed this issue (as seen above). In the future AgForce will be providing further information on this issue, addressing options for moving forward.

Submission Conclusions

This submission represents AgForce's initial response to the inquiry. Further information will be provided to the Commission as well as the hosting of Commissioners' field visits and attendance at public hearings. We trust that this submission will provide sufficient evidence to support significant reform in the addressing of the issues discussed so as to minimise the significant impacts of this legislation on landholders and their communities.

The issues represented in this submission are the most serious and contentious topics for our members and Organisation. AgForce has invested enormous resources in the last few years, staying abreast of these issues, dealing with Government Departments, lobbying various Government Ministers, communicating with members, securing advice (such as legal advice) and preparing significant documentation (including this submission) in relation to these issues.

Throughout this process and via this submission, AgForce has clearly illustrated the severe impacts that our producers have borne as a result of the introduction of native vegetation and biodiversity legislation.

The significant impacts can be summarised into the following categories:

(1) Productivity loss: significant loss of carrying capacity, breeding capacity and cropping capacity which results in significant downturn of income annually until property disposed of.

(2) Capital value loss: significant loss of market value of property for resale. Impacts significantly on equity levels and retirement plans in many circumstances.

(3) Compliance costs: cost of implementation and application of environment laws on individuals. Ranges from paying for specialist consultancy advice to personal time lost in negotiations.

(4) Severe personal impact: extreme levels of frustration, anger, depression and family trauma due to the impacts on families of the legislation.

(5) Flow-on effects to community: lack of development potential will severely hamper further economic and social activity in communities that are still currently underdeveloped.

(6) Relations with government: significant deterioration of producers' 'attitude' towards the governments and their employees. In some cases outright deceit by government officials has occurred.

(6) Inability to achieve biodiversity outcomes due to non engagement and perverse impacts: the inability of Government to engage landholders in achieving biodiversity outcomes has resulted in perverse actions that clearly contradict the original intention of the legislation.

For Queensland the current difficulties between the State and Federal Government and rural industries are still significantly affecting AgForce and its members. The main issues relate to tree clearing. The real impacts have only just begun and will be revealed in the near future. This current state of negotiations along with the fact that the impacts are only starting to emerge has made it very difficult to clearly assess the full impacts at this stage. This submission provides a mere 'snapshot' of the impacts. Detailed analysis of the impacts would demand significant resources and require considerable time. As the true extent of these impacts becomes clear, it will be essential that the are comprehensively measured. This is clearly the responsibility of Government.

One section of the community is being asked to 'pay the cost' for the rest – this is grossly unfair, inequitable and will have long term repercussions. This imbalance needs to be redressed immediately. Perhaps this is a key role for the Government to initiate to ensure the maintenance of landholders rights is addressed.

The Government has two choices. Either engage with landholders, share information, develop systems which allow further sustainable development OR regulate and enforce. AgForce believes the first option is the ONLY option if sustainable outcomes are to be achieved. The second has proven to be ineffective.

Agforce Queensland
July 18th, 2003.

APPENDICES

(1) AgForce Survey to Members re: Impact of Native Vegetation and Biodiversity Legislation on Producers

(2) Bill Burrows' Discussion Paper

(3) Tree Thickening

(5) Ecologically Sustainable Land Use

Appendix One: AgForce Survey to Members re: Impact of Native Vegetation and Biodiversity Legislation on Producers

Name: _____
Phone number: _____
Location: _____

This survey has the primary goal of understanding what impacts regulations/legislation relating to native vegetation and/or biodiversity (eg. Environmental Protection and Biodiversity Conservation Act, Vegetation Management Act, Integrated Planning Act, Land Act, Nature Conservation Act, Water Act, Forestry Act) have had on your farming enterprise.

1. **What restrictions or changes from the above examples of regulations/legislation have impacted on the management of your business?**

2. How have your future development/management plans been restricted?

3. What losses have been sustained in the capital values/ property values of your farming enterprise?

4. What are the economic costs/losses (production costs/losses, costs of forced changes to management) and impacts on profitability directly related to restrictions?

