

A Submission to the Productivity Commission Inquiry into the Impacts of Native Vegetation and Biodiversity Regulations

Introduction

- This submission is the first of two. A second submission will provide additional economic supporting argument to assist the Inquiry.
- Regulation, market measures and voluntary measures are three broad policy instruments often used to influence the land management decisions made by individuals (Hatfield-Dodds, 2003). Each has a role in achieving the Government's policy objectives, and each has its own advantages and disadvantages in creating incentives to influence behaviour. These three broad groups of instruments can each provide alternative types of incentives structures to change behaviour in order to achieve desired policy objectives with differing impacts on individuals, especially land owners.
- In particular, regulations prescribe limits to individual rights in order to generate a greater public good. Where regulations are determined to be the best policy instrument and they cause significant new costs to individuals, then issues of equity arise. Where this happens, there is a public policy decision to be made about whether the costs should be borne by those who have invested in the property ventures that are now restricted by the new laws, or whether the community, in whose name the regulations are introduced, should bear the cost.

The physical context

- We know from the National Land and Water Resources Audit (NLWRA) and other sources (eg *State of the Environment Reports*) that although agricultural productivity continues to grow (*NLWRA 2001*), degradation of agricultural landscapes is real and continuing, and biodiversity in many landscapes is threatened (*NLWRA 2002*).
- A key threat to farmers maintaining access to natural resources are the progressive restrictions being placed on farmers through regulation and other measures to protect and conserve biodiversity, native vegetation and other natural values, and allocate water to the environment.
- As an example of scope of this potential threat, the National Land & Water Resources Audit's *Australian Terrestrial Biodiversity Assessment 2002* report identified 2891 ecosystems and other ecological communities as threatened and a priority for conservation. Nearly half of these threatened ecosystems are eucalypt forest and woodlands with shrubby or grassy understorey that have been extensively cleared. Coincidentally, this means that many of them occur in modified landscapes that are used for agriculture. As the Audit report notes, there are many options for responding, including listing the communities (and species) under Commonwealth, state or territory legislation where such provisions exist.
 - In dealing with such a large number of threatened ecosystems there is a danger that many landholders will experience increasing uncertainty and be subject to more regulations on their behaviour as the community seeks to protect these ecosystems.

Regulatory approaches

- The States, through various native vegetation legislation, and the Commonwealth, through the *Environment Protection and Biodiversity Conservation Act*, have enacted forms of regulation to achieve native vegetation and biodiversity objectives.
- These regulatory approaches rely to a greater or lesser extent on 'command and control' to influence behaviour in a desired manner. Their chief advantages are that they provide direct means of achieving the desired outcome.
- However, regulatory approaches can also have significant limitations, eg:

