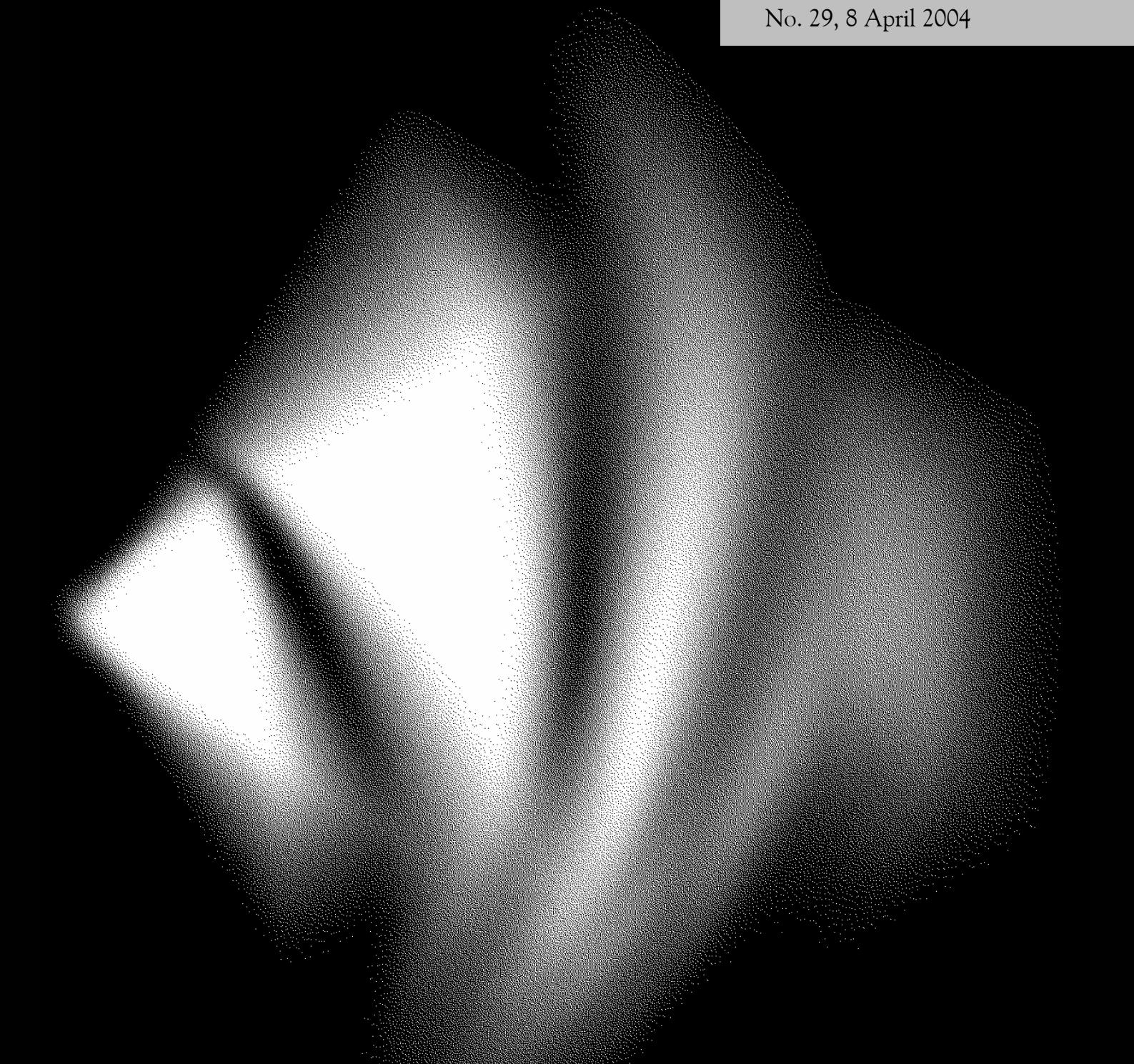
Australian Government
Productivity Commission

Impacts of Native Vegetation and Biodiversity Regulations

Productivity Commission Inquiry Report

No. 29, 8 April 2004



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The Productivity Commission

The Productivity Commission, an independent agency, is the Australian Government's principal review and advisory body on microeconomic policy and regulation. It conducts public inquiries and research into a broad range of economic and social issues affecting the welfare of Australians.

The Commission's independence is underpinned by an Act of Parliament. Its processes and outputs are open to public scrutiny and are driven by concern for the wellbeing of the community as a whole.

Information on the Productivity Commission, its publications and its current work program can be found on the World Wide Web at www.pc.gov.au or by contacting Media and Publications on (03) 9653 2244.

Terms of reference

I, IAN CAMPBELL, Parliamentary Secretary to the Treasurer, pursuant to Parts 2 and 3 of the *Productivity Commission Act 1998,* hereby refer the following to the Commission for inquiry and report within twelve months of receipt of this reference.

Background

2. Regulatory regimes in a number of States and Territories, along with the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999*, form part of an important transition to more sustainable management of Australia's native vegetation and biodiversity. The introduction of these regimes, particularly within the past five years, has raised concerns over possible negative impacts on farming practices, productivity, property values and returns and the investment behaviour of affected landholders. These concerns appear to have been exacerbated, in part, by a lack of information and awareness about the implications of the new regimes.

Scope of Inquiry

3. The Commission is to report on:

   (a) the impacts on farming practices, productivity, sustainability, property values and returns, landholders' investment patterns and the attitude of finance providers, and on other economic activities such as infrastructure development and mineral exploration, and flow on effects to regional communities, arising from the regulation of native vegetation clearance and/or biodiversity conservation, including:

      (i) both positive and negative impacts;

      (ii) the level of understanding of the relevant legislative and regulatory regimes among stakeholders;

      (iii) the likely duration of such impacts and the factors influencing their duration; and

      (iv) the extent to which existing government measures are mitigating any negative impacts;

   (b) the efficiency and effectiveness of the above regimes in reducing the costs of resource degradation and the appropriateness of the current distribution of costs for preventing environmental degradation across industry, all levels of government, and the community;

   (c) whether there is any overlap or inconsistency between Commonwealth and State/Territory regimes, including their administration;

(d) the evidence for possible perverse environmental outcomes, including those that may result from perceptions of a financial impact, arising from the implementation of the above regimes;

(e) the adequacy of assessments of economic and social impacts of decisions made under the above regulatory regimes;

(f) the degree of transparency and extent of community consultation when developing and implementing the above regimes; and

(g) recommendations (of a regulatory or non-regulatory nature) that governments could consider to minimise the adverse impacts of the above regimes, while achieving the desired environmental outcomes, including measures to clarify the responsibilities and rights of resource users.

4. In assessing the matters in (3), the Commission is to have regard to the legislative and regulatory regimes, and associated implementation measures, in all States, Territories and the Commonwealth whose primary purpose includes the regulation of native vegetation clearance and/or the conservation of biodiversity.

5. In undertaking the inquiry, the Commission is to advertise nationally inviting submissions, hold public hearings, consult with relevant Commonwealth, State and Territory agencies, local government, and other key interest groups and affected parties, and produce a report.

6. The Commonwealth Government will consider the Commission's recommendations, and the Government's response will be announced as soon as possible after the receipt of the Commission's report.

IAN CAMPBELL
14 April 2003

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Abbreviations and explanations

Abbreviations

ABARE	Australian Bureau of Agricultural and Resource Economics
ACF	Australian Conservation Foundation
ACTPLA	ACT Planning and Land Authority
AFFA	Department of Agriculture, Fisheries and Forestry Australia
AgWA	Agriculture WA
ANAO	Australian National Audit Office
ANEDO	Australian Network of Environmental Defender's Offices
ANZECC	Australian and New Zealand Environment and Conservation Council
AONSW	Audit Office of New South Wales
BBI	Biodiversity Benefits Index
BMP	Best Management Practices
CALM	Department of Conservation and Land Management
CAR	Comprehensive, adequate and representative
CCC	Catchment Coordinating Committee
CHD	Critical Habitat Declaration
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMA	Catchment Management Authority
COAG	Council of Australian Governments
CPA	Competition Principles Agreement
CRG	Community Reference Group
CRP	Conservation Reserve Program/Community Reference Panel
DCA	Development Consent Authority
DEH	Department of the Environment and Heritage
DEHAA	Department of Environment, Heritage and Aboriginal Affairs

DEP	Department of Environment Protection
DEST	Department of the Environment, Sports and Territories
DIPNR	Department of Infrastructure, Planning and Natural Resources
DLWC	Department of Land and Water Conservation
DNRE	Department of Natural Resources and Environment
DPI	Department of Primary Industries
DPIWE	Department of Primary Industries, Water and Environment
DSE	Department of Sustainability and Environment
dse	dry sheep equivalent
EA	Environment Australia
EBI	Environmental Benefits Index
ECNT	Environment Centre Northern Territory
EIS	Environmental Impact Statement
EMS	Environment Management System
EPA	Environmental Protection Authority
EPP	Environmental Protection Policy
ERD	Environment, Resources Development Court
ESA	Environmentally Sensitive Area
ESD	Ecologically Sustainable Development
ESP	Euroka Station Partnership
FPP	Forest Practices Plan
FPT	Forest Practices Tribunal
IAC	Industries Assistance Commission
IC	Industry Commission
ICM	Integrated Catchment Management
ICO	Interim Conservation Order
IDCO	Interim Development Control Order
IUCN	International Union for Conservation of Nature and Natural Resources
IUZ	Intensively–used zone
LAP	Local Action Plan/Litchfield Area Plan
LCDC	Land Conservation District Committee
LMA	Land Management Agreement

LMT	Lands and Mining Tribunal
NAPSWQ	National Action Plan for Salinity and Water Quality
NCP	National Competition Policy
NFF	National Farmers' Federation
NHT	Natural Heritage Trust
NLC	Northern Land Council
NOI	Notice of Intent
NPV	Net Present Value
NPWS	National Parks and Wildlife Service
NRAS	Natural Resource Adjustment Scheme
NRC	Natural Resources Commission
NSWFA	New South Wales Farmers' Association
NVAC	Native Vegetation Advisory Council
NVC	Native Vegetation Council
NVRIG	Native Vegetation Reform Implementation Group
OECD	Organisation for Economic Cooperation and Development
ORR	Office of Regulation Review
PC	Productivity Commission
PER	Public Environment Report
PFRP	Private Forest Reserve Program
PIRSA	Department of Primary Industries and Resources South Australia
PLB	Pastoral Land Board
PMAV	Property Maps of Assessable Vegetation
PVMP	Property Vegetation Management Plan
PVP	Property Vegetation Plan
QFF	Queensland Farmers' Federation
RAFCOR	Rural Adjustment and Finance Corporation
RAS	Resource Adjustment Scheme
RFA	Regional Forest Agreement
RIS	Regulation Impact Statement
RMPS	Regional Management and Planning System
RMPAT	Resource Management and Planning Appeal Tribunal
RPDC	Resource Planning Development Commission

RVC	Regional Vegetation Committee
RVMC	Regional Vegetation Management Committee
RVMP	Regional Vegetation Management Plan
SAFF	South Australian Farmers' Federation
SCC	Safe Carrying Capacity
SEPP	State Environmental Planning Policy
SLATS	Statewide Landcover and Trees Study
SLCC	Soil and Land Conservation Council
SJLCDC	Serpentine–Jarrahdale Land Conservation District Committee
SoE	State of the Environment
SRC	State Revegetation Committee
TCT	Tasmanian Conservation Trust
TFGA	Tasmanian Farmers and Graziers Association
TSSC	Threatened Species Scientific Committee
VCAT	Victorian Civil and Administrative Tribunal
VCMC	Victorian Catchment Management Council
VFF	Victorian Farmers Federation
VPP	Victorian Planning Provisions
WACC	Western Australian Conservation Council
WCA	Wetland Care Australia
WRC	Water and Rivers Commission

Explanations

Recommendations

RECOMMENDATION

Recommendations in the body of the report are highlighted using bold italics with a heading, as this is.

Findings

FINDING

Findings in the body of the report are paragraphs highlighted using italics with a heading, as this is.

Glossary

Broadscale clearing	Clearing of native vegetation (including native grasses) on a broad scale, excluding thinning. Typically undertaken using at least one bulldozer or a plough (to clear grasses).
Biodiversity	The variability among living organisms, including diversity within species, between species and diversity of ecosystems.
Clearing	The definition varies across jurisdictions. In general, it is the removal of native vegetation by mechanical or chemical processes.
Land degradation	Decline in the productive capacity of land as a result of land management practices. Includes lost productivity from soil acidification, compaction, salinity and erosion.
Landholder	Used generically to describe the freehold owner or leaseholder of land.
Native vegetation	The definition varies across jurisdictions (see chapter 3). For example, it may or may not include native grasses.
Offsets/offset planting	Plantings required under regulatory regimes to offset the environmental impacts of land clearing, thinning or lopping.
Pre-emptive clearing	Clearing that is brought forward in time in anticipation of the introduction (or tightening) of clearing restrictions.
Private land	Freehold and Crown leasehold land.
Regrowth	The definition varies across jurisdictions (see chapter 3). In general, it is native vegetation that has been cleared in the past. Typically, it is not protected from clearing.
Regulatory arrangements/ regimes	Legislative and regulatory framework to control the clearing of native vegetation.

Remnant native vegetation	The definition varies across jurisdictions. In general, it is native vegetation that is protected from clearing.
Thickening	An increase in the biomass of shrubs and/or trees through time from an increase in the girth of existing trees and/or in the quantity of trees.
Thinning	Selective removal of trees and/or shrubs to preserve the floristic composition of the ecosystem.
Woody vegetation	A stand of trees with a canopy cover of at least 20 per cent, which may include regrowth, exotics, and plantations.