5. What costs can be attributed to complying with regulations/legislation (permits, plans, documentation, correspondence with government departments)?

The following questions are intended to assess the effects that the State and Federal Governments legislation/regulation have had on you personally.

6. How has the level of uncertainty generated by the legislation/regulation impacted on your farm decision-making process?

7. What impact, on a personal level have the changes instilled by government had on you and your family?

8. What negative/positive dealing have you had with Government departments administering the legislation/regulations?

9. Do you have any other examples of how this type of legislation/regulation has impacted on your business/family?

Please fax: 07 3236 3077
or email your response to: danskehan@agforceqld.org.au

Appendix Two: Bill Burrows' Discussion Paper

IVIth INTERNATIONAL RANGELANDS CONFERENCE

Townsville, Australia

Professional Workshop - Practical Rangeland Ecology - 17 – 18 July, 1999

Convenor

D.M. Orr
Queensland Beef Industry Institute,
Department of Primary Industries,
Queensland,
Australia.

pp. 24 – 41

Tree clearing – rehabilitation or development on grazing land?

Bill Burrows
Queensland Beef Industry Institute
Tropical Beef Centre

Abstract

This paper draws on recent quantitative studies, as well as historical and anecdotal records, to conclude that grazed woodlands (tree-shrub communities) have changed substantially since Europeans introduced sheep and cattle to north-east Australia. There is convincing evidence that tree and shrub cover, density and basal area have all increased relative to that present 100 + years ago in most of today's 'intact' woodlands. Tree – pasture relationship graphs show that these changes in vegetation structure would have contributed to an appreciable decline in potential pasture and animal production on affected areas.

Clearing these woodlands can therefore be depicted as simultaneous rehabilitation (to a more open grassy structure, akin to that prevailing under pre-European management) and development (since it can commonly lead to a sustainable doubling of pasture production on treated sites). Meanwhile woody plants will continue to thicken up in retained woodland areas until this process is limited by tree – tree competition. At this point there will be little pasture production within these retention zones, while the flora/fauna assemblage supported in them will be considerably different to that existing when livestock were first introduced. Failure to appreciate these points

arises from the mistaken belief that woody vegetation communities present in Australia at the time of European settlement were climax for the environment. Rather, these communities were a fire mediated sub-climax developed over 50000 + years of Aboriginal burning, which rapidly altered under changed management coincident with the introduction of domestic livestock.

Introduction

Asking whether or not clearing woody plants (trees/shrubs/regrowth) on grazing (agricultural) land represents development or rehabilitation is a good question. This is because it focuses attention on firstly, the status of the current tree/shrub cover and, secondly, the purpose for which these lands have been assigned.

An extensive scientific literature details structural changes in the woodlands of Queensland and adjacent regions since the introduction of domestic livestock, as well as the consequence of this to pasture and animal production. This literature is reviewed with emphasis placed on woodland communities relevant to inland south-central Queensland. The question raised in the title of the paper is then addressed in light of the information presented.

Vegetation status in grazed woodlands ('forest' country)

Tree clearing guidelines applicable to leasehold lands in Queensland set retention levels based on the original (pre-European) extent of predefined (by EPA staff) vegetation communities.[A] For example, communities which are considered to now occupy < 10% of the area on which they occurred at European settlement are classified as 'endangered/vulnerable', while those occupying > 30% of the original area are 'not of concern'. It is implicit in applying such conservation rules that the vegetation present today is representative (e.g. in structure, composition, density) of what was 'originally' present in the defined community – otherwise the conservation rule is meaningless. How certain can we be of that for Queensland's vegetation? The following extracts from scientific papers/reports for a wide geographic area are instructive:-