- Regulations are inherently inefficient in that they are difficult to target at those who can meet the requirements at least cost. Regulations tend to be particularly costly to those who find it difficult to meet the regulation whilst others who can meet it more easily and could exceed the requirement do not need to do so. Hence less benefit is achieved at a greater overall cost than necessary.
- Regulations usually apply to inputs of processes and to activities, rather than to outcomes. As outcomes are never perfectly linked to inputs, the outcomes may be achieved at a higher cost than necessary;
- The threat or possibility of changes in regulations creates an additional source of investment risk. When making a production or investment decision, a landholder already faces a variety of risks such as market and climate risks. If there is also a risk that the landholder will not be allowed to use the land in a financially productive manner then there is an additional, sovereign risk. Thus those who bear the regulations will find banks less keen to lend to them and this will lead to lower incomes and lower production.
- Regulations can be inflexible and cannot properly reflect quality differences;
- Regulations often do not provide appropriate incentives for ongoing innovation to reduce environmental degradation;
- In some cases it is difficult for individuals to know to what extent the regulations apply to them; and
- They often have high administrative and monitoring costs.
- These inherent disadvantages of regulation can be particularly acute in the rural sector
 - In the farm sector, there are the examples of state weed and pest control laws that are longstanding, but have proved to be largely unenforceable as the cost of compliance has often been prohibitive. As a result, voluntary approaches and economic instruments are now being investigated as alternative means of achieving weed and pest control objectives;¹
 - Referrals for agriculture and forestry under the *Environment Protection and Biodiversity Conservation Act* comprise less than 3% of total referrals. However the costs incurred by landholders, even when proposed activities are not determined to be ‘significant actions’, has been at times very costly for the individuals concerned and has increased uncertainty and the perceived risks (VFF, 2003). In addition, the Australian National Audit Office reports that “significant tensions” (ANAO 2003, section 6.9) have been generated in parts of the rural community despite active attempts by government and industry organisations to relieve these uncertainties;
 - Submissions to this inquiry provide evidence that native vegetation regulations, at least in some states, are counterproductive because they generate perverse incentives (eg *National Farmers Federation, AgForce, Dival submissions*). Examples of these perverse incentives are accelerated and pre-emptive clearing, incentives to destroy the resource and pay the fine, and incentives to hide new information about important natural values.
 - Unless well designed, regulatory approaches may be inflexible and fail to take account of the dynamic nature of vegetation within ecological communities. Progression of vegetative communities is the norm, so protection efforts need to take account of this dynamism (McIntyre et al 2002).
- For these reasons regulations cannot always provide the right incentive structures for desired behaviour and can have poor performance. Therefore the efficiency and effectiveness of regulations need to be periodically and critically examined and evaluated against the purposes for which the regulations were introduced.

¹ The National Weeds Strategy includes incentives for voluntary action. Some jurisdictions are making greater use of economic signals for encouraging control of weeds. For example, the Brisbane City Council is providing for transfer documents on land sales to specify weeds present on properties.

The role of information

- In recent times the links between land management and wider landscape environmental impacts has become better understood. For example, we now know more about how replacing perennial species with annual shallow rooted plant species can exacerbate salinity and reduce water quality. There is therefore a need to ensure that land managers understand the current science, so that they can both contribute to solutions and better understand why policies are being implemented.

Providing incentives for sustainability

- A core natural resource government policy interest is to provide a more certain management and investment environment for farmers so as to underpin the development and growth of sustainable, competitive and profitable agriculture, fisheries and forestry industries – i.e. security of access to natural resources and to markets.
- Australia receives great value from biodiversity and ecological interactions in the form of ecosystem services.
 - Fresh air, clean water, salinity control, carbon sequestration, nutrients for crop growth, pollination of crops, as well as goods directly harvested from nature such as fish, timber and fodder for grazing, are some of these ecosystem services.
- Sustainability can be closely linked to the economic viability of natural resource use – where natural resource use is not sustainable, it is also often not economically viable either². There are significant policy implications that flow from this approach:
 - Implementing more productive and profitable management systems can provide environmental benefits by reducing resource use and impacts on the environment;
 - Low incomes of a large proportion of landholders, low rates of return on investment and the potential impact of reductions in property values and business incomes following from the impact of changes to regulatory and market systems can be significant barriers to promoting better environmental outcomes.
- The policy challenge is to establish policy settings that exploit complementarities between sustainable productive use and environmental objectives so that incentives are aligned as much as possible. However this is not always possible.

Alternatives to regulations: building capacity for sustainability

- Policies and programs can be designed to build community and individual capacity through addressing key areas that limit the effectiveness of markets and existing institutional systems. These are aimed at:
 - Improving the long-term capacity of landholders and communities to sustainably and profitably manage their own affairs by themselves;
 - Thereby preventing the causes of degradation from happening, rather than repairing degradation after it has occurred.
- Key elements of this approach, being supported by the Department of Agriculture Fisheries and Forestry (DAFF), are:
 - Through programs like Landcare, increase community awareness of the causes of land degradation and declining water quality, and provide a capacity within the community to react;
 - Promoting partnerships between governments, industry, communities and landholders to coordinate the use of resources to more effectively address common problems;

² This is not always the case. In some situations there are financial incentives to deplete or ‘mine’ the resource. This will occur where the available technologies mean that the costs of renewing or maintaining the resource are less than the stream of discounted benefits from maintaining or renewing natural resources. This will be more likely where the landholder is suffering financial hardship so that their discount rate is higher (*Dalziell and Poulter 1992*).