OVERVIEW

Key points

- Retention, management and rehabilitation of native vegetation and biodiversity on private land are important for many reasons including resource sustainability and protection of endangered ecosystems. But existing regulatory approaches are not as effective as they could be in promoting these objectives and impose significant costs:
  - The effectiveness of restrictions on clearing of native vegetation has been compromised by: a lack of clearly-specified objectives; disincentives for landholders to retain and care for native vegetation; and the inflexible application of targets and guidelines across regions with differing characteristics such that perverse environmental outcomes often result.
  - Many landholders are being prevented from developing their properties, switching to more profitable land use, and from introducing cost-saving innovations. Arbitrary reclassification of regrowth vegetation as remnant and restrictions on clearing woodland thickening in some jurisdictions are reducing yields and areas that can be used for agricultural production.
- Some costs could be reduced and effectiveness improved if regulatory regimes followed good regulatory practices that promoted transparency and accountability. But more fundamental change is required to promote better targeting of policies to achieve clearly-specified environmental outcomes as efficiently as possible. There is also an urgent need for more equitable cost-sharing arrangements.
- The Commission proposes a process of greater devolution of responsibility to the regional level, formalised within national and State/Territory guidelines, whereby:
  - Landholders, individually and/or as a group, would bear the costs of actions that directly contribute to sustainable resource use and, hence, the long-term viability of their operations. Regional bodies would determine what actions are required.
  - The wider community would pay for the extra costs of providing 'public-good' environmental services, such as biodiversity conservation, that it apparently demands. Using regional institutions to deliver public-good objectives would promote coordination and consistency of approaches.
- Not only would this approach be more equitable but, by encouraging and rewarding the ongoing cooperation and effort of landholders, it would be more efficient and effective in achieving desired environmental outcomes:
  - Landholders would have positive incentives to retain and manage native vegetation and to deliver specified environmental outcomes in flexible, innovative and cost-effective ways.
  - Payments to landholders for public-good conservation would facilitate increased scrutiny of costs and benefits of policy intervention.

Overview

There are two main purposes in this inquiry. The first is documenting and assessing the impacts of existing native vegetation and biodiversity regulatory regimes on landholders and local communities, and the effectiveness of the regimes in reducing the costs of resource degradation. The second is to explore whether there are more efficient and effective ways of achieving desired environmental objectives.

The inquiry is *not* about arguing the case for or against promotion of environmental objectives — the desired extent, location and condition of native vegetation is for the community to determine. In other words, this report is not about the benefits and costs of retaining native vegetation as such, but rather the efficiency and effectiveness of using jurisdiction-wide regulations to do so.

The Commission has concluded that the current heavy reliance on regulating the clearance of native vegetation on private rural land, typically without compensating landholders, has imposed substantial costs on many landholders who have retained native vegetation on their properties. Nor does regulation appear to have been particularly effective in achieving environmental goals — in some situations, it seems to have been counter-productive.

In the Commission's assessment, greater exposure of the costs and benefits of additional conservation effort, clarification of environmental objectives, and a process for determining agreed landholder and community responsibilities that promotes cooperation and trust, will be critical to achieving more efficient and equitable solutions.

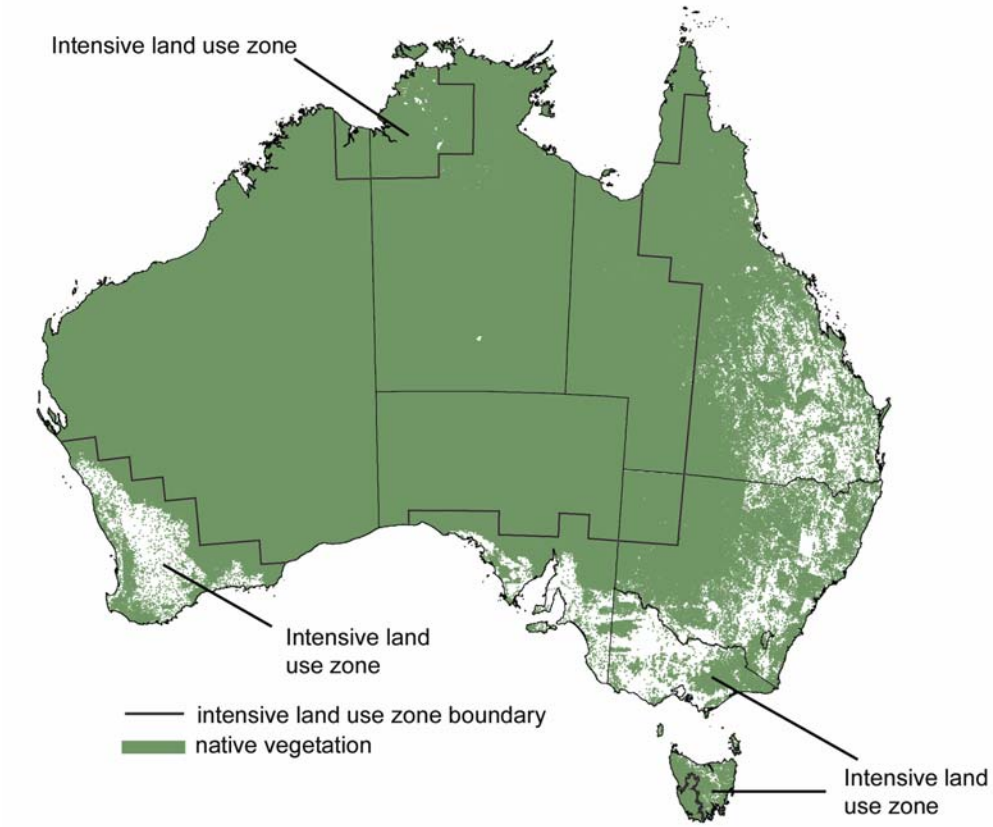
Native vegetation and biodiversity regulatory regimes under review

Over the past 20 years or so, State and Territory governments have introduced, and progressively strengthened, legislation controlling the clearing of native vegetation on private freehold and leasehold land (which together comprise about 60 per cent of Australia's land mass). Regulatory regimes continue to evolve. During the course of this inquiry: the New South Wales and Queensland Governments announced their intention to stop all broadscale clearing of remnant native vegetation from mid 2004 and the end of 2006 respectively; and legislation introducing an integrated permit system was passed in Western Australia in late 2003.

The main stated rationales for the introduction of clearing controls have been land degradation (particularly salinity problems in some States) and a concern in many jurisdictions that levels of remnant native vegetation — especially on private leasehold or freehold land — were approaching critical levels for habitat and biodiversity maintenance.

Impetus for regulation has also come from a commitment by all Australian governments, through the Natural Heritage Trust, to reverse the long-term decline in the quality and extent of Australia's native vegetation cover. While aggregate levels of native vegetation are substantial in many jurisdictions (figure 1 and table 1), the National Land and Water Resources Audit has expressed concern about the representativeness of ecosystems formally secured in 'protected' areas, and about land and water degradation in particular regions. International obligations have also played a part. For example, Australia is a signatory to the United Nations Convention on Biological Diversity.

Figure 1 **Extent of native vegetation in Australia**
Circa 1997



Data source: NLWRA (2002a).

Table 1 **Remnant native vegetation by State and Territory, 1997**

	% intensively-used zone[a]
New South Wales	67
Victoria	37
Queensland	72
Western Australia	56
South Australia	64
Tasmania	80
ACT	69
Northern Territory	98

[a] Representing about 38 per cent of Australia's total land mass, mainly covering the agricultural, pastoral and urban zones in each jurisdiction.

State and Territory legislation typically sets out (on a jurisdiction-wide basis) when permits or approvals must be obtained by landholders who intend to clear native vegetation on their properties. The application and breadth of controls varies significantly across jurisdictions. Different requirements generally apply to leaseholders and owners of freehold title.

Most regimes provide for some exemptions from the need for a permit to clear native vegetation for designated personal use and some agricultural management practices (box 1). However, many participants complained that exemptions were ill-defined and inconsistently applied.

Box 1 **Regulatory regimes: selected definitions and exemptions**

'Native vegetation' comprises grasses and groundcover as well as trees in New South Wales, South Australia, Victoria and Western Australia; native grassland is excluded in Queensland and (currently) in Tasmania from general permit requirements, although grasses may be protected under threatened species legislation and the Australian Government's Environment Protection and Biodiversity Conservation Act.

'Clearing' typically includes felling, removing or destroying by any means (usually with the exception of grazing activity). In Victoria, permits are required for lopping branches.

Exemptions typically include: small areas (for example, less than one hectare); planted timber; infrastructure; fire-breaks, fencing; firewood for personal use; drought fodder; regrowth (for example, less than 10 years old in Victoria, less than 5 years old in South Australia). Extractive industries usually are exempt from native vegetation regulations though they are subject to industry-specific legislation.

Several jurisdictions (New South Wales, Victoria and Queensland) have established regional processes to devise regional clearing guidelines, although any regional or local guidelines and conditions must at least meet jurisdiction-wide requirements.

Most State and Territory governments also have separate legislation protecting threatened species of flora and fauna. In addition, there are several other pieces of legislation that may regulate whether landholders can lawfully clear native vegetation on their properties, regardless of whether exemptions apply under native vegetation management legislation.

At a national level, the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) provides a framework for Australian Government involvement in matters of 'national environmental significance' including, of particular relevance to primary producers, nationally threatened species, wetlands and ecological communities.

How well have current regimes promoted environmental goals?

Where stated, environmental objectives of the various Acts that regulate native vegetation and biodiversity throughout the jurisdictions are diverse, but generally include protection of native vegetation, ecosystems and species and sustainable development. However, typically little guidance is provided about how to implement and monitor achievement of these higher-level objectives.

To the extent that effectiveness is monitored, it tends to be measured by changes in the estimated level of clearing of native vegetation — a somewhat more tractable but partial and imperfect proxy measure of environmental outcomes.

According to available data, clearing of native vegetation seems to have declined in most jurisdictions since the introduction of the regimes (table 2). However, there is also evidence of non-compliance and pre-emptive clearing undertaken as insurance against possible future policy changes. Reclassification of 'regrowth' as 'remnant' native vegetation after a certain period, for example, often encourages early clearing to avoid possible future restrictions.

Table 2 **Indicative annual rates of native vegetation clearing**

	Period	*Hectares per year*	*Comment*
New South Wales	1980–1990	100 000	Clearing of native woody vegetation
	1991–1995	50 000	Clearing controls introduced 1995 and strengthened 1997
	1995–1997	30 000	
	1997–2000	14 000	
Victoria	1983–1988	10 438	Clearing of native woody vegetation
	1989–2001	2 500	Clearing controls introduced 1989
Queensland	1980–1990	297 560	Clearing of native woody vegetation
	1991–1999	330 555	Clearing controls for freehold land announced 1999, introduced 2000
	1999-2000	758 000	
	2000-2001	378 000	
Western Australia	1983–1993	26 028	Based on permit applications (includes non-woody native vegetation)
	1994–2001	3 500	
South Australia	1983–1993	11 630	Based on permit applications (includes non-woody native vegetation)
	1996–2002	2 060	
Tasmania	1983–1993	6 000	Clearing of native forest vegetation for agricultural purposes
	2000–2002	1 500	
Northern Territory	1983–1993	16 280	Figures for 1994 onwards relate to leasehold land only
	1995–1999	1 140	
ACT		—	Removal of stands of trees for urban development

The focus of the regimes on preventing clearing of native vegetation often seems several steps removed from achieving desired environmental outcomes. While there are some significant differences in the application of controls across jurisdictions, common themes to emerge include that:

- broad rules relating to clearing of native vegetation and targets for retention of native vegetation applied across whole jurisdictions have not been sufficiently flexible to take account of regional variations. Their application frequently has led to perverse environmental effects. For example: premature clearing of regrowth and more intensive rotation of paddocks contributes to soil degradation. Restrictions on thinning or clearing of woodland 'thickening' have indirectly promoted soil erosion and biodiversity loss in some cases;
- an emphasis on prevention of native vegetation removal, rather than a focus on the promotion of desirable environmental *outcomes*, also can lead to perverse effects. For example, innovations in farming practices (such as the introduction of water-saving centre-pivot irrigation systems) that in addition to improving farm productivity, may improve environmental sustainability, can be prevented if paddock trees cannot be removed or if planting offsets imposed as a condition of their removal are prohibitively costly. Clearing restrictions can also prevent effective removal of weeds and pests;

- incentives for landholders to care for, conserve or re-establish native vegetation voluntarily have been diminished because they fear that harvesting or use of native vegetation may be prohibited in future. Moreover, if landholders were to allow or encourage native vegetation to establish, they risk forfeiting the option to use that land for future production, thus restricting their ability to respond to changing circumstances. From the landholders' perspective, native vegetation loses its private value and becomes a liability; and
- avoidance and evasion of regulations have prompted the progressive introduction of stronger regulations and stricter enforcement and penalty provisions, creating an adversarial climate and further eroding landholder goodwill.

Operation of the regimes

Many participants expressed concerns about procedural complexity and a lack of transparency and accountability. In those instances where independent audits of State and Territory regimes have been undertaken, such concerns seem to have been confirmed. Some regimes have met more of the attributes of good regulatory practice than others — for example, the Australian Government's EPBC Act and arrangements in Tasmania and the Northern Territory. However, no State or Territory regime as far as the Commission has been able to ascertain, meets all criteria for good regulation. In particular:

- legislation often has been introduced with little or no consultation (sometimes deliberately so, to avoid pre-emptive clearing) and without assessment of likely costs and benefits;
- decision rules often seem to be based on the mapping of remnant native vegetation, the accuracy of which is frequently disputed by landholders and other parties, and on an incomplete understanding of the dynamics of local ecosystems;
- the compliance burden placed on landholders often seems excessive. Landholders may have to seek information and permits from several government departments and authorities. Advice is not always consistent and receipt of a permit from one agency does not necessarily satisfy requirements of other agencies;
- application costs can be high because landholders frequently have to provide detailed surveys and other information as part of their applications. Delays in processing applications also add to costs;

- a lack of clear environmental objectives in many jurisdictions means that reasons for decisions on permit applications, if given at all, are not transparent and often appear to be inconsistent, thus making local application of regulations difficult in some situations;
- regional processes that were intended to build on local knowledge and adapt assessment criteria to fit local needs and characteristics seem not to have worked well, either because representation has not been 'local' and/or because local decisions have been circumscribed or overturned by governments; and
- appeals and dispute-resolution mechanisms have not been available in some jurisdictions and have been limited and costly in others.

Recent legislative amendments in some jurisdictions address some of these issues, including, for example, the provision of an appeals mechanism and introduction of an integrated permit system in Western Australia, and provision in New South Wales for more flexibility at the regional level.