(a) A continental perspective

(i) Lunt (1998 a, b) – Southern Victoria

"Post settlement changes in vegetation and land use were examined in a reputedly undisturbed woodland remnant at Ocean Gove, southern Victoria, the site of earlier ecological studies. The vegetation has passed through at least three structural phases since European colonisation: an open grassy woodland dominated by Allocasuarina and Eucalyptus species and Banksia marginata with few shrubs; an open scrub of Acacia pycnantha; and a closed scrub of Allocasuarina littoralis which now dominates the reserve. Tree and shrub density has steadily increased from perhaps less than 20 trees/ha in the early 1800's to over 3000 trees/ha in

[A] Classification of vegetation communities is a subjective decision e.g. EPA scientists may divide the soft mulga country east of the Warrego R. into 10 vegetation communities while DPI scientists may conclude that 2 or 3 groups adequately describe it. These differences relate to different perceptions of what the land has been assigned for, and the extent to which sub-dominant or understorey species are utilised to define unique communities. Taken to its extreme every paddock on every property could be classified as supporting a unique vegetation community – leading to suggestions that it should be preserved in its current state.

1996…….. Vegetation changes in the past 200 years can be attributed to the long-term absence of fire. The abundant recruitment of Acacia species in the mid-to late 1800's may have been a rapid response to the curtailment of Aboriginal burning, and the more recent invasion of A. littoralis a longer-term response to fire exclusion" (Lunt 1998*a*). *"The dramatic increase in the density of A. littoralis from 911 trees/ha in 1971 to 3565 trees/ha in 1996 was associated with a continued decline in the once dominant eucalypts, especially E. ovata"* (Lunt 1998*b*).

(ii) Fensham and Fairfax 1996 – Bunya Mountains, Queensland

"The physical setting of 61 grassy bolds on the Bunya Mountains in south-eastern Queensland was surveyed during 1995, and a further 73 balds were assessed from aerial photographs taken in 1951 and 1991. About 26% of the area of balds existing in 1951 had been invaded by forest in 1991. The extent of the invasion was generally higher for balds surrounded by eucalypt forest than balds surrounded by eucalypt and rainforest or rainforest only."

(iii) Hopkins et al. (1996) – Daintree, north Queensland

"The identification and radiocarbon dating of charcoal collected under tropical rainforest indicated that sclerophyll forests dominated by Eucalyptus occupied parts of the wet tropical lowlands in the Daintree region of North Queensland at least intermittently from 12000 year BP (before present) until very recently……. The process of eucalypt forest replacement by rainforest may have accelerated since the arrival of Europeans and the concomitant decrease in Aboriginal management."

(iv) Neldner et al. (1997) – *Cape York Peninsula, far north Queensland*

"Data are provided that demonstrate the conversion of some grassland types to woodlands in the last 30 years, and it seems probable that the change is a result of altered fire regimes. Even if adequately reserved, appropriate fire management is required to maintain the grasslands of Cape York Peninsula."

(v) Jacklyn (1998) – Victoria River District, N.T.

The photographic record was utilised *"to show that the vegetation has 'thickened up' on Bradshaw Station (Victoria River District, N.T.) since 1933* (See Appendix 3). *Interestingly, this trend is also seen in other similarly paired photographs assembled by Darrell (Lewis) from locations right across the VRD."*

(b) Western NSW

(i) Royal Commission (1901) – Cobar/Byrock

"Generally speaking it was originally open box-forest country with currajong and an occasional pine tree upon it. The overstocking of the country, coupled with the rabbits, prevented the growth of grass to anything like its former extent, and so

causes a cessation of bush fires which formerly had occurred periodically. This afforded the noxious scrub a chance of making headway."

(ii) Eric Rolls (1981) – Pilliga Scrub

"The [Cypress] pines came up ten thousand to the hectare. 'One year the stockmen saw the little pines just up to the top of the horses 'hooves', one man told me. 'The next year the pine tops brushed their boots as they rode. And a year or two after that – those old stockmen used to ride at ten past ten, knees cocked up from the saddle like wings – well they had to jam their knees in hard behind the pads or the pines would have pushed them backwards out of the saddle. Soon they just mustered their stock and got out. There was no room for grass to grow'."