- Improving decision making by more effective information provision (eg NLWRA and catchment based resource assessments);
- Training and education to improve the capacity of landholders to implement more sustainable management practices;
- Monitoring and evaluation to target management responses more effectively and improve accountability and transparency;
- Promoting reforms to regulatory systems and institutional arrangements and developing improved market instruments to encourage more efficient allocation and use of natural resources and to better account for the costs and benefits of natural resource use;
- Assisting research and development (eg through Land and Water Australia) to develop and implement more sustainable and profitable production systems. These investments have had an average benefit cost ratio of 17:1 (*DAFF 2001, p 38*)
- Significant government expenditures have funded public benefits through targeted grant programs, in particular the National Action Plan for Salinity and Water Quality and the Natural Heritage Trust.
 - A measure of the success of these approaches has been the 37% membership by broadacre and dairy farmers of voluntary landcare groups (*ABARE 2003*) and the significant attitudinal and behavioural change associated with this membership.
 - However, these voluntary and grant supported measures have been insufficient in themselves to achieve the necessary on-farm change for fully sustainable agricultural systems (*Mid-term review of Natural Heritage Trust*);
 - This would be expected as the incentives for private activity will be insufficient to meet public environmental conservation requirements; and often the scale of these activities is too small where catchment scale solutions are needed.
 - So while community/social approaches have been productive, they cannot be sufficient.

Alternatives to direct regulation: market/economic approaches

- For water, the development of markets for environmental services has shown great promise with the Council of Australian Governments agreeing in August 2003 to the development of a national water market allowing government (ie community) funding to purchase additional water for the provision of environmental flows. However, markets for native vegetation and biodiversity are, as yet, largely untested at anything other than a pilot scale.
- Market approaches, 'market based instruments', are being investigated for various natural resource management issues. These can modify the costs of regulatory approaches through introducing a measure of market competition that can reduce the inefficiencies of direct regulation.
 - For example, Victoria has successfully trialed a 'Bushtender' arrangement where auctions are held to provide biodiversity services in regions.
- In addition, pilot studies are being undertaken under the NAP that examine (see <http://www.napsqw.gov.au/about/mbi.html> for more detail of these pilots):
 - Developing auction systems for use by regional natural resource management bodies to provide low cost assessments of biodiversity and water quality;
 - Using auctions to provide multiple land use outcomes for biodiversity, salinity management, improved water quality and water quantity;
 - The use of caps and of trading schemes to reduce salinity from irrigation water by promoting more efficient water use;
 - Setting up investment funds to encourage private sector investment in improving natural resource management. The funds will seek to provide investment capital, promote the sharing and management of risks, reduce investment costs, improve the provision of business advice and provide a brokerage mechanism to facilitate the formation of partnerships;

- Establishing insurance mechanisms to support changes in farming practices where risk is perceived as a major barrier to change, particularly in terms of improving water use efficiency and reducing recharge in areas affected by salinity; and
- Implementing offset schemes for salinity management whereby point source salinity producers will be able to offset their salinity emissions by investing in works that reduce salinity from diffuse sources.
- The Productivity Commission could contribute further to these:
 - By suggesting market based instruments that may be effective for native vegetation, (eg tradeable clearing permits, biodiversity credits, markets for eco-system services) or contributing to the design of property rights that can provide incentives structures to drive appropriative behavioural change.
- Industry led approaches are also being pursued:
 - Environmental management systems are being encouraged and trialed;
 - DAFF is working with a number of industries, notably dairy, to develop industry awareness of sustainable systems.
- Environmental management systems pilot projects include:
 - Improved regional natural resource management and the provision of environmental assurances for Gippsland beef and lamb;
 - A system for improving the whole production and supply chain for cheese manufacturing;
 - Regional systems for the dairy industry, including linkages between farmers and processors;
 - Management systems for pastoral industries, including beef, sheep, game meat and wool;
 - A catchment management based system for the horticultural industry, with the objective of improving the quality of urban water supplies while helping producers meet environmental standards; and
 - Improved management systems for the rice industry and for the cotton industry – significant consumers of irrigation water.
- In the forest sector, regional forest agreements have been a means of using targeted regulations on public lands as part of regional plans based on good information and following extensive community involvement.
- A future market driver for change is likely to be international (and domestic) trade:
 - Importers/consumers may seek environmental accreditation before accepting product or be willing to pay a premium for sustainably produced product.