Impacts on landholders

A major part of the terms of reference is to assess positive and negative impacts of existing native vegetation and biodiversity regulations on landholders. This focus on the impacts of regulatory regimes on landholders elicited criticism from a number of participants. The Commission appreciates that considering only the costs imposed on landholders by regulatory regimes would not provide a sound basis for decision-making. However, although environmental benefits accruing to the community at large from retention of native vegetation are not being assessed, this does not imply that the community-wide benefits from appropriate native vegetation management and biodiversity conservation are insignificant.

The Commission received evidence from around 180 landholders and their representatives, and other participants such a local governments, about the negative impacts of native vegetation and biodiversity legislation. Little evidence was received from landholders about positive impacts of the regulations, although many acknowledged the benefits of sustainable, resource-management practices.

This is not a random sample of Australian landholders — those who have few or no complaints are less likely to participate in this inquiry. (Indeed, a fundamental problem with clearing regulations is that they have little effect on landholders who have little native vegetation remaining on their properties — those who by choice or chance have substantial native vegetation on their properties stand to lose the most.) Nonetheless, qualitative evidence of impacts provided by participants, coupled with

the Commission's own observations on numerous field trips and wider research, was consistent and generally compelling.

Negative impacts of regulation

Clearing controls have four broad types of impact on farming practices:

- preventing expansion of agricultural activities;
- preventing changes in land use (for example, from grazing to cropping) and adoption of new technologies (such as installation of centre-pivot irrigation);
- inhibiting routine management of vegetation regrowth and clearing of woodland thickening to maintain areas in production; and
- inhibiting management of weeds and vermin.

The scale and nature of such impacts vary across jurisdictions, reflecting the level of demand for vegetation clearance, coupled with the severity of restrictions. For example, the aggregate impact of clearing restrictions may be higher in New South Wales and Queensland, where there is a demand for broadscale clearing and where such clearing has been or is about to be stopped. Impacts in the Northern Territory and Tasmania, although not zero, appear to be less significant because the demand for clearing for agricultural purposes is lower and native vegetation controls so far have sought to balance economic and environmental objectives. (That said, concerns were raised about the potential impact of inflexible native vegetation and biodiversity regulations on the sustainable development and management of large tracts of land belonging to Aboriginal communities in the Northern Territory.)

Somewhat surprisingly, the impact of native vegetation restrictions is not confined to the 'frontier' or areas where broadscale clearing is occurring. Many landholders in Victoria and New South Wales commented on the detrimental impact of regulation that reclassifies regrowth, including grasses, more than 10 years old, as remnant. For cropping and mixed farm enterprises, where long-term rotations are an integral part of the production cycle, such arbitrary rules could excise previously cropped or grazed areas of land from production in future. Perversely, remaining cleared land could be degraded by over-intensive farming in an effort by landholders to offset such losses simply to maintain farm viability in the short term.

There is also evidence that innovation (including the introduction of centre-pivot irrigation systems and self-drive tractors using GPS technology) as well as routine farming practices (such as paddock rotations and fencing) are being frustrated, sometimes stopped, because of restrictions on clearing or even lopping branches from paddock trees. Failure to access cost-saving technology could eventually lead

to some otherwise viable farms becoming unviable, particularly if the terms of trade for agriculture continue to decline.

The impacts of restrictions are likely to increase over time because:

- regrowth and woodland thickening, innovation and farm management are ongoing processes, not once-off events; and
- controls are continually being strengthened.

The Commission has not attempted to quantify jurisdiction-wide effects of the legislative regimes. Instead, in order to investigate the drivers of the impacts of native vegetation clearing restrictions at a regional level, two shires were examined — Moree in New South Wales and Murweh in Queensland. Any estimates of the impacts of land-clearing restrictions are highly sensitive to data and assumptions about future prices, productivity growth, annual rates of clearing, the discount rate and the policy scenario. Therefore, the results should be interpreted as providing an indication of orders of magnitude, not precise measures of likely impacts.

Commission estimates suggest that the economic impacts of broadscale clearing restrictions that prevent the conversion of land from native vegetation to crops in the Moree Plains Shire, or the clearing of woodland to maintain or improve grazing capacity in Murweh Shire, could be significant (box 2). The well-documented phenomenon of woodland thickening on large tracts of grazing land in Queensland could progressively crowd out grazing activity if cost-effective counter-measures were not permitted.

Any reduction in expected net farm returns will roughly translate into a commensurate decline in current property values. Evidence was received from a number of participants about the increasing gap between the values of uncleared and cleared land, where the gap cannot be explained by the costs of clearing and differences in land quality.

Furthermore, a reduction in anticipated returns — or simply an increase in the risk premium because of the uncertainty surrounding the impact of native vegetation regulations — will also affect farm investment and the willingness of finance providers to lend. Finance providers have not participated in the inquiry, although a number of landholders provided evidence (some on a confidential basis) that lending institutions had reduced the valuation of their properties as a direct result of the impact of, or simply the uncertainty created by, native vegetation regulation. This had reduced their assessed equity in the property and, hence, worsened their risk status.

Box 2 **Estimates of potential impacts of broadscale clearing restrictions in Moree Plains and Murweh Shires**

The Commission's approach has been to estimate landholders' returns if they were not constrained by clearing restrictions, in order to isolate the effects of clearing restrictions. It is assumed that landholders would voluntarily retain some native vegetation because of shade, shelter, erosion prevention and other private benefits it can deliver.

Using this methodology and a range of data and predictions about prices, costs, productivity growth and annual clearing rates, estimates suggest that prohibitions on broadscale clearing could reduce the present value of expected *net* returns (2003 dollars) to land, capital and management (over a 40-year period) in Moree Plains Shire (NSW) by $27–$84 million, depending on the productivity of newly-cleared land, and by $42–$124 million in Murweh Shire (Queensland), depending on the outlook for future cattle prices and whether woodland thickening can be countered effectively.

Results from the case studies should not be applied to other regions in the two States concerned, or indeed, to other States and Territories. Nor should they be used to indicate unavoidable losses incurred by particular landholders that might warrant compensation. For example, the estimates include some returns to factors of production that are likely to be mobile in the longer term, such as management and capital. Adjustment by these factors would tend to reduce estimated long-term losses. In addition, as a large proportion of land in Murweh Shire is leasehold, the share of losses borne by leaseholders will depend on what they pay (or have paid) for the lease. On the other hand, the estimates do not capture adjustment costs that may be incurred by landholders and others if alternative employment is not readily available.

Government measures mitigating negative impacts

Compensation for the impacts of native vegetation regulations has been and remains the exception rather than the rule. In South Australia, between 1985 and 1991, compensation was offered to landholders whose clearing applications were rejected and who agreed to set aside the land under a heritage agreement. A similar, if somewhat more limited, scheme has operated in Western Australia.

Assistance packages have been announced for landholders in Queensland and New South Wales affected by proposed broadscale clearing bans in those two States, although it is not clear that compensation will be paid for losses incurred.

Several jurisdictions provide for compensation for the effects of threatened species legislation. Victoria's threatened species legislation (*Flora and Fauna Guarantee Act 1988*) provides for compensation of landholders, but the legislation is seldom applied to the extent that compensation provisions are invoked — instead, planning regulations are used to protect habitat at landholders' expense.

Provisions exist in most jurisdictions for landholders to receive some financial assistance (often through Natural Heritage Trust funding) for the costs of fencing-off native vegetation; they may also receive local rate rebates on set aside land. Some States also have programs where environmental services or land covenants are purchased from landholders (the pilot BushTender scheme in Victoria and the more comprehensive Private Forest Reserve Program in Tasmania).

Positive impacts for landholders from regulation

Landholders individually or as a group may benefit from a range of services provided by native vegetation such as fodder for stock, timber for fencing, reduced soil erosion and prevention of soil and water degradation. However, that there are some benefits accruing to landholders does not mean that they necessarily will benefit from *all* of the native vegetation required to be retained by current regulations, or that the benefits to them will outweigh the costs.

Where there are private net benefits from retaining native vegetation, individual landholders would be expected to retain native vegetation voluntarily. It is possible that the regulations have alerted some landholders to sustainable and profitable land-management techniques. However, the weight of evidence in this inquiry suggests that landholders are more likely to consider the regulations and their implementation to be ill-conceived and often contrary to the long-term sustainable management of their properties. Even if there were an educational by-product effect of the regulations, a targeted education program is likely to be a more efficient instrument.

Native vegetation and biodiversity regulations generally seek to retain native vegetation to promote wider community objectives, including biodiversity, in addition to addressing resource degradation issues. As discussed below, local communities and landholders acting together are likely to be well placed to address resource degradation issues in ways that take account of local conditions and knowledge. This may not require retention of native vegetation at levels currently imposed by jurisdiction-wide legislation. For example, some services provided by native vegetation (such as the prevention of soil erosion and salinity) could be provided in other ways, including by non-native vegetation.

Impacts of regulations on regions and other industries

To the extent that production and incomes of local landholders are lower than otherwise as a result of the regulatory regimes, there may be a flow-on effect to

local towns and communities. As in the case of impacts on landholders, impacts of regulatory regimes on local communities will vary widely.

Potential positive impacts on regions from retention of native vegetation under the regulations include lower infrastructure maintenance costs from lower salinity levels, and increased eco-tourism. To the extent that there are higher-valued uses of land, it might be expected that normal market mechanisms would encourage this shift. Some landholders indicated that the only prospective buyers of their land, which can no longer be cleared because of the regulations, were city dwellers who visited for occasional 'weekend hunting' and who would contribute little to the local community.

The inquiry received little evidence from the mining and infrastructure industries about the impacts of native vegetation regulations. In several jurisdictions, extractive industries are exempt from general native vegetation controls and are subject to industry-specific legislation. Large mining projects may not have been stopped by native vegetation controls, though their costs may have been increased because of revegetation and planting offset requirements in some jurisdictions. There is some evidence that smaller ventures may have been deterred because of these additional costs.

The apparent lack of interest in the inquiry from infrastructure providers may or may not imply that impacts are low. It is possible that regulated infrastructure providers are able to set prices to reflect higher operating costs, or that publicly-owned providers such as roads departments, constrained by budget allocations, simply provide services up to the budget ceiling. Local government participants from Victoria claimed that the need to obtain permission to clear trees close to roads stretched council budgets and delayed roadworks, sometimes with adverse implications for driver safety. In both cases, consumers or the community, and not the providers, will bear these largely hidden costs.

Ways of reducing adverse impacts

The Commission has not been asked to consider whether the benefits of existing regulatory approaches outweigh their costs. It is possible that the community benefits of current regulatory arrangements outweigh the costs imposed on private landholders and others. However, given that environmental outcomes resulting from the regimes generally are not assessed, and given the lack of transparency about their costs, in the Commission's view, no-one could make a well-informed assessment one way or the other. Indeed, this lack of information about relative costs and benefits is a fundamental problem with the current regimes.

Nonetheless, based on the evidence presented to the Commission, and its own observations and analysis of the incentive structure provided by current regulation, the Commission considers that better environmental outcomes could be achieved at less cost to the community overall and landholders in particular. The Commission proposes a three-part approach to reforming existing arrangements:

- improve existing regulatory regimes;
- remove impediments to and promote private conservation; and
- develop a formal process for sharing costs and devolving responsibilities.

1 Improve existing regulatory regimes

Wider application of 'best-practice' principles of regulation would introduce greater transparency and accountability and reduce procedural complexity (box 3).

As noted above, legislation in some jurisdictions meets more of the criteria for 'good regulation' than in others — for example, the EPBC Act sets out time limits for consideration of applications and requires economic and social factors to be taken into account in the approvals process. In some jurisdictions, procedural improvements have been foreshadowed or recently implemented.

Box 3 **Towards regulatory 'best practice'**

- Objectives of legislation should be clearly specified in terms of desired environmental outcomes, so that regulations and decisions link back to these objectives and performance of the regimes can be monitored and assessed.
- Duplication and inconsistencies should be minimised by amalgamating/simplifying regulations and permit requirements.
- Landholders should be assisted to meet their responsibilities through adequate information about those responsibilities, and education about sustainable land practices and environmental problems.
- Statutory time-frames for assessing permit applications should be applied.
- Economic and social factors should be taken into account where applications to clear otherwise would be rejected on environmental grounds, and reasons for decisions should be made publicly available.
- Accessible, impartial appeals and dispute-resolution mechanisms should be available.
- Regular audits and independent reviews of the overall effectiveness and costs and benefits of regimes should be undertaken and the results published.

The Commission also proposes a larger role for regional decision making within existing regimes, to make use of the extensive knowledge of landholders and local communities and to allow regional variations in requirements. This would require giving more autonomy (and support) to existing regional committees to develop and perhaps implement appropriate requirements. Importantly, a greater regional focus would allow relaxation of some seemingly arbitrary, across-the-board requirements (such as those applying to native vegetation regrowth in many jurisdictions) and native vegetation targets, which seem to impinge significantly on routine agricultural practice and impose substantial costs on landholders, often for little apparent environmental benefit. The NSW Government has indicated some changes to its regime along these lines.

There is also a need to upgrade the quality of data on which decisions are based (for example, ground surveys to verify satellite mapping) and to provide mechanisms for data revision and updating.

Such changes would significantly reduce compliance costs of existing regulation incurred by landholders and the community overall, while not detracting from, and most probably enhancing, environmental outcomes.

However, landholders would still bear the costs of supplying many community-wide benefits (potentially encouraging the community, which is oblivious of the costs, to seek more), and prescriptive regulation of clearing of native vegetation would remain the principal instrument for bringing about desired environmental services. In the Commission's view, more fundamental reform is warranted for several reasons:

- regulation of native vegetation clearing is inflexible, prescriptive and 'input' rather than 'outcome' focussed;
- regulation of clearing is a partial measure — it does nothing to ensure ongoing management of native vegetation or its regeneration. Indeed, landholders are faced with disincentives to care for and regenerate native vegetation; and
- jurisdictional regulation by design or accident has muddied the issue of landholder and community responsibility.

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

2 Promote private conservation

There is ample evidence that many landholders increasingly are implementing more sustainable agricultural practices (box 4), not only because these practices improve the productivity of the land, but also because landholders derive other private benefits such as visual and recreational amenity. In some cases, they simply may wish to be 'good citizens'.