(c) Central/Western Queensland

(i) Walker et al. (1981) – Dirranbandi area

"Accounts of the poplar box region by early explorers indicate that the dominant trees had a spacing of between 50 and 100m with little understorey (Leichhardt 1847)" *[Contrast with much higher poplar box densities present today].*

(ii) Fensham (1998) – Fitzroy Basin, Central Queensland

"Preliminary analysis of the aerial photo comparison suggests substantial thickening has occurred in uncleared remnants in Central Queensland between the mean dates of the earliest photos (1955) and the mean date of the most recent photos". *[Tree cover on 7 M ha had increased by > 20% - Rod Fensham pers. comm.].*

(iii) Binnington (1997) – White Cypress Pine

"With current proposals to reserve 15% of the area of pre-European vegetation types there is concern about how to interpret the mixed cypress pine ecosystems – because of management changes white cypress pine forests currently cover a greater area than before European settlement." (see Appendix 3).

(iv) Reynolds and Carter (1993) – Mitchell grassland/gidgee

"Surveyed an area aggregating 5.97 ha in Central Western Queensland (315 respondents). Major findings were:

- *11% of the area of affected properties had been "lost" due to the invasion of woody weeds.*
- *55% of respondents said their naturally timbered area had thickened up and this confirms the drift of grasslands towards woodlands."*

[compare Mitchell's (1848) sketch of Salvator Rosa National Park with the recent photograph – Appendix 3]

(v) McCallum (1999) – Moorrinya National Park, Aramac

"Extensive changes in the area of Mitchell grassland have occurred with the woody plant cover (boree, gidgee, blackwood) increasing by 31.8% over the period 1951-1998" [Based on aerial photo interpretation and ground measurements]

(vi) Burrows (1996) – Gidgee, Longreach

Compared $\delta^{13}C$ values in surface litter and soil organic matter in two adjacent soil profiles (a) under Mitchell grass (Astrebla spp.) grassland and (b) gidgee (Acacia cambagei) juveniles at Strathdarr, Longreach (see Box 1). *The $\delta^{13}C$ values at depth in (b) reflect that of the soil in the open grassland, supportive of grazier contention that gidgee has 'recently' invaded.*
[see (v)]

(vii) Burrows et al. (1998) – Eucalypt woodlands, inland Queensland

"Historical, anecdotal and $\delta^{13}C$ data, along with permanent transect records (see Appendix 1 for current site distribution) *together provide convincing evidence of woody plant thickening (increases in number and size) in the grazed woodlands of north-eastern Australia. In both Australia and elsewhere in the tropics/sub-tropics the woodlands (savannas) were maintained as a fire mediated sub-climax prior to the introduction of domestic livestock. The prime agent changing the structure of these woodlands has been the conversion of land use from hunter-gathering or nomadism to the raising of sheep and cattle – a practice which has often been associated with increased grazing pressure, reduced fuel loads and the containment of fire."*

(viii) Purdie 1985 – Queensland's Mulga region

"Because of the widespread pastoral usage, ecosystems in virtually all areas of the mulga region have been affected to some degree by introduced stock and feral animals, and by specific land management practices such as the use of mulga for drought feed, and the thinning or clearing of mulga and other communities to encourage more herbage growth. Such disturbances have been more severe in the eastern part of the region, where there has been widespread introduction of non native pasture species …… or the complete removal of the native vegetation to allow agriculture cropping. As a result of this land use, the mulga region ecosystems can in no way be described as 'pristine' i.e. identical with their pre-Aboriginal or pre-European settlement state." (see Appendix 3)

The extracts canvassed here are but a small representation of a much wider Australian and international literature that conclusively demonstrates that the vegetation present in to-day's grazed woodland/savanna communities is very different to that existing at the time domestic livestock were first introduced. To be scientifically credible conservation objectives for such woody vegetation need to be based on a more rigorous and defensible set of rules – than very challengeable assumptions that we can accurately relate the area occupied by vegetation communities as defined to-day, to the area these same communities might have occupied at European settlement.

Is tree clearing rehabilitation?

Blainey (1982) notes that without Aboriginal fires the grassy woodlands that occupied much of the fertile crescent in south-eastern Australian would have been scrubland or forest at the time of European occupation. Yet a period of fifty years was sufficient to change the character of this

savanna country when fires were suppressed by Europeans and their livestock. Blainey concludes that "the widespread ringbarking (girdling) that was carried out around the turn of the twentieth century occurred in the regrowth (increased tree density). The landholders were attempting to re-establish the original grazing capacity".

According to the Oxford English Dictionary (OED) rehabilitation = restoration of proper condition. It is clear from the evidence presented here that the proper condition or original (pre-European) status of most of Queensland's grazed woodlands was as a more open grassy savanna – not the closed woodland structure with prominent shrub understoreys so prevalent today. Furthermore tree/shrub – pasture yield curves (Figure 1) clearly demonstrate that pasture yields fall as tree/shrub density, canopy cover or basal area increases. Significantly the most rapid drop in pasture production occurs at comparatively low tree "densities".

To paraphrase Blainey landholders clearing the woodlands in Queensland today are knowingly or unknowingly "attempting to re-establish the original grazing capacity" – as their forbears did in south-east Australia a century ago. In this light and the OED definition such clearing is plainly rehabilitation, especially when applied to land designated for sheep or cattle grazing.

Is tree clearing development?

According to the OED development = a gradual unfolding, fuller working out, growth; a full grown state; stage of advancement. Since a reduction in tree/shrub competition increases pasture production (Figure 1) it is obviously a stage of development with respect to livestock raising. In common usage "development" also implies an economic advantage accrues to the developer. This is quite evident from the analysis (Box 2) of different clearing strategies applied to a poplar box woodland (initial tree basal area c. $10m^2$/ha).

Box 2

Wandobah Tree Clearing Strategies Trial – Economic Analysis (Poplar box (*Eucalyptus populnea*) woodland – Central Queensland)

Assumptions:

- Paddock size 1000 ha – Different clearing strategy treatments were applied in 1987
- Stocking rates are determined by the GRASSMAN model (tree basal area resulting from each treatment determines potential pasture production which is stocked so as to consume 30% of the pasture on offer)
- Net Present Value (NPV) and Internal Rate of Return (IRR) are based on a 15 year time span and a 6% discount rate
- The purpose of this analysis is to compare *relative responses* between each treatment – not to prepare a statement of income. Therefore fixed costs are not considered. However interest on herd capital is charged at 10%.

A Scenario

- Steers enter paddock at 180 kg – leave at 450 kg
- Average rainfall is assumed for each year of the 15 year time frame

Treatment	Response relative to Control	
	N.P.V.	I.R.R.
Control (Trees untouched)		
Stem inject all trees	$ 51 500	24%
Scattered (retain 20% trees)	($ 21 000)*	
Graslan (7.5kg/ha) 100% area	$ 50 000	16%
Graslan (5kg/ha) 100% area	$ 79 500	28%
Pull 100% area	$ 18 000	14%
Pull & Burn 100% area	$ 59 000	22%
Pull & Burn 100% + Stickrake in Year 8	$ 47 000	19%
Stem Inject all trees + Stickrake in Year 8	$ 37 000	19%
Clumps (retain 20% trees) – stem inject	$ 41 000	24%
Strips (retain 20% trees) – pull & burn	$ 47 000	22%
Strips(Retain 20% trees) – Graslan 7.5kg/ha	$ 40 000	16%
Strips (Retain 20% trees) – Graslan 5kg/ha	$ 63 650	28%

N.P.V. = Nett Present Value, I.R.R. = Internal Rate of Return, ( )* = negative value

Acknowledgment
This study has been strongly supported by Meat and Livestock Australia (ex MRC). The economic spreadsheet on which these analyses are based was compiled by W.E. Holmes, Agric Economist, DPI, Townsville.

Even with a 20% tree retention policy the net present value of various clearing strategies over a 15 year time scale was $40-64/ha in comparison with not clearing (trees left intact). Corresponding internal rates of return varied from 16-28%.

On this basis tree clearing therefore certainly represents development. Nevertheless two factors discount the success of development from tree clearing. First, as a management intervention it rarely achieves its objectives of eliminating tree/shrub competition with pasture because of regrowth, enhanced seedling establishment or accelerated growth of woody plants which survive the initial clearing. Second, few take into account or acknowledge the effect of ongoing tree/shrub thickening in retained woodland areas. In these 'protected' plots pasture production

will continue to decline until tree-tree competition limits further woody plant thickening (Scholes and Archer 197) – the asymptote of the curves in Figure 1. In practice any tree retention, over and above normal management, imposed on grazing land will essentially take that land out of pasture production in the mid-long term. Scanlan and Burrows (1990) also demonstrated that the ground flora changes markedly as tree density/basal area steadily increases in eucalypt woodlands. In other words the vegetation 'protected' will no longer be the same as it was at the time it was initially set aside.

Conclusion

The information presented has revealed an apparent paradox where tree clearing on grazing land today can simultaneously lead to both rehabilitation (of an 'original' open vegetation structure) and development (increased pasture and livestock production). Can conservation also be accommodated? The data of Appendix 2 supports the case for retention of trees in intact blocks, strips or clumps to maximise pasture production for the same retained tree basal area[1]. But we need to overcome the misconception that what we are conserving to-day is the same vegetation structure and composition as was present at European settlement. Plainly it is not.

Sustainable use of **agricultural** land does not necessarily require the conservation of all natural organisms, but rather the conservation (maintenance) of ecosystem processes (nutrient and hydrologic cycles, soil integrity etc). For example, in Queensland's Central Highlands ecosystems have been reconstructed to have greater agricultural productivity by replacing a tree with leaves unpalatable to livestock (*Acacia harpophylla*) by a tree which is highly palatable and nutritious (*Leucaena leucocephala*). Likewise the low productivity understorey grasses (*Paspalidium* spp, native *Chloris* spp.) have been replaced by *Cenchrus ciliaris*. This 'new' system maintains the processes of the old, but is far more productive from an agricultural viewpoint. (see Appendix 4).

None of this is to rule out reasonable conservation objectives being applied to grazing land as were recently addressed, for example, by the Local Tree Clearing Guidelines developed for leasehold land in Queensland. However scientific rigour suggests vegetation retention levels should be based on to-day's vegetation structure and composition, not on questionable estimates of community distributions at the time domestic livestock were first introduced. Further, once retention levels are set it would be unreasonable to then limit the farmer – grazier from accessing the best world organism (plant or animal) which enables him or her to remain competitive (economically viable) with peers in this country or overseas. In the final analysis conservation objectives applied to **grazing/ agricultural** holdings will always need to be a compromise with the primary purpose of the land – the economic production of agricultural products. As Ainesworth (1989) self evidently observed 'the only sustainable agriculture is profitable agriculture'.

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[1] This example applies wherever there is a negative exponential relationship between a measure of tree/ shrub competition (basal area, canopy cover, density) and potential pasture yield – see relationsips depicted in figure 1.

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Appendix Three: Tree Thickening

Tree/shrub population trends in Queenslands grazed woodlands – implications for management

1). Importance of woodlands to the grazing industry

The total area of wooded vegetation in Queensland, based on 1991 satellite imagery is 84M ha, with 76 M ha having a foliage projective cover greater than or equal to 12% (Henry *et al*. 2002). To-day this equates to a grazed woodland area of c.55-60 M ha, when areas of wooded national parks, State forests, urban areas, roads, other reserves and subsequent clearing activity are subtracted. Thus the grazed woodlands account for about one-third of Queensland's grazing lands and support about 3 M cattle equivalents

2) Scale and rate of thickening

A range of sources (e.g. historical records, anecdotal reports, paired contemporary and historical photographs, permanent monitoring plots, aerial photo interpretation, stable soil carbon isotope analyses) now support the contention that tree/shrub cover is generally increasing in Queensland's grazed remnant ("intact") woodlands (Burrows 2002). These trends parallel those summarized for the world's grazed savannas by Scholes and Archer (1977) – for a contemporary overview visit:
http://rangeweb.tamu.edu/archer/ (Woody plant encroachment bibliography). – and see Asner et al. (2003) for a just published Texas, USA analogy.

Interestingly a report to the Australian Department of Environment, Sport and Territories (Noble 1997) clearly outlined the degree and extent of woody plant thickening in Queensland's woodlands. The TRAPS monitoring program has documented an overall annual tree basal area increment (meaned over 14 years) of 2.1% for the State's grazed eucalypt communities (Burrows *et al.* 2002). This is supportive of aerial photo interpretation data collected for the drier areas of central Queensland – 21% increase in tree basal area from 1952-1991 (R. Fensham, personal communication).

The general conclusion is that tree thickening is unidirectional towards more and more tree/shrub cover over time (see Burrows 2002 for ecological citations). This is despite the fact that extreme droughts can also contribute to widespread tree deaths. The persistence of tree/shrub cover, under current management, is well illustrated by the transformation of the Cobar peneplain which was open box country when sheep/cattle grazing commenced (Royal Commission 1901); but today remains as closed shrub woodlands clearly visible on all contemporary satellite images of Australia.

3) Economic impact

Burrows (2002) presents many experimental findings highlighting the common negative exponential relationships between increasing tree /shrub cover or basal area and pasture production. So any increase in tree/shrub cover will reduce potential pasture production and hence livestock carrying capacity. An example of future tree thickening impacts on potential pasture yield is provided by Bray *et al*. (2002). These results, along with economic analyses such as those by Bartholomew and Wilson (1995) and Stafford Smith *et al*. (1999) emphasise why land clearing is attractive from a landholder perspective.

Based on a beef industry being worth c. $2 billion to the Queensland economy each year the livestock production from the State's grazed woodlands would be currently valued at about $600 million per year. At the present rate of tree/shrub thickening and in the absence of intervention to limit the process, it is estimated that current livestock carrying capacity on such land (3 M cattle equivalents) would fall to negligible levels in 50 years.

An important consequence of thickening continuing unabated is that grazing pressure on the non-wooded areas of landholdings is likely to appreciably increase as managers attempt to maintain production. This could lead to changed structure and composition of the remaining pastures leading to biodiversity impacts on them, as well as those that would also be occurring in the thickened woodlands. If graziers increase grazing pressure there could also be increased soil erosion from impacted sites, along with offsite consequences.

4). Managing remnant woodlands on grazing holdings

The minimal aim of managing woodland communities on grazing holdings should be to at least maintain overall stock carrying capacity at current levels. This could be achieved by:

(a) increasing the productivity of non wooded areas, or
(b) permitting an on-going clearing regime to be implemented to maintain current livestock production in the woodlands.

Certainly there is much scope for intensification of animal production on already cleared or naturally 'open' areas. However this often requires use of exotic pastures or marginal cropping. Neither alternative is generally practical in the semi-arid woodlands or where fertility or slope problems mitigate against their use. Furthermore conservationists are becoming increasingly strident in opposing the use of productive exotic pasture species such as Leucaena and buffel grass on grazing land.

Thinning of remnant woodlands is currently under discussion by the Ministerial Advisory Committee for Vegetation Management. DPI has carried out the only detailed study comparing clearing strategies for Queensland's eucalypt woodlands. This trial, which ran from 1987 – 2001, clearly showed that it was uneconomic to thin eucalypts to 20% retention as scattered trees, whereas retaining the same tree population in intact blocks along side fully cleared areas, was quite beneficial to production (Burrows 2001, 2002).

There have been many reasons advanced for the ingress or increasing cover of woody plants in our remnant woodlands and grazing lands. Most rangeland ecologists agree that it is changed fire regimes, associated with the introduction of domestic livestock into areas previously managed by hunter-gather aborigines for the previous 45,000 years, that has been the main catalyst for change. Other suggestions, are that rising atmospheric carbon dioxide levels and favourable climatic conditions could assist woody plant expansion. But the dominance of the grazing – fire management effect is evidenced by innumerable fence line contrasts in which woody communities and grassland areas are juxtaposed on either side of paddock fences and property boundaries. Consequently it has been suggested that fire could be used to maintain productivity of the woodlands. However fire has minimal impact on the growth (and competitiveness) of standing eucalypts, although it is possible that some *Acacia* spp. and Cypress pine stands could have their stand densities reduced by fire. But generally the most effective use of fire as a management tool could be in limiting successful seedling establishment (see discussion by Burrows 2002).

5) Greenhouse implications

Burrows *et al*. (2002) documented a carbon sink in Queenslands grazed woodlands which, if accounted for, reduce Australia's published net greenhouse gas emissions by 25%[2]. Should a tree clearing ban be enforced the existence of this carbon sink could have an enormous impact on Queensland's and Australia's reported net emissions. The rules governing what may or may not be acceptable for in inclusion in national greenhouse gas inventories are presently being reviewed. A draft of these proposed IPCC Good Practice Guidelines includes "forest grazing" as a recognisable management activity affecting carbon stocks. This

[2] This C sink is equivalent to that in 30 M t of Qld export coal (85% C). Average coal train pulling 3000 t coal is 1.5km long. Therefore the C fixed in the woodlands each year approximates that in 10,000 coal trains (or 15,000 km of coal train - this length of train is 3.5 times that of the train line from Sydney-Perth with the wagons juxtaposed head to tail across the entire length!!). Or equivalent to the C in a coal train 1.2 times the diameter of the earth (12742 km)!![2]

may well clear the way for woody plant 'thickening' to be accepted as an identifiable management outcome, which should be accounted for in national inventories. If this situation eventuates it opens the way for incentive payments ("carbon offsets") to be traded by landholders with thickening woodlands. However there are also many problems to be overcome before any such hypothetical scheme could be implemented.

Conclusion

Queensland's grazed woodlands are a huge and important economic resource. Failure to manage them sustainably will not only impact on the woodlands themselves but also affect associated pastures on grazing holdings. There is no credible argument that woody plants are not proliferating in wooded grazing land not subjected to land clearing. There is also little doubt that this is reducing livestock carrying capacities. In the absence of such argument any debate over the ultimate cause of thickening is irrelevant to the landholder and his/her goal to maintain a sustainable, profitable enterprise. Given the size of the resource (55-60 M ha) it is inevitable that any tree clearing bans could have significant on-site and off-site impacts. This already applies to controls implemented under the Lands Act (1994) and Vegetation Management Act (1999), but would be considerably larger under a total tree clearing ban. Importantly, while there would be immediate effects from the latter (e.g. grazing land values), it is the long term gradual decline in carrying capacity which would be of most concern to the future of the State's grazing industries.

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Appendix Four: Ecologically Sustainable Land Use

Ecologically Sustainable Land Use

Achieving Ecologically Sustainable Land Use (ESLU) has challenged all governments in Australia. Land allocated for productive use is clearly operating under different principles than the nature-based objectives of protected areas such as national parks.
Additionally, the definition of ESLU is complicated by the interpretation placed on it by government agencies, non-government organisations and individuals.

Dr Michael Hopkins formerly with the Australian Forest Research Institute has observed that many are pursuing 'Bio-Goodness'. He suggests that biodiversity is chaos with no parameters. Attempts to quantify and classify biodiversity have failed to identify the most critical parts of the landscape for the conservation of biodiversity. Instead, a coarse system of categorising vegetation assemblages and landsystems into units known as regional ecosystems has been proposed as a surrogate for biodiversity. These units have been mapped and certified by the Queensland Government to assist in achieving the purposes of legislation (*Vegetation Management Act 1999*, *Land Act 1994* and *Integrated Planning Act 1997*.) In two separate communiques to the Minister for Natural Resources and Mines, the Ministerial Advisory Committee on Vegetation Management has advised of serious inaccuracies and shortcomings with the vegetation mapping.