Regulations and property rights

- Secure property rights contribute to more efficient markets
 - Introducing uncertainty leads to increased risk (and hence investors discount for the risk and uncertainty), lower investment, reduced production, and therefore inefficiency.
 - It is clear from the early evidence presented to this inquiry that various of these native vegetation and biodiversity regulations have led to a substantial increase in the uncertainty faced by landholders, as well as delays in production and hence economic inefficiency.
 - It can also be argued that property rights should be considered as ‘open bundled rights’ (*Kasper*) which should not be abridged without compensation; unless the level of proof is ‘beyond reasonable doubt’ that net benefits of doing so are positive. Abridging these rights is argued to have long term costs to the productivity of the economy as a whole through reducing the security of all title, and thereby increasing uncertainty and reducing incentives for investment.
- These regulations also reduce the commercially productive base of landholders

- Whilst this is an intended consequence, under the principles of ecological sustainable development and triple bottom line accounting, the value of production forgone should be explicitly costed in making decisions and traded off against the environmental benefits obtained.
- The ABARE/BRS study of the Queensland land clearing is an example of where explicit evaluation of economic, social and environmental costs and benefits are made.

Compensation for attenuation of property rights

- Regulations attenuate the property rights of landholders in that they cannot legally use the land in the ways that they could before the regulation was introduced.
- This attenuation reflects the changing expectations of the community as biodiversity or other public policy objectives are now given greater weight.
- In many cases the regulations provide for substantial transfers of wealth. These transfers are usually from resource owners (such as landholders) to the community as a whole, which is expected to benefit from the enhanced environmental values.
 - Submissions to this inquiry show that these transfers can be very large (eg *NFF*, *AgForce* and *Sinden submissions*) for individual cases. Examples are given where the estimated reduction in land value is of the order of \$500 000.
- There are therefore strong arguments on both equity and efficiency grounds for compensation to landholders who have been significantly affected by regulations.
 - On equity grounds, because those affected are bearing a disproportionate share of the burden of the costs while the broader community, which receives the benefits of the regulations (through improved biodiversity and greater native vegetation cover), are not paying for those benefits.
 - On efficiency grounds, because unless landholders can be reasonably sure that if regulations are imposed then they will receive reasonable compensation, then investment decisions will be compromised and there is an incentive for land owners to destroy or hide any values that the community would seek to preserve.
- As an example, the developing arrangements for water will permit additional environmental flows (beyond a base amount) to be bought from water entitlement holders at a market price.
- A set of principles for investment sharing was agreed by the Standing Committee on Agriculture and Resource Management in 1998. These principles are attached.
 - These principles were developed and agreed by Commonwealth and state natural resource management agencies in regard to when public and private investment is appropriate in achieving sustainable natural resource management outcomes;
 - These have been used for the Natural Heritage Trust as a working solution to questions of ‘who pays?’

Conclusions

- Regulations are one component of a suite of possible policy instruments that can be used to address native vegetation and biodiversity objectives.
- It would appear from the submissions to this inquiry that native vegetation and biodiversity regulations are having a significant impact on some landholders’ incomes and property values where land management options are limited by new regulations.
- Moreover there is evidence that the imposition of the regulations, and the way they have been implemented, is likely to be having detrimental affects on productive agricultural activity
 - To reduce the costs borne by sections of the community and to increase the net benefits of the regulations, it is important therefore that regulations be carefully targeted and implemented in ways that reduce uncertainty and compliance costs.