Box 4 **Examples of sustainable agricultural practices**

According to Munmurra Landholder Action Group (New South Wales):

> Examples of these improvements would be: minimum till cultivation; cell grazing; more effective vermin control (rabbits, feral dogs and pigs); development of bio-diverse farming systems; the growth in farmer participation in catchment management; land care groups and the general increase in awareness of the economic benefits of on farm tree planting. (sub. 69, p. 2)

John McKindlay (New South Wales) described his farming practices:

> We have fenced off 70% of the river bank from stock and much of it has been planted with a native cane grass to reduce erosion. Over the years we have established 5.5 kms of trees and understorey and 12 kms of saltbush. The implementation of a full recycle system for our farm has reduced any run off from irrigation and we have established 80 hectares of deep rooted lucerne to limit accessions to the water table. We believe we are environmentally conscious and we actively promote the landcare ethic. As well as our normal farm operation we run a native plants nursery supplying farms, Landcare groups and Government Departments. (sub. 114, p. 1)

Murray Davis, a farmer in western Victoria, noted:

> We understand that there needs to be a balance between production and environmental sustainability, so over the last ten years all the waterways on my property have been fenced off, native trees have been planted and areas have been fenced off for revegetation. All stock have been excluded from all waterways due to the fencing along the creeks. This consists of approximately 40 hectares plus other areas retained for shelter belts and has resulted in lost productivity to this farm. (sub. 103, p. 1)

There are many market and non-market private mechanisms that by increasing potential returns, could encourage individual landholders to provide more environmental services. These include:

- some consumers demanding environmentally-sustainable products (for example, 'green labelling'), eco-tourism, or 'green' investments;
- individuals, corporations, or organisations (such as the Australian Bush Heritage Fund, the Australian Wildlife Conservancy and the Trust for Nature) with an interest in the environment either buying land or contracting with landholders to

deliver environmental services through retention and improved management of native vegetation and biodiversity or through restoration activities; and

- groups of local farmers engaging voluntarily in cooperative efforts to address local environmental problems (for example, Landcare), possibly assisted by organisations such as Greening Australia.

A major advantage of private or voluntary mechanisms is that the outcome generally will enhance community welfare because the transaction or activity will occur only if the benefits to those paying exceed the costs. In addition, suppliers of the environmental services, landholders, will seek out efficient and innovative ways of delivering services in order to maximise profits or, in the case of community actions, net community gains.

If conservation of native vegetation can be made compatible with increasing landholder benefits, then more conservation will occur voluntarily. However, private provision of conservation services may be constrained for many reasons (box 5).

Box 5 **Constraints on private provision of native vegetation and biodiversity**

There are numerous reasons why individuals may not provide the optimal level of native vegetation and biodiversity as desired by society as a whole:

- lack of access to information about sustainable agricultural practices and their benefits and difficulties in signalling sustainable practices to consumers or investors;
- short-term financial constraints arising from unviable farm size or external 'shocks' such as drought and price fluctuations;
- restrictions on, or impediments to, private conservation projects or the commercial development and sustainable use of native vegetation;
- lease conditions preventing alternative land use that may be more 'environmentally-friendly' than stipulated uses;
- agricultural assistance (for example, exceptional circumstances assistance including drought relief) or input price distortions that may encourage higher stocking rates, or the development of, or increased production in, economically-marginal areas;
- native vegetation regulations themselves, if uncompensated, which discount the private value of native vegetation;
- free-rider issues that weaken community efforts to solve local problems such as salinity and poor soil and water quality; and
- the public-good nature of some environmental services (such as biodiversity or carbon sequestration) which inhibits (though does not rule out) private solutions.

The variety of causes of under-provision of environmental services on private land suggests that different responses targeted at particular constraints are likely to be more effective and efficient than across-the-board regulation.

In many cases, the most effective role for government simply may be to remove regulatory or other policy distortions (for example, to promote efficient farm rationalisation). In other cases, government could take a more active role facilitating increased private effort by, for example, further promoting dissemination of information and research into the production benefits of retaining native vegetation, or its potential for sustainable commercial uses.

Environmental externalities and public goods

Where private under-provision of conservation occurs because benefits accrue 'off-site', governments potentially have a more direct role to play.

Nonetheless, where negative 'spill-over' effects and their solutions are contained within reasonably well-defined areas, cooperative voluntary solutions may still be feasible. Possible explanations for voluntary community action include the desire by individuals to be, or to be seen as, good citizens by their peers, as well as the scope for benefits (for example, improved regional water and soil quality) accruing to individual property holders. In other words, the potential individual pay-off from group effort may exceed the pay-off from individual action or, indeed, non-action.

The substantial involvement of landholders in the Landcare movement is an example. Individuals and groups may also negotiate solutions to localised 'spillovers', for example, where one group pays another to modify its practices. As discussed below, government may have a role in facilitating community solutions to community problems, for example, by providing resources and information and, in some cases, by facilitating or enforcing appropriate practices where free-riding or high transactions costs would otherwise undermine achievement of objectives.

However, where the benefits of native vegetation conservation accrue more widely and cannot be charged for, landholders are unlikely to provide the optimal level of native vegetation from a whole-of-community perspective. At some point, the provision of native vegetation and the production of commodities for profit cease being complementary and begin to compete. Beyond this point, native vegetation conserved for biodiversity purposes means that landholders lose income because the land could be put to more profitable uses from a private perspective.

Two issues then arise: which policy instruments are likely to be efficient and effective in promoting optimal levels of environmental services, and who should pay for what.

3 Clarify landholder and community responsibilities

On the whole, the notion that landholders and the community should share responsibility to protect the environment seems well accepted, with the wider community paying for environmental public goods (box 6).

Box 6 Participants' views on cost-sharing

The costs of retaining native vegetation [should] be shared amongst the beneficiaries in proportion to the level of the benefit that they receive (eg landholder, local community and/or wider community) and that these proportions [should] be determined through the application of an agreed cost sharing formula. (SA Government, DR324, p. 41)

[The] Public good must be supported by appropriate support from the public purse. (ACT Sustainable Rural Lands Group, sub. 125, p. 1)

As a taxpayer I would expect and no doubt do, pay for *public good* actions wherever they happen, in areas other than the environment but do not see that we [landholders] should bear almost all the cost of this [environmental] *public good.* (T.J. Price (Western Australia), sub. 38, p. 2)

The entire community should help bear the cost of public good activities. (Greening Australia (Tasmania), sub. 134, p. 2)

There is also a greater requirement to identify the 'public versus private good' of protection of native vegetation and the biodiversity it supports. Landholders do have a duty of care to maintain and protect their natural resources. To go beyond this requires significant resources — capital, knowledge and financial. If the broader community is after benefits that go beyond this 'duty of care', then the broader community needs to actively contribute. (Murray Irrigation Ltd (New South Wales), sub. 79, p. 2)

Best Practice … should reflect the wider community's aspirations for natural resource management outcomes. Ensuring landholders contribute appropriately to achieving such outcomes, however, should be a matter for 'incentivation' not regulation … (Tasmanian Conservation Trust, sub. 84, p. 5)

The problem is that in practice, the distinction between private and public benefits is muddied. Some actions will produce private, regional and community-wide benefits. For example, salinity reduction or prevention may improve agricultural yields on individual properties and across regions, and also improve habitat and biodiversity.

The difficulties of isolating the private, regional and public components of benefits under current regulatory arrangements have contributed to disagreement about the

extent of the burden that individual landholders or landholders as a group should be expected to bear. Establishing a more formal process for identifying and agreeing on these different components and, hence, the extent of landholders' responsibilities, will be critical to achieving a long-term solution to environmental problems.

Landholders' responsibilities

In the Commission's assessment, it is reasonable to expect landholders in the aggregate to bear the costs of actions that directly contribute to sustainable resource use and, hence, the long-term viability of their operations.

Thus, actions and mechanisms to 'internalise' efficiently what could be broadly described as externalities occurring within and between regions — landholder actions affecting soil and water quality, for example — would constitute the responsibility of landholders individually and/or as a group. This approach does not mean that individual landholders should only be expected to undertake what is in their private interests — it implies a broader responsibility to their neighbours and communities and, indeed, where actions have broader impacts, surrounding communities.

Society's responsibilities

In the Commission's assessment, the wider public should bear the costs of actions to promote public-good environmental services — such as biodiversity, threatened species preservation and greenhouse gas abatement — that it apparently demands, and which are likely to impinge significantly on the capacity of landholders to utilise their land for production.

This assessment is not simply based on some notion of fairness (although perceived fairness is not irrelevant when landholders are being relied upon to provide the environmental services demanded by the wider community). It is based on the reality that achieving the environmental outcomes that society desires on private land as efficiently and effectively as possible will require:

- clear specification of the environmental outcomes demanded; and
- the ongoing cooperation, knowledge and effort of landholders who ultimately must deliver those outcomes on their land.

Over and above agreed landholder responsibilities, the Commission therefore considers that public-good conservation (including biodiversity, threatened species

and greenhouse objectives), should be purchased from individual, or groups of, landholders.

Several participants put the view that landholders should not be 'rewarded' for *not* clearing native vegetation. But 'impacter pays' is not inherently more efficient or equitable than affected parties buying the services they value. A major problem in making landholders bear all the costs of not clearing native vegetation on their properties is that this necessitates compulsion via regulation. Yet prescriptive regulation is unlikely to promote the focus on environmental outcomes and the landholder cooperation required to achieve those outcomes. Nor is making a subset of landholders bear the costs of providing services that benefit the rest of society particularly fair, especially as many other landholders, including governments, have been responsible for large-scale clearing in the past.

Having governments buy the environmental services that the community demands (including, in some cases, buying up parts of, or entire, properties) would mimic private, voluntary transactions driven by the prospect of gains from trade accruing to both parties. This has several advantages over prescriptive regulation for promoting public-good conservation on private land:

- a process of buying environmental services will require more precise specification of the environmental outcomes demanded;
- the approach can be flexible, taking account of local variations, utilising local knowledge and encouraging innovative and cost-effective solutions that are consistent with actions to promote regional environmental objectives. Therefore, a given level of environmental services is more likely to be provided at minimum cost;
- a requirement to pay will place some discipline on the community's 'demand' for environmental services and compel prioritisation of environmental demands. It is more likely (though certainly not guaranteed) that the community's willingness to pay would be tested and the cost–benefit trade-off revealed in the aggregate and for individual projects. With uncompensated regulation, retention of native vegetation on private land essentially is a 'free good' for everyone except adversely affected landholders; and
- contract terms and conditions can be designed to provide certainty to landholders and provide positive incentives for them to retain and manage native vegetation appropriately in the long term. For the landholder, native vegetation would become an asset rather than a liability.

Such an approach has been trialled in Victoria and used extensively in Tasmania and overseas with promising results. It is not costless or without potential problems.

Criteria have to be developed for prioritising environmental objectives and for assessing environmental outcomes. Methods of eliciting 'competitive' contract prices (such as auctions) for desired environmental outcomes need to be developed. Contracts need to be designed, monitored and enforced. Because it requires case-by-case assessment, the approach can be resource-intensive. But prioritisation and clear specification of environmental objectives, the discovery of least-cost solutions and monitoring of outcomes so that performance of the intervention can be assessed and improved over time, *should* be undertaken for *any* policy intervention, including regulation.

In some cases, it is feasible that regulation to promote some public-good objectives may be efficient — for example, where a simple rule is more efficient than negotiations or auctions at property or regional levels. Importantly, however, if regulation involves the imposition of significant losses on some landholders, payment of compensation would promote acceptance of, and compliance with, the rule. The efficiency of regulation as a policy instrument does not rest on the uncompensated transfer of long-accepted — and bought — rights.

The cost-sharing approach outlined would shift some, but not all, costs currently incurred by landholders to taxpayers. Although some may regard the potential budgetary impact as a major disadvantage, possibly limiting the provision of conservation effort, the appropriate objective of policy should be maximising net community benefits, not minimising budgetary outlays.

Devolving responsibility to regional communities

If landholders and local communities are expected to address, and largely pay for, some environmental problems (such as local salinity and soil and water quality problems) themselves, there is a strong case for allowing them greater flexibility and authority to devise and implement efficient ways of doing so — and not simply imposing solutions from above, ostensibly for landholders' benefit.

Importantly, solutions to regional environmental issues may or may not involve retention of native vegetation, at least not to the level demanded by the public at large. For example, in Western Australia the principal stated reason for imposing clearing restrictions has been the need to control salinity. While salinity undoubtedly is a major problem in that State, some have suggested other approaches such as deep-rooted, perennial commercial crops. It is not within the Commission's expertise to say what the precise solutions will be, but the current regulatory approach inhibits exploration of, and experimentation with, potentially lower-cost options. Of course, to the extent that native vegetation is retained in order to solve

regional environmental problems, the rest of the community can 'free-ride' on any biodiversity or other services delivered.

In the Commission's view, the most important design features are that institutions provide for genuine regional consultation and decision making and that they are delegated sufficient flexibility, authority and resources to implement their decisions. Representation should reflect the regional population and a range of viewpoints and interests, with the scope for input and guidance from government departments. That said, regional institutions will need to be accountable for delivering agreed outcomes.

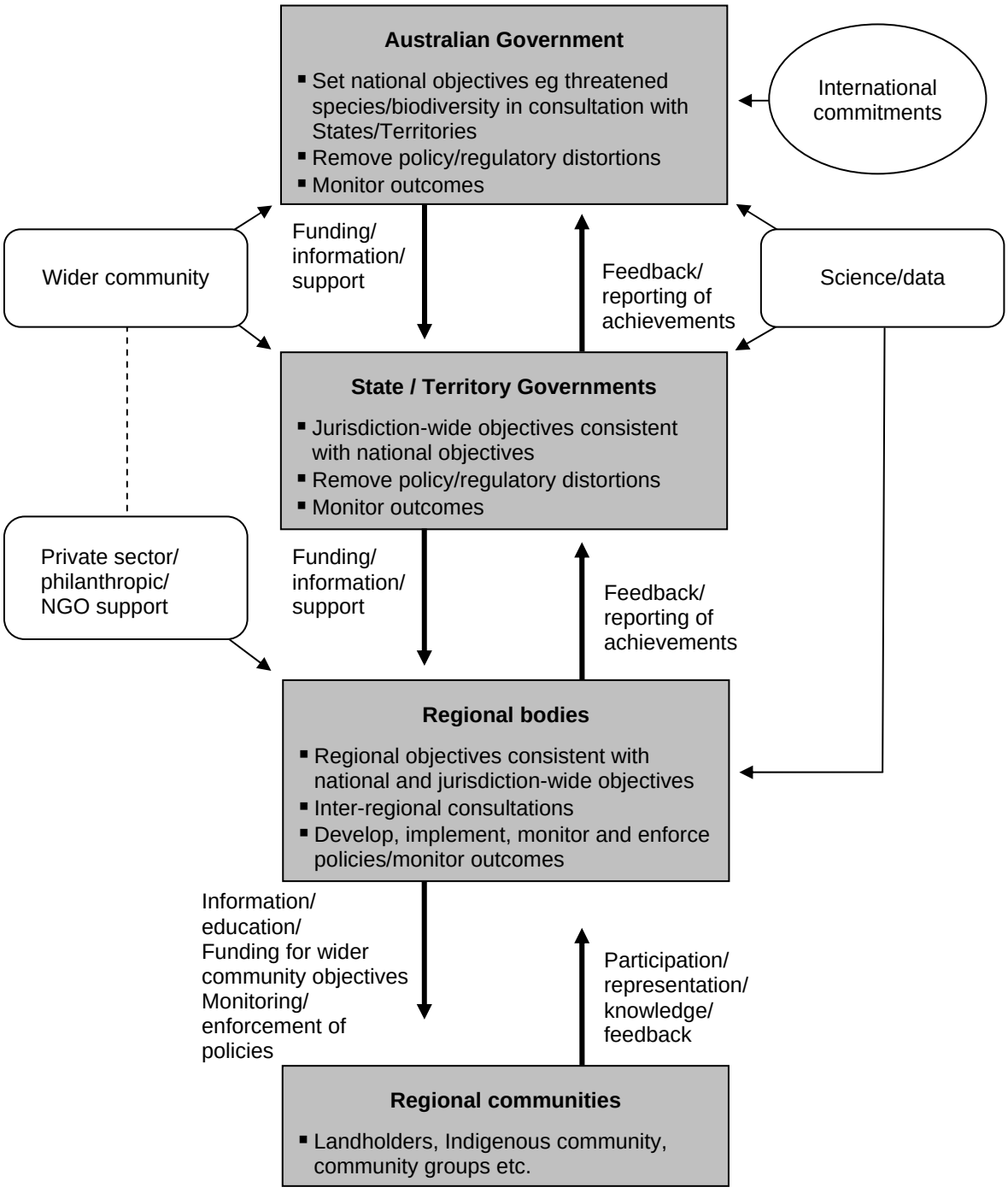
There are few precedents for how responsibility might be devolved under regional approaches and, hence, there may need to be a process of experimentation and adaptation, building on many promising examples of landholders coming together to identify and solve environmental problem in their regions. Building trust and a sense of 'ownership' will be critical for success.

Policy mechanisms that regional bodies could employ to achieve regional objectives include commercial or market-based instruments, voluntary efforts, codes of practice, education or even regulations stipulating certain practices. (Where the environmental benefits to landholders are direct and clear, regulations and rules may be appropriate and more likely to be accepted and complied with.) Redistributive mechanisms may be appropriate in some instances to share costs among landholders. In Western Australia, for example, currently only those landholders with remnant native vegetation on their properties bear the costs of clearing regulations which, among other things, are aimed at controlling salinity, caused largely by past clearing on other properties.

Public-good environmental objectives formulated by the Australian, State and Territory governments ideally should be fed through regional institutions to promote coordination and consistency of approaches and, ultimately, development of least-cost 'joint' solutions. Thus there would be a 'nested' hierarchy of planning and outcome-focussed objectives, with regional bodies largely responsible for devising ways of delivering those objectives in an efficient manner (for illustrative purposes, one possible structure is outlined in figure 2).

Some participants considered that the Council of Australian Governments and National Competition Policy provided an appropriate institutional model. The Commission sees some value in developing an agreed set of broad principles to guide development of consistent approaches to, and to monitor and review, native vegetation and biodiversity management at the national, state and regional levels.

Figure 2 **An illustrative nested hierarchy**



Concluding remarks

Over the past twenty years or so legislation to prevent clearing of native vegetation on private land has been relied upon heavily to achieve biodiversity and other environmental objectives. The current evaluation suggests that this approach has serious design and implementation deficiencies, in many cases leading to inefficient, ineffective and inequitable outcomes.

The Commission considers that progressive implementation of the reforms outlined, by building on private effort and landholder knowledge and goodwill, could reduce the need for government intervention over time, would better clarify landholder and community responsibilities, provide better incentives for landholders to retain and manage native vegetation, and introduce greater policy variety, flexibility, accountability and transparency.

A crucial thrust of the Commission's recommendations is that policies that fail to engage the cooperation of landholders will themselves ultimately fail. In addition, greater transparency about the cost–benefit trade-offs involved in providing desired environmental services would facilitate better policy choices.

Recommendations and findings

Recommendations

RECOMMENDATION 10.1

Before introducing new or amending existing native vegetation and biodiversity policy, a comprehensive regulation impact statement or its equivalent should be prepared that includes an assessment of the problem being targeted, expected costs and benefits of the proposed policy, and an assessment of alternative instruments. This assessment should be made public.

RECOMMENDATION 10.2

All native vegetation and biodiversity policies should be subject to ongoing monitoring and regular independent reviews of all costs and benefits in the light of articulated objectives. Reviews of performance should be published.

RECOMMENDATION 10.3

Ongoing efforts are required to improve the quality of data and science on which native vegetation and biodiversity policy decisions are based, particularly 'on-the-ground' assessments to test the accuracy of vegetation mapping based on satellite imagery.

RECOMMENDATION 10.4

Current regulatory approaches should comply with good regulatory practice, including:

- ***clear specification of objectives of the legislation so that guidelines and decisions clearly link back to these objectives, and performance of the regimes can be monitored and assessed;***
- ***minimisation of duplication and inconsistency by amalgamating and simplifying regulations and permit requirements, for example, by rationalising legislation and regulation within each State and Territory and/or by coordination between agencies;***

- ***assistance to, and education of, landholders to meet and to understand their responsibilities by providing accessible information about those responsibilities, and how they relate to sustainable land-management practices and environmental problems;***
- ***statutory time-frames for assessing permit applications;***
- ***consideration of economic and social factors where applications to clear otherwise would be rejected on environmental grounds (a 'triple bottom line' approach), with reasons for decisions to be given and reported; and***
- ***provision of accessible, timely and impartial appeals and dispute-resolution mechanisms.***

RECOMMENDATION 10.5

Greater flexibility should be introduced within existing regulatory regimes to allow variation in requirements at a regional level. To this end:

- ***greater use should be made of the extensive knowledge of landholders and local communities;***
- ***regional committees and bodies should be given greater autonomy (and support) to develop appropriate requirements; and***
- ***some across-the-board rules, particularly those currently applying to native vegetation regrowth, could be relaxed and replaced with requirements that meet environmental objectives but which reflect regional environmental characteristics and agricultural practices.***

RECOMMENDATION 10.6

As a matter of priority, governments should seek to remove impediments to, and facilitate, increased private provision of environmental services. Actions could include:

- ***removal of tax distortions or lease conditions that discourage conservation activity relative to other activities;***
- ***removal of impediments to efficient farm rationalisation and/or management and operation;***
- ***research into, and facilitation of, sustainable commercial uses of native vegetation and biodiversity; and***
- ***enhanced provision of education and extension services to demonstrate to landholders the private benefits of sustainable practices.***

RECOMMENDATION 10.7

Landholders individually, or as a group, should bear the cost of actions that directly contribute to sustainable resource use (including, for example, land and water quality) and, hence, the long-term viability of agriculture and other land-based operations. Redistributive mechanisms may be appropriate in some instances to share costs among landholders and regional communities.

RECOMMENDATION 10.8

Regional institutions should be further developed and charged with addressing regional and inter-regional resource sustainability issues within broad parameters determined at national, State and Territory levels. Regional bodies should provide for genuine regional consultation, representation and decision making and be granted sufficient flexibility, authority and resources to implement their decisions.

RECOMMENDATION 10.9

Over and above agreed landholder responsibilities, additional conservation apparently demanded by society (for example, to achieve biodiversity, threatened species and greenhouse objectives), should be purchased from landholders where intervention is deemed cost-effective.

RECOMMENDATION 10.10

Public-good native vegetation and biodiversity objectives ideally should be fed through regional institutions to promote coordination and consistency of approaches and, therefore, least-cost 'joint' solutions.

Findings

This section draws together all findings contained in this report. Findings are listed under the relevant chapter.

Chapter 3 State and Territory regulatory arrangements

FINDING 3.1

In most jurisdictions, little formal consideration has been given to policy approaches other than regulation for delivering environmental goals. Regulation impact assessments, or equivalent assessments in the absence of formal RIS requirements, do not appear to have been undertaken.

FINDING 3.2

In most jurisdictions, there has been limited assessment of the likely economic and social costs of native vegetation and biodiversity regulatory regimes, while the benefits of the regimes appear to be taken as self-evident.

FINDING 3.3

The level of consultation associated with the introduction of native vegetation legislation and associated regulations has varied across jurisdictions. In some jurisdictions, there has been adequate consultation; in others, there has been little or no public consultation. This has been the case particularly when regimes have been introduced to avoid pre-emptive clearing, or in cases when regimes have been changed through policy announcements, regulation or administration rather than legislative amendment.

Generally, there has been greater public consultation about the development of biodiversity legislation than native vegetation legislation, but the processes for consultation in application of the Acts vary.

FINDING 3.4

Generally, regional consultation processes have been effective in involving local communities in native vegetation management. However, the effectiveness of the process in some jurisdictions appears to have been hampered by inadequate technical support (such as accurate mapping) and a lack of funding. 'Outside' representation on regional committees also appears to have been a source of discontent with some consultation processes.

Disenchantment with the regional consultation process has arisen where regional vegetation management plans have not been adopted or, subsequently, have been changed by government.

FINDING 3.5

The obligations placed on landholders by the various regimes often seem unnecessarily complex and onerous. In some jurisdictions, landholders are required to obtain approval from several government departments and authorities.

FINDING 3.6

In several jurisdictions, a lack of published guidelines and the absence of publicly-available information about the rationale for decisions on clearing applications, have encouraged perceptions of inconsistency in the decision-making process.

FINDING 3.7

Consideration of economic and social factors when assessing clearing applications is not required in all jurisdictions and is precluded in some. In jurisdictions where these factors are required to be examined, little guidance has been provided on how to weigh economic and social factors against environmental considerations.

FINDING 3.8

Few jurisdictions specify the time periods within which applications to clear native vegetation have to be assessed and, in some jurisdictions, long delays occur. Delays in processing applications add to costs even if applications ultimately are successful.

FINDING 3.9

Appeals and dispute-resolution mechanisms have not been available in some jurisdictions and have been limited and costly in others. Recent legislative amendments appear to improve appeals mechanisms in some jurisdictions.

FINDING 3.10

Landholders frequently have to provide detailed surveys and other information as part of their applications, increasing compliance costs.

Chapter 4 Environment Protection and Biodiversity Conservation Act

FINDING 4.1

The actual and perceived impacts of the EPBC Act on landholders appear to differ markedly. In terms of preventing activities, or of requiring activities to undergo the assessment and approval process, the EPBC Act to date has had little direct impact on the agricultural sector. However, uncertainty about its potential future impacts has been a concern for some landholders.

FINDING 4.2

The listings of threatened species and ecological communities under both the EPBC Act and State and Territory legislation contribute to confusion and uncertainty for landholders because listings, or the requirements that arise from them, differ in some cases.

FINDING 4.3

Opportunities for public involvement in decision making under the EPBC Act appear to be adequate. Public reporting of key information about the Act's operation promotes transparency.

Chapter 5 Promoting environmental goals

FINDING 5.1

In a number of jurisdictions, the environmental objectives of the regulatory regimes are not specified or are poorly specified. Conflicting and multiple objectives are also likely to hinder the attainment of environmental goals.

FINDING 5.2

In general, reported clearing rates have declined following the introduction of regimes regulating the clearing of native vegetation. However, there is also some evidence of pre-emptive clearing and illegal clearing.

FINDING 5.3

In a number of jurisdictions, monitoring and enforcement of the regulations appear to be hampered by a lack of resources.

FINDING 5.4

In several jurisdictions, the arbitrary reclassification of regrowth vegetation as remnant after a certain time, has resulted in landholders clearing regrowth more frequently than otherwise. This has the potential for perverse environmental impacts, since landholders may otherwise have left land fallow and/or revegetated for substantially longer periods of time, with associated native vegetation, greenhouse, and biodiversity benefits. More frequent clearing of regrowth also may contribute to erosion and water quality decline.

FINDING 5.5

In a number of jurisdictions, the current regimes regulating native vegetation clearance and biodiversity conservation have an adverse impact on landholders' ability to manage pest species.

FINDING 5.6

The current regulatory regimes narrowly focus on native vegetation protection in a way that is not always consistent with the achievement of longer-term conservation and broader environmental goals.

FINDING 5.7

In some jurisdictions, the current regulatory regimes have created incentives for landholders to clear native vegetation earlier, to clear more, or to degrade native vegetation, that are inconsistent with promoting the regimes' environmental objectives.

Chapter 6 Impacts on landholders, other industries and regional communities

FINDING 6.1

Native vegetation and biodiversity regulations have adversely affected the returns of many landholders by imposing a range of restrictions on farm practices, including:

- *limiting the opportunities to expand or reconfigure the area of productive land;*
- *restricting the ability to maintain the amount of productive land on a property;*
- *inhibiting the introduction of new technologies;*
- *restricting or preventing changes in land use; and*
- *inhibiting a range of normal farm practices such as thinning vegetation, rotating (fallowing) parts of the property, clearing around fencelines and managing pest animals and weeds.*

FINDING 6.2

Native vegetation and biodiversity regulations have reduced the values of properties on which the income-earning potential has fallen because permission to clear native vegetation has been refused, or because there is uncertainty about the future ability to clear.

FINDING 6.3

All else equal, reductions in property income-earning potential, and consequent declines in owner equity, mean that landholders restricted from clearing areas of native vegetation on their properties are less able to obtain finance or face higher interest rates.

FINDING 6.4

Those landholders most severely affected by the regulations have often suffered serious personal stress in the face of the resultant marginal viability, or even loss, of their property.

FINDING 6.5

There are positive impacts for many landholders in retaining selected vegetation and biodiversity on their own and surrounding properties. These benefits will be greater in areas prone to soil and water degradation. However, this does not mean that landholders necessarily will benefit from all of the native vegetation required to be retained by current regulations, or that benefits to them will outweigh the costs.

FINDING 6.6

Regional impacts of the regulations appear to have been limited to date, although impacts on some smaller communities may have been more serious. Controls on broadscale clearing are likely to have more significant impacts on regions with significant native vegetation cover.

The regulations may have imposed costs on forest industries in some jurisdictions, especially by creating uncertainty about future rights to harvest native timber planted on private land. The regulations also impose costs on some mining and infrastructure projects, although often these will be small relative to the size of the project. In some cases, native vegetation regulations have added substantially to the costs of road construction and maintenance.

FINDING 6.7

Government measures to mitigate negative impacts of the regulations on landholders have been limited and have not been available to all affected landholders. Any payments typically cover only a small portion of the negative impacts of the regulations.

Chapter 7 Assessment of current regimes

FINDING 7.1

The effectiveness of regimes to protect native vegetation and conserve biodiversity would be enhanced if the objectives of the regimes were clearly specified.

FINDING 7.2

Permit systems to regulate clearing of native vegetation:

- *do not provide on-going incentives for the voluntary management of remnant native vegetation;*
- *may encourage the fragmentation of native vegetation holdings; and*
- *affect only those who apply to, or intend to, clear native vegetation.*

FINDING 7.3

A flexible definition of regrowth — for example, reflecting regional differences and objectives — would reduce the disruption to established patterns of agricultural production and facilitate improved environmental outcomes.

FINDING 7.4

Flexible regimes able to accommodate the contribution of regional committees and to take account of regional differences are likely to promote better environmental outcomes.

FINDING 7.5

Appropriately-trained extension officers and the placement of departmental staff with representative organisations would facilitate landholder understanding of their obligations and facilitate the operation of the regimes.

FINDING 7.6

Transparency and accountability of the assessment process would be enhanced if the agency making the decision is required to make its reasons available. This would include a statement of any conditions attached to the clearing permit and the reasons why these conditions have been imposed.

FINDING 7.7

The inclusion of statutory time-frames within legislation would provide an objective standard against which the performance of the regulatory agencies can be assessed.

FINDING 7.8

Transparency and accountability of the assessment process would be improved if the economic and social cost to landholders and the community of rejected clearing applications were explicitly considered.

FINDING 7.9

Access to fair and impartial dispute-resolution processes is important for promoting the transparency and accountability of the assessment process.

FINDING 7.10

A reduction in the number of legislative instruments in some jurisdictions may improve the integration and the consistency of various elements of the jurisdiction's environmental protection regimes.

FINDING 7.11

Preparation of a comprehensive regulation impact statement can improve the quality and effectiveness of the regulation.

FINDING 7.12

Governments should be mindful of the compliance costs imposed on landholders by requirements for them to provide information in support of permit applications.

FINDING 7.13

Many of the current regimes intended to protect native vegetation and conserve biodiversity appear not to utilise the knowledge and experiences of individual landholders.

FINDING 7.14

It is important that there are mechanisms that enable mapping errors to be corrected when better information is available. Landholders themselves can be a key source of information.

FINDING 7.15

A legislative requirement to monitor the performance of the regimes and to subject them to periodic review can help ensure that the best instruments are being used to address the underlying problem and provide transparency and accountability.

Chapter 8 Criteria for policy selection

FINDING 8.1

Careful identification of the policy problem, the objectives sought, and consideration of the context in which a policy option will be applied, are important

for choosing the best policy options to promote native vegetation and biodiversity conservation on private land.

Chapter 9 Policy options for native vegetation and biodiversity conservation

FINDING 9.1

Many individuals and organisations voluntarily provide conservation services. An advantage of relying on these efforts is that they have relatively high levels of community acceptance and raise fewer enforcement and equity concerns than approaches that compel landholders to undertake conservation. However, while the altruistic conservation efforts of individuals and groups can contribute to achieving community conservation objectives, they are unlikely to be sufficient on their own to achieve significant increases in conservation on a broad scale.

FINDING 9.2

Market-based policy approaches to encourage native vegetation and biodiversity conservation offer several advantages, such as flexibility, the ability to deliver outcomes at least cost and incentives for innovation. There is scope for existing markets in native vegetation and biodiversity products to contribute to promoting conservation objectives.

FINDING 9.3

Government policies in areas other than the environment may be inadvertently compromising government objectives with respect to native vegetation and biodiversity conservation.

FINDING 9.4

Accurate and up-to-date information and education are critical for the success of any policy option to promote native vegetation and biodiversity conservation objectives. Information and education approaches can also be pursued in their own right to promote these objectives. In particular, when poor conservation outcomes are due to a lack of information about the benefits and costs of conservation, specific information and education, tailored to an individual's or a region's problems, are likely to be most beneficial for achieving change 'on the ground'.

FINDING 9.5

Taxes or subsidies that target specific, assessable actions by landholders may be efficient instruments for promoting some specific environmental objectives.

However, because they necessarily focus on inputs rather than environmental outcomes, taxes and subsidies are unlikely to be efficient instruments for promoting complex objectives such as biodiversity.

FINDING 9.6

Government purchase of environmental services from landholders, on a voluntary basis, offers several potential advantages, including:

- *flexibility and scope for innovation in identifying ways of promoting environmental objectives;*
- *a requirement for specification and prioritisation of environmental objectives;*
- *closer alignment between landholders' incentives and governments' objectives for native vegetation and biodiversity conservation;*
- *greater certainty for, and acceptability amongst, landholders than compulsory policy instruments; and*
- *increased transparency of the costs of conservation, relative to some other approaches, which can impose some discipline on government and community demands for conservation.*

However, different approaches must be developed for particular circumstances and, consequently, the approach can be resource-intensive in terms of program design and contract monitoring.

FINDING 9.7

Imposition of a duty of care may be efficient where actions by individual landholders have a direct, observable impact that is well understood by them and where there is broad acceptance of the level of responsibility implied by the duty. However, imposition of a statutory duty of care on landholders, beyond their ability and knowledge to deliver the required duty efficiently, as in the case of provision of public-good native vegetation and biodiversity services, is unlikely to be an efficient policy instrument.

FINDING 9.8

Regulations can be efficient where the environmental objective is targeted directly and the regulations are broadly accepted and complied with.

The effectiveness and efficiency of regulation in promoting public-good native vegetation and biodiversity conservation goals appears limited because:

- *the problem is too complex, dynamic and geographically heterogeneous for jurisdiction-wide rules that necessarily focus on achievement of proxy targets;*

- *potentially lower-cost, innovative solutions to environmental problems are precluded; and*
- *achievement of environmental goals may be undermined if landholders regard regulations as imposing an unfair burden on them and governments neither compensate for regulatory takings, nor assume responsibility for effective management of protected remnants on private land.*

FINDING 9.9

Where environmental values of land are high relative to alternative uses, and public management of the land would be more cost-effective than private stewardship, government purchase of entire properties (or part thereof) may be efficient. However, it is likely that, for a majority of agricultural land, it will be more efficient to leave land in private ownership and encourage joint production of environmental services and commercial outputs.

1 Introduction

In this chapter, the terms of reference are summarised and the background to, and scope of, the inquiry are briefly discussed. The Commission's approach to, and conduct of, the inquiry are also outlined.

1.1 About this inquiry

The Productivity Commission has been asked to undertake an inquiry into the impacts of native vegetation and biodiversity regulations and to report within twelve months, that is, by 14 April 2004.

The terms of reference ask the Commission to report on the impacts on:

> … farming practices, productivity, sustainability, property values and returns, landholders' investment patterns and the attitude of finance providers, and on other economic activities such as infrastructure development and mineral exploration, and flow on effects to regional communities, arising from the regulation of native vegetation clearance and/or biodiversity conservation.

In addition, the Commission is to assess the overall effectiveness and efficiency of the regulations in reducing the costs of resource degradation, and to recommend how adverse impacts of these regimes could be minimised, while achieving desired environmental outcomes. The terms of reference are reprinted in full at the beginning of this report.

1.2 Background to the inquiry

In recent years, Australian governments have introduced a number of measures aimed at achieving more sustainable management of Australia's native vegetation and biodiversity resources. The impetus for these changes came, in part, from a commitment by all Australian governments, through the Natural Heritage Trust, to reverse the long-term decline in the quality and extent of Australia's native vegetation cover (NRMMC 2001). (Box 1.1 summarises National Land and Water Resources Audit findings relating to native vegetation and biodiversity.) International obligations have also played a part. For example, Australia is a signatory to the United Nations Convention on Biological Diversity (1992).

Box 1.1 **Australian Native Vegetation Assessment 2001: selected findings**

Since European settlement, approximately 13% of Australia has been cleared of native vegetation — mostly in the higher rainfall areas of the south-east and far south-west of the continent. The condition of the remaining vegetation varies.

Around 32% of native vegetation in the intensively used areas (mainly the agricultural and urban zones) is cleared or highly modified. Across this region approximately 68% (or 1 968 000 km^2) of native vegetation remains.

The most affected of the major vegetation groups are: heath; low closed forests and closed shrublands; mallee woodlands and shrublands; eucalypt tall open forest; eucalypt woodlands; and rainforests and vine thickets. Much of the remaining native vegetation in the intensively used areas is fragmented and, in many areas, occurs as isolated trees on narrow strips along old stock routes and rail reserves.

25 of Australia's 245 river basins and 42 of Australia's 354 biogeographic subregions have less than 30% native vegetation remaining.

Key impacts on native vegetation (over the past 200 years) include: clearing for broadacre agriculture and grazing on improved pastures; logging, harvesting or disturbing forest species; grazing native pastures; changing fire regimes; weeds and feral species, or exotic plants; filling of wetlands in urban areas and clearing for transport corridors.

Source: NLWRA (2002a).

Several other inter-governmental initiatives have also addressed native vegetation management and biodiversity conservation issues, including the *National Strategy for Ecologically Sustainable Development* (ESDSC 1992), the *National Strategy for the Conservation of Australia's Biological Diversity* (DEST 1996) and the *National Framework for the Management and Monitoring of Australia's Native Vegetation* (NRMMC 2001).

One outcome of these initiatives has been the introduction of legislation to regulate native vegetation clearance and to require biodiversity conservation and management on non-public land. 'Private' land comprises about 60 per cent of Australia's land mass — about two-thirds of private land is Crown leasehold and the remaining one-third, or around 21 per cent of Australia's total land area, is freehold (table 1.1). Fourteen per cent of Australia's land belongs to Aboriginal and Torres Strait Islander communities.

The Australian Government introduced the *Environment Protection and Biodiversity Conservation Act 1999* and, during the past five years, nearly all State and Territory governments have announced or introduced new, or significantly modified, regimes to regulate the removal of native vegetation and/or the management of biodiversity on private leasehold and freehold land.

These regulatory regimes have resulted in changes to:

- the circumstances in which regulatory approval is required for the removal, destruction or lopping of native vegetation;
- regulatory criteria by which applications to remove or modify native vegetation are assessed; and
- penalties for non-compliance with regulations.

Table 1.1 **Land tenure in Australia**

Tenure category	*Thousand square kilometres*	*%*
Public	1767.9	23
Private		
Crown leasehold	3234.6	42
freehold	1585.0	21
Aboriginal & Torres Strait Islander	1094.8	14
Total	**7682.3**	**100**

Source: Geoscience Australia (2003).

1.3 Scope of the inquiry

While the scope of the inquiry is broad, the terms of reference and, indeed, time constraints, impose some boundaries:

- the Commission is required to assess legislation and regulations (in Australian, State and Territory Government jurisdictions), the primary purpose of which includes the regulation of native vegetation clearance and/or the conservation of biodiversity. While there is an array of legislation and regulation that has the potential to influence the way native vegetation and biodiversity is managed, in most jurisdictions there are one or two Acts that dominate and which are the focus of this inquiry. Nonetheless, where relevant, other legislation and regulations that affect how landholders manage native vegetation on their properties are also considered;
- the focus of the inquiry is on the impacts of the regulatory regimes under review on landholders (including leaseholders), farming and other activities such as mineral exploration and infrastructure development. The terms of reference do not extend explicitly to management of public lands. However, the Commission's attention has been drawn to instances where management of native vegetation and biodiversity on public lands may have significant implications for private landholders and primary production; and

- the Commission has not been asked to assess the benefits of retaining native vegetation and/or biodiversity conservation as such.

The focus of the inquiry on the impacts of existing regulatory regimes on landholders has elicited criticism and comment from a number of participants. For example, Tamborine Mountain Landcare, Queensland, expressed concern that:

> … a focus on economic impacts of native vegetation and biodiversity regulations will concentrate on short term economic impacts and ignore the long term adverse economic and environmental effects which could result from land degradation if native vegetation and biodiversity are not protected. (sub. 5, p. 1)

The Australian Conservation Foundation stressed:

> It's very important … to look at the costs and the benefits to the private and the public good, in short, the net effect of the policy approaches that are being applied … (trans., p. 560)

In similar vein, WWF Australia observed:

> We'd be encouraging the inquiry to look at net costs; so not only direct costs imposed on land-holders by regulation, but also looking at the costs to downstream users and the environment from clearing and other activities ... (trans., p. 842)

The Commission appreciates that considering only the costs imposed on landholders by environmental policies would not provide a sound basis for decision-making. However, it should be emphasised that in this inquiry:

- both positive and negative impacts of regulatory regimes on landholders and regional communities are considered; and
- although environmental benefits accruing to the community at large are not being assessed, this does not imply that the community-wide benefits from native vegetation management and biodiversity conservation are insignificant. Indeed, benefits may be very large. That said, the benefits are likely to be context specific and, in the absence of agreed measures, difficult to quantify.

The Commission's task is to assess and compare the effectiveness of current and alternative approaches in promoting the community's environmental goals and thus to establish whether desired environmental goals can be achieved at less cost to landholders and/or society overall than current regulatory arrangements.

1.4 The Commission's approach

The Commission's approach to this inquiry has been guided by the terms of reference and the operating principles and general policy guidelines contained in the *Productivity Commission Act 1998* (box 1.2).

Box 1.2 **Productivity Commission: operating principles and general policy guidelines**

In undertaking its work, the Commission follows three fundamental operating principles:

- the provision of independent analysis and advice;
- the use of processes that are open and public; and
- to have over-arching concern for the community as a whole, rather than just the interests of any particular industry or group.

In conducting inquiries, the Commission facilitates transparency and consultation by seeking submissions from interested parties, holding public hearings and releasing a draft report to facilitate further comment and debate.

Broad policy guidelines outlining how the Commission is to undertake its functions, including inquiries, are contained in the Commission's founding legislation, the *Productivity Commission Act 1998*. In brief, they require the Commission to:

- improve the productivity and economic performance of the economy;
- reduce unnecessary regulation;
- encourage the development of efficient and internationally competitive Australian industries;
- facilitate adjustment to structural change;
- recognise the interests of the community generally and all those likely to be affected by its proposals;
- promote regional employment and development;
- have regard to Australia's international commitments and the trade policies of other countries; and
- ensure Australian industry develops in ecologically sustainable ways.

These principles and guidelines establish a framework for assessing current regulatory arrangements and possible alternatives, including non-regulatory approaches.[1] In particular, the Commission is required to have an over-arching

[1] For the purposes of this inquiry, the word regulation refers to compulsory 'command and control' instruments.

concern for the community as a whole and not just the interests of any particular industry or group. Peter Wren took issue with this approach:

> Such fundamental bias is the reason why private landowners of native vegetation have been made to wear the unfair burden of providing public good for the community at their (private landowners') private cost and hardship. (sub. 119, p. 1)

However, this principle should be read in conjunction with other guiding principles, and definitely should not be interpreted as advocating subjugation of the interests of a minority for the benefit of the majority. In essence, the Commission's task is to explore the most efficient policies for promoting overall community well-being and, where necessary, to identify ways of facilitating adjustment to resultant structural change. Where policies promote whole-of-community well-being (that is, increase the size of the 'pie'), there will be at least the potential to ensure that each member of the community is made better off or at least left no worse off.

It should also be noted that although in public inquiries the Commission necessarily relies heavily on the evidence provided by participants, a range of alternative information sources, in addition to economic analysis, is used to ensure thorough assessment of the issues.

Although this inquiry is not a legislative review under the requirements of the Competition Principles Agreement (CPA),[2] the principles embodied in that agreement, and the guidelines for good regulation that flow from it, provide some guidance for assessing the regulatory regimes under review and, indeed, alternative approaches. For example, before introducing regulation that affects business or restricts competition, Australian Government departments are required to submit Regulation Impact Statements (RISs). The issues that RISs must address are set out in box 1.3. RISs are also required, where appropriate, to include an assessment of impacts on ecologically sustainable development.

The specific approach taken by the Commission in this inquiry has been to:

- examine the nature of the environmental problems being addressed and the rationale for government intervention (chapter 2);
- describe current regulatory arrangements, examine their implementation and operation, and assess their efficiency and effectiveness in promoting environmental goals (appendixes B–J and chapters 3–5);

2 In 1995, the CPA was signed by the Australian Government, States and Territories as part of the National Competition Policy reform package. The CPA, in essence, sets out the principles to be followed by governments in relation to the agreed competition policy reforms.

- describe and assess the impacts of existing regulatory regimes on landholders, other industries and local communities, including opportunity costs and direct compliance costs as well as private benefits (appendixes B–K and chapter 6);
- provide an overall assessment of the performance of current arrangements and the key factors underlying this performance (chapter 7);
- consider the effectiveness and suitability of other approaches, including encouraging increased private conservation efforts and alternative, non-regulatory, forms of government intervention (chapters 8 and 9); and
- develop recommendations designed to reduce negative impacts on landholders and society overall while maintaining (possibly enhancing) environmental outcomes (chapter 10).

Appendixes B–J describe in detail principal legislation by jurisdiction, and its development and operation.

Box 1.3 **Regulation Impact Statements — adequacy criteria**

RISs are required to set out:

- the problems or issues that give rise to the need for action;
- the desired objectives of the intervention;
- assessments of viable alternative options (regulatory and non-regulatory);
- regulatory impacts (costs and benefits on consumers, business, governments and the community);
- the extent of consultation;
- a recommended or preferred option; and
- a strategy to implement, monitor, enforce and review the regulation.

Source: ORR (1998).

1.5 Conduct of the inquiry

Dr Neil Byron is the Presiding Commissioner for this inquiry. Dr Brian Fisher and Professor Warren Musgrave have both been appointed as Associate Commissioners specifically for the inquiry.

As required by the terms of reference, and in line with normal Commission inquiry procedures, the Commission has encouraged and sought maximum public participation. Soon after receipt of the terms of reference, advertisements were

placed in national, capital city and national rural newspapers. The first circular was sent to almost 2000 individuals and organisations considered likely to have an interest in the inquiry, including all rural councils. In addition, the first circular was sent electronically to more than 900 rural media outlets and organisations. An issues paper was released in May 2003 to assist participants prepare their initial submissions.

The Commission held informal discussions with organisations, government agencies and departments and individuals to seek information and canvass a wide range of views. Commissioners and staff made several regional field trips. Two hundred and twenty-one submissions were received in response to the issues paper. Initial public hearings were held in Brisbane, Cairns, Canberra, Perth, Adelaide, Melbourne, Hobart, Sydney, and Moree, with 76 participants making presentations.

One hundred and three submissions were received in response to the draft report. (A few submissions were received just prior to completion of the report. Every effort was made to incorporate them within the limited time available.) Seventy-four participants made presentations at a second round of public hearings held in Mackay, Toowoomba, Sydney, Dubbo, Albury, Perth, Geraldton, Hobart and Melbourne in February 2004. Details of places, individuals and organisations visited, submissions and participants at hearings are provided in appendix A.

All non-confidential parts of submissions and transcripts of public hearings were made available on the Internet, at Commission and State libraries, and from Photobition Digital Imaging Centre.

The Commission engaged a consultant to provide data for its assessment of the impacts of restrictions on broadscale clearing of remnant native vegetation on Murweh Shire. Two independent commentators were asked to assess the Commission's case studies and their reports were made available on the Commission's website, along with the consultant's reports. A workshop was held on 27 February 2004 to discuss the Commission's quantitative analysis. A list of workshop participants is also provided in appendix A.

The Commission thanks participants for their participation in meetings with the Commissioners and Commission staff, their participation in public hearings and for their submissions.

2 Analytical framework

Several preliminary issues addressed in this chapter underpin the Commission's assessment of the impacts and effectiveness of current regulations and other options for bringing about desired environmental outcomes. Section 2.1 explores potential benefits from, and the beneficiaries of, native vegetation and biodiversity. Section 2.2 discusses the notion of socially-optimal levels of native vegetation and biodiversity.

Possible reasons for private under-provision of environmental services are outlined in section 2.3. Section 2.4 considers a potential role for government intervention, and includes a discussion of the rationale for increased conservation effort on private land. Finally, in section 2.5, some conceptual issues relevant to apportioning costs of conservation effort are explored.

2.1 Benefits of native vegetation and biodiversity

This inquiry is not asked to assess the benefits of native vegetation and biodiversity conservation as such — in other words, the Commission has not been asked to conduct a full cost-benefit analysis of current regulatory arrangements. Nonetheless, the nature and causes of the environmental problem policy-makers are seeking to rectify should be understood before assessing the effectiveness and efficiency of existing regulatory regimes in promoting environmental objectives (chapters 5–7) and, indeed, whether there may be less costly approaches (chapters 8–9).

As noted in chapter 1, the Commission is required to assess legislation (in Australian Government, State and Territory jurisdictions), the 'primary purpose of which is the regulation of native vegetation clearance and/or the conservation of biodiversity' (box 2.1).

Box 2.1 **Defining native vegetation and biodiversity**

Native vegetation is defined differently in different jurisdictions (box 3.2) but typically is defined to include naturally occurring local vegetation (in some cases defined as vegetation that existed before a certain date), including in some jurisdictions native grasses and aquatic vegetation. The definition of terms such as 'remnant', 'regrowth', and 'thickening' is more contentious (see appendixes B–J).

The United Nations has defined biodiversity as:

> … the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems. (United Nations Convention on Biological Diversity, Article 2, 1992)

An almost identical definition is used in the Australian Government's *Environment Protection and Biodiversity Conservation Act 1999*.

Potential benefits of native vegetation and biodiversity that have been suggested in the National Framework for the Management and Monitoring of Australia's Native Vegetation (NRMMC 2001) and by various commentators are outlined in box 2.2.

Box 2.2 **Potential benefits of native vegetation and biodiversity**

Native vegetation

- Fodder; food; seeds; wildflowers and plants; medicines; timber, including for fencing and firewood; shade; shelter; honey production; pollination and pest control services
- Tourism, recreation and visual amenity
- Habitat for native fauna
- Soil and water protection (eg prevention of salinity, soil erosion or acidification)
- Biodiversity
- Carbon sinks and/or storage
- Climate
- 'Existence' and 'option' values

Biodiversity

- Health of ecosystems — their ability to maintain and regulate atmospheric quality, climate, fresh water, marine productivity, soil formation, cycling of nutrients and waste disposal
- Resilience of ecosystems — their ability to respond to and recover from external shocks such as drought, flood, and climate change
- Cultural values

Sources: Gillespie (2000); NRMMC (2001).

The descriptor 'potential' is used advisedly because:

- not all native vegetation in all locations will deliver all or even some of these benefits to the same degree; and
- in some cases, the link between native vegetation and the potential benefit is reasonably straightforward (for example, the provision of shade, fodder), though, as discussed below, not always easily measurable (for example, visual amenity). In other cases, such as the link between native vegetation and biodiversity and climate, the nature of the connection is very complex and not fully understood. For example, what levels and/or types of native vegetation and biodiversity are required to deliver healthy genetic, species and ecosystem diversity? Perrings et al. (1992, p. 201) observe:

  > … the problem of biodiversity conservation … requires neither the preservation of all species, nor the maintenance of the environmental status quo. Indeed, the rationale for focusing on biodiversity conservation is precisely for the creative evolution of ecosystems subject to stress from economic activity.

  In the absence of a clear understanding of biodiversity functions, in practice, native vegetation and biodiversity policies often seek to preserve all current species or all existing native vegetation or even to restore native vegetation to levels thought to have existed in the past. Such approaches, which seek to preserve a 'snapshot', are likely to fail because ecosystems are dynamic and will change over time. Hence, a key issue to be resolved for policy intervention designed to promote biodiversity, is sensibly defining what that means in practice.

It is also feasible that some of the listed benefits could be provided from sources other than native vegetation, possibly more efficiently and effectively. For example, shelter and shade, timber and firewood, carbon sequestration, and prevention of soil erosion, could be provided by non-native vegetation. Prevention of soil erosion and degradation may also be facilitated via application of low-impact farming techniques such as minimum-till cultivation. For example, Pannell (2003) suggests that in future, salinity in Western Australia may be prevented efficiently by planting deep-rooted, perennial crops. Graham Davies (sub. 9) made a similar point.

Who benefits?

Some of the potential benefits generated by native vegetation are so-called private goods — that is, the benefits are captured by property owners or leaseholders. Native vegetation can provide a range of inputs to the production process (for example, fodder for stock, timber for fencing, reduced soil erosion), which improve agricultural output yields or product quality, as well as services (for example,

firewood and recreation areas) directly consumed by landholders. In some cases, native vegetation may be harvested by landholders as a commercial crop in its own right (including timber, seeds, oils, wildflowers).

Some benefits, such as visual amenity, prevention of soil and water degradation, habitat for fauna that provide pest control and pollination services, may accrue to a landholder but are also likely to extend to neighbours and people residing in the region; visual amenity and recreation benefits may accrue as well to visitors to the area. Benefits of protection of habitat, carbon sequestration and biodiversity will extend still more widely to all in the community, possibly globally. Many eco-system services and non-use or 'existence' benefits, almost by definition, accrue to those who are 'off-site'.

As discussed below, it is precisely because individual landholders (or their children) cannot capture all of the benefits of native vegetation and biodiversity — that is, because of the 'public good' characteristics of some benefits or because of the inherent uncertainty that attaches to them — that they will tend to provide less than is considered desirable from the wider community's perspective (box 2.3).

Box 2.3 **Externalities and public goods**

Externalities refer to situations where the actions of an individual affect the welfare of one or more other individuals and where those effects are not the result of a market transaction or bargain between the parties. These 'spillover' effects may be positive or negative. If they have a positive effect, it may be desirable to encourage more. If the impact is negative, social welfare may be improved by a reduction in the harmful activity. Externalities arise because of the infeasibility of payments to encourage positive spillover effects or to discourage negative spillovers. Where external effects are confined to a relatively small area or a small number of individuals, they can be 'internalised' in a variety of ways without government intervention. For example, neighbours can negotiate, local communities can form 'clubs', firms can integrate. Where very large numbers of people are affected by externalities, private solutions may not be feasible. The high costs of negotiating solutions and the problem of 'free-riding' (that is, some people not paying their share), are two possible reasons.

Public goods may be considered a special type of externality where equal amounts are available for consumption by everybody in the community simultaneously (it may be valued differently by different individuals). Because consumption of the public good (or bad) is 'non-rivalrous' (consumption by one person does not affect the amount available to others), and 'non-excludable' (people cannot be prevented from consuming the good (or bad)), private provision is likely to fall short of the social optimum because payments for services cannot be enforced.

Put another way, landholders acting in their own interests (individually or as a group) may cause more environmental degradation, or provide less environmental enhancement, than society deems appropriate.

Nonetheless, with many benefits accruing to landholders, it is reasonable to expect that they will provide native vegetation (and possibly biodiversity) to the point that the extra benefits to them of providing more, equal the additional costs incurred. This has implications for estimating the impacts of regulatory intervention to require native vegetation retention on private land (chapter 6) and, as discussed below and in chapters 8 and 9, for determining the extent and type of intervention that may be warranted and who should pay for it.

2.2 'Optimal' provision of native vegetation and biodiversity

As discussed in chapter 1, several participants have criticised what they regard as the narrow focus of the inquiry on the impacts of current regulatory regimes on landholders. This focus, they suggest, may obscure the fact that the benefits of conserving native vegetation and biodiversity are very large, warranting much greater conservation effort (for example, Australian Conservation Foundation, sub. 146, Wilderness Society, sub. 89). Senator Andrew Bartlett observed: 'Urgent action is required to prevent further degradation of our natural resource base and natural heritage' (sub. 168, p. 3).

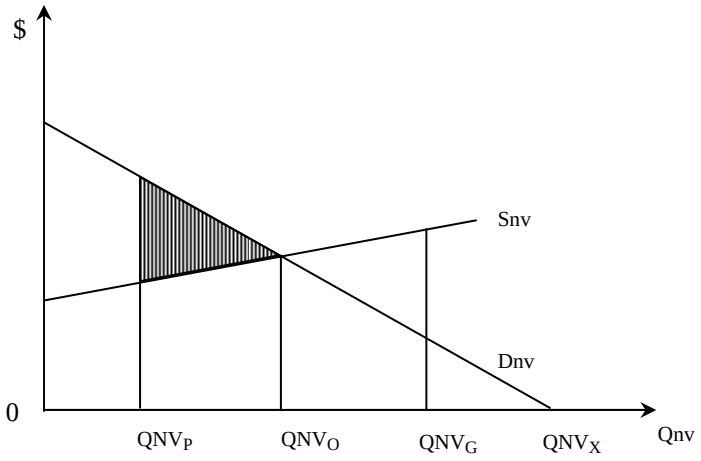
Rising incomes, advances in knowledge and developments in social attitudes have contributed to changes in the way the Australian community (including many landholders) views the environment. This has resulted in an increase in the social valuation of native vegetation and biodiversity for its own sake and growing concerns with a range of environmental impacts of land and water use, including salinisation of land and water, deterioration in river-habitats for native fish and birds, and reductions in the attractiveness of streams and landscapes for recreation and aesthetic purposes. As Gillespie (2000) notes, increasing population will also increase the social valuation of environmental public goods.

However, that *total* benefits may be large does not automatically mean more environmental services are required. What is required for policy purposes is a comparison of the extra benefits generated and the additional costs of supplying extra environmental services, to ascertain if more services will promote community welfare. Box 2.4 sets out the problem in a simple diagrammatic framework.

Box 2.4 **Socially-optimal provision of native vegetation**

Demand and supply for native vegetation are stylised in figure 2.1. The quantity of vegetation is measured on the horizontal axis, the value of benefits and costs on the vertical axis.

Figure 2.1



The Snv curve plots the incremental (efficient) costs of supplying native vegetation — these costs include the opportunity costs of taking land out of alternative production, plus the costs of labour and other inputs required to maintain vegetation, such as fencing and weed and pest control. Its upward slope reflects the relative scarcity of factors of production, especially land. Additional amounts of native vegetation can only be provided at increasing marginal cost. The Dnv curve represents the willingness to pay, or the demand, for the services from native vegetation — it sums the community valuation of these benefits. Its downward slope reflects the general preference of individuals to consume a bundle of goods and services — as they consume more of one item (in this case native vegetation) relative to others, they value it less at the margin because it becomes *relatively* more abundant, even though total benefits (measured by the area under the demand curve) may be very large.

Welfare maximisation (or economic efficiency) requires that native vegetation is supplied to the point where the additional costs of supplying it equal the additional benefits that it produces. Provided that the marginal value of benefits falls as consumption increases, an efficient equilibrium exists that balances marginal costs and marginal benefits (QNV_O). The supply of native vegetation beyond this level will cost more than the additional benefits it generates; a lower level (such as QNV_P) implies that net benefits are forgone (equal to the shaded area).

A focus of debate is the valuation of these benefits, which sets the position of the demand schedule relative to the costs of supply and, hence, influences the optimal level of provision of services from native vegetation. In addition, benefits and costs (and hence the optimal level of provision) change over time, influenced by a range of factors including changes in tastes, incomes and market conditions.

These additional or 'marginal' costs include the net value of output forgone (that is, the *net* loss of economic surplus) (chapter 6), as well as the direct costs of managing native vegetation in a manner that delivers appropriate environmental benefits (such as the costs of weed and pest control, fire management and fencing).

Guy Fitzhardinge criticised the use of an economic framework to analyse environmental costs and benefits, in large part because of 'the failure to know the true costs or benefits of various actions' (sub. DR225, p. 1). While the Commission agrees that quantifying costs and benefits is a serious challenge for good policy (discussed below), the point made here simply is that there is a cost-benefit trade-off. The economic framework presented in figure 2.1 (box 2.4) is 'value-free' in the sense that it does not impose values on the benefits from consuming or the costs of producing environmental services. It simply provides a framework for comparing expected costs and benefits as they are valued by the community. Moreover, the use of monetary values for comparative purposes does not imply that only those environmental services with a market value are taken into account — in principle, benefits should include all use and non-use values determined in markets or in other ways.

Unless the value of additional environmental services *always* exceeds the marginal value of other goods or services (including, for example, food),[1] there will be an 'optimal' trade-off between the costs and benefits of environmental services and an optimal level of environmental outputs (and, by implication, an optimal level of environmental degradation). The issues are how much private provision falls short of this optimum and whether there is a role for government to make up any gap.

As mentioned above, in practice, a major difficulty in assessing the case for intervention is identifying the relative costs and benefits. Where goods are traded in markets, the price is observable.[2] Generally speaking, market prices together with information about costs of production will signal whether more or less of a good will enhance community welfare.

The costs of providing environmental services usually are amenable to market valuation. For the benefits of environmental services, however, only some of which typically have a commercial value and where, in some cases, even the nature of the benefit is uncertain, other approaches are required.

1 Production and consumption of other goods may be feasible to the extent that their production is complementary with provision of environmental benefits. This is discussed further below.

2 However, even in commercial markets usually not much is known about cost and demand schedules; that is, total costs and benefits.

There are various non-market methods of valuing environmental benefits, including indirect valuation methods such as how much individuals pay to travel to national parks, observed differences in property prices that may reflect valuation of the environment, replacement costs (that is, the amount paid to remedy damage), and contingent valuation methods. Each approach has strengths and weaknesses (see, for example, Heal 2000 and Gillespie 2000). For example, contingent valuation methods ask respondents to state how much they would be willing to pay for conservation, but there may only be a negligible, if not zero, probability that they will have to pay the amount they bid, which may lead to inflated valuations.

Several participants have pointed to the costs of environmental degradation caused by broadscale land-clearing to highlight the magnitude of the benefits of native vegetation and biodiversity conservation. The Wildflower Society of Western Australia and the Western Australian Government (subs 33 and 151 respectively) observed that there were significant costs arising from salinisation of waterways and dryland salinity in that State attributable to land clearing, in particular, the costs of forgone agricultural production and damage to regional infrastructure such as roads and railways. The Environment Centre Northern Territory (sub. 147) cited estimates that soil erosion in South Australia cost that State up to $23 million each year.

However, the costs of environmental degradation caused by past practice generally do not measure the benefits from conservation effort today. The critical question is what amount the community would be willing to pay to remedy past damage or to prevent impacts in future.

The theoretical and practical limitations of techniques for valuing non-market environmental benefits have meant that the political process is often relied upon to infer the community's demand for environmental services, at least at a very broad level.[3] However, that a majority may favour certain policies does not necessarily imply that the benefits of that policy exceed the costs, particularly if it is the minority that is being required to pay. In other words, majority voting does not necessarily elicit relative willingness to pay.

Difficulties in evaluating benefits have led to policy interventions being guided by 'safe minimum standards' (such as a native vegetation cover target or threshold) or across-the-board rules such as a 'net gain' or 'no net loss' of native vegetation. Use of these standards and rules also may reflect a concern that even if individual valuations of native vegetation could be correctly ascertained, the sum of all

3 As discussed in later chapters, many current controls over native vegetation have been introduced as regulations within planning legislation. This tends to reduce the opportunity for public scrutiny, and obscures the costs and benefits.

individuals' willingness to pay would not reflect the true social value of native vegetation and biodiversity conservation, for two main reasons:

- individuals may not understand the linkages between biodiversity and ecological services, and/or they may underestimate the risks of certain actions today on the future provision of those services; and
- current generations may be 'selfish' and discount the impact of their actions on future generations excessively.

In short, it is sometimes argued that today's population may underestimate what is good for it and future generations. The proposed solution then is to impose rules or valuations that place a greater value on conservation actions implemented today than the value placed on them by the existing population — for example, by applying the precautionary principle (box 2.5).

Kinrade (1995) argues that intergenerational equity considerations and the precautionary principle should override economic notions of benefits and costs and the notion of an optimal trade-off between those benefits and costs. A somewhat similar view was put by the Australian Conservation Foundation (ACF) (trans., pp. 1639–43 and sub. DR302). However, that there will be costs and benefits associated with conservation effort, which have an implicit monetary value, is an inescapable matter of fact. Kinrade, in effect, seems to be arguing that the benefits schedule never intersects the cost curve, implying that the value, and optimal level of provision, of the environmental good is infinite (and the optimal level of the environmental 'bad' is zero).

As already noted, the Commission has not been asked to measure benefits of native vegetation and biodiversity conservation. Nor is it the Commission's place to suggest where the optimal level of provision may lie. Crucially, however, a major requirement for a policy intervention to be efficient is that it recognises and explicitly identifies, or has a process in place for revealing and making transparent, the cost-benefit trade-offs.

In its 1999 report *Implementation of Ecologically Sustainable Development by Commonwealth Departments and Agencies*, the Commission observed that 'in some cases, existing tools for policy-making are inadequate in integrating economic, environmental and social considerations in decision-making' (PC 1999, p. xxiii). The need for policies to integrate these considerations has been a key factor in the Commission's assessment of the various policy options (chapters 5 and 7–9).

Box 2.5 **The precautionary principle**

There are various definitions of the precautionary principle ranging from the 'strong' version — *do not allow a substance to be emitted or a polluting activity to be undertaken unless you have proof that it will do no harm to the environment* — to the weaker version adopted in the 'Rio Declaration':

> Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation. (Ministerial Declaration of the UN Conference on Environment and Development 1992, Principle 15)

Australian Governments adopted a similar version in the Intergovernmental Agreement on the Environment 1992. However, in the *Environment Protection and Biodiversity Conservation Act 1999*, the latter reference to cost-effectiveness in the definition of the principle is omitted:

> … lack of full scientific certainty should not be used as a reason for postponing a measure to prevent degradation of the environment where there are threats of serious or irreversible environmental damage. (s. 391)

The key difference between the strong and weak versions is that the former places the onus on the proponent of the activity to prove that it will not cause harm. This implies that the public is not prepared to bear any environmental risk. Whether not taking any environmental risks increases other risks (eg increasing poverty or famine) is another matter.

The weaker version opens the way for preventative action in the absence of full knowledge of potential harm but does not necessarily proscribe the activity. It is designed to reduce significantly, but not necessarily eradicate, the environmental risk borne by the community. Morris describes it as 'taking a hyper-cautious approach to change' (2000, p. 13).

That governments have adopted the weaker version may reflect recognition of the unworkability of the strong version because it is likely to prevent many productivity-enhancing developments. Nevertheless, the weaker version gives environmental regulators a great deal of discretion to intervene. Application of the principle may result in policy rules that require preservation of species implicitly at any cost, or which place environmental concerns above all others once specified trigger points are reached.

Source: Morris (2000).

2.3 Private provision of native vegetation and biodiversity

Economists assume that individuals generally behave in a way that maximises their utility or well-being; firms are assumed to maximise their profits. Owners of family

farms probably pursue both profits and well-being — their properties are income-generating businesses on the one hand and a source of lifestyle benefits on the other.

Whatever landholders seek to maximise, private provision of native vegetation and biodiversity, and the range of environmental services they deliver, is likely to be significantly greater than zero because, as discussed above, many production and consumption benefits from environmental services accrue to landholders. Nonetheless, this level is likely to fall short of the level society deems appropriate. This may occur for a number of reasons, which can be broadly categorised as:

- market distortions or regulations that directly or indirectly discourage private conservation effort;
- the absence of markets for many environmental services (a consequence of externalities and public goods);
- ignorance of the benefits to themselves of environmental services; and
- differences in risk preferences and concern for future generations.

The history of European settlement in Australia suggests that several of these factors may have contributed to excessive environmental degradation in rural areas (box 2.6). The evidence also suggests that improved knowledge of environmental linkages has driven significant changes in agricultural practices in recent decades.

Box 2.6 **Agriculture since European settlement**

The history of agriculture in Australia is one of transition from extensive, exploitative grazing to intensive cropping and animal husbandry. In the pastoral era, spanning the three decades to 1850 (Davidson 1981), squatters with insecure land tenure often over-grazed the native vegetation and practised burning to encourage regrowth on their unfenced expanses of land (Barr and Cary 1992). Yet there were strong social pressures even then for spreading the ownership of land more widely.

Land Acts passed in all colonies in the 1860s made it possible for a settler to establish on between 40 and 640 acres of Crown land, even if the land were already occupied by a squatter (Davidson 1981). The size of the permitted holdings, together with conditions requiring that selectors live on their land, invest certain sums in fencing and cultivate a certain proportion of their land, made it hard for farmers to develop their land profitably. Many of the selectors had only a short period as farmers.

(Continued next page)

Box 2.6 (continued)

The conflict between the ideal of a nation of robust, independent small farmers and the reality that enduring economic viability requires a combination of land, capital and knowledge, is a theme throughout the history of Australian farming. Large public investments in closer settlement (much of which occurred in irrigation areas), including settling ex-servicemen in farming after both world wars, had strong social support, but have not generally been judged a success in economic terms (Pike 1929; Rural Reconstruction Commission 1944; Davidson 1981).

The early Europeans who settled in Australia did not understand the land to which they had come. The settlers:

> ... applied English farming methods, which had been developed in a land of cool wet summers, to a land where summers were dry, hot and long. Farming methods had to be relearned in the brown land. (Barr and Cary 1992, p. 1)

Agriculture-related environmental problems were encountered in the first century of settlement, including:

- in an effort to reduce soil loss, unlicensed tree clearing along the Hawkesbury River was prohibited by Governor King in 1803 (Munchenberg 2003);
- the explorer Strzelecki warned of land degradation in the 1840s (Munchenberg 2003); and
- introduced species such as the blackberry, the prickly pear and, especially, the wild European rabbit — introduced