- In addition, where they are cost effective, alternatives to regulation could be considered.
- There is also an important public policy issue in who, and in what circumstances, should pay for the impact of any decrease in land values – the owner of the land, the public at large (the taxpayer), or some other group.

References

- ABARE & BRS (2003) *Queensland land clearing proposal: Socio-economic impact*. Report prepared for the Commonwealth Government by the Australian Bureau of Agricultural and Resource Economics and the Bureau of Rural Sciences. Available from: <http://www.affa.gov.au/landclearing> [Accessed 20 August 2003]
- ABARE (2003) *Natural resource management on Australian farms*, Canberra
- AgForce Queensland (2003), *Impacts of Native Vegetation and Biodiversity Regulations*, July 18th <http://www.pc.gov.au/inquiry/nativevegetation/subs/sub054.pdf>
- Australian National Audit Office (2002) *Referrals, Assessments and Approvals under the Environment Protection and Biodiversity Conservation Act 1999*, Australian National Audit Office, The Auditor-General Audit Report No38.2002-03, Performance Audit. Available from <http://www.anao.gov.au/WebSite.nsf/Publications/> [Accessed 20 August 2003]
- Dalziell, I. & Poulter, D. (1992) *The economics of land degradation: the case of acid soils*, 36th Conference of the Australian Economics Society, ANU, Canberra.
- Department of Agriculture Fisheries and Forestry (2001) *Innovating Rural Australia; research and developments corporation outcomes*, Canberra
- Dival, John (2003) *Submission to the Productivity Commission enquiry into the impacts of native vegetation and biodiversity regulations*, PO Box 11 Toodyay Western Australia 6566 <http://www.pc.gov.au/inquiry/nativevegetation/subs/sub137.rtf> [accessed 1 September 2003]
- Hatfield Dodds, S (2003) *An integrative framework for public policy*, CSIRO Canberra, August
- Kasper, W (2003) *In Defence of Secure Private Property Rights*, Submission to the Productivity Commission inquiry into the impacts of native vegetation and biodiversity regulations, <http://www.pc.gov.au/inquiry/nativevegetation/subs/sub013.rtf> [accessed 1 September 2003]
- McIntyre, S., McIvor JG and KM Heard (eds) (2002) *Managing and Conserving Grassy Woodlands*, CSIRO Publishing, Melbourne.
- Natural Heritage Trust (1999) *Mid-term review of the Natural Heritage Trust* <http://www.nht.gov.au/review/index.html> [accessed 17 September 2003]
- National Farmers Federation (2003) *NFF Submission to the Productivity Commission Inquiry into the Impacts of Native Vegetation and Biodiversity Regulations*, 29 July <http://www.pc.gov.au/inquiry/nativevegetation/subs/sub128.rtf> [accessed 1 September 2003]
- National Land and Water Resources Audit (2001), *Australian Agricultural Assessment 2001*, Canberra
- National Land and Water Resources Audit (2002), *Australian Terrestrial Biodiversity Assessment 2002*, Canberra
- Sinden JA (2003) A review of the impacts of vegetation protection on farm land values in northern New South Wales: how much do farmers have to pay? Submission to Productivity Commission Inquiry into the Impacts of Native Vegetation and Biodiversity Regulations July 2003 Available from <http://www.pc.gov.au/inquiry/nativevegetation/subs/sub015.pdf> [Accessed 20 August 2003]

Tatiara District Council (2003) *Letter to the Productivity Commission dated 18 July*

Victorian Farmers Federation (2003) *Submission to Productivity Commission investigation in to the Impacts of native vegetation and biodiversity regulations*

<http://www.pc.gov.au/inquiry/nativevegetation/subs/sub149.pdf> [accessed 1 September 2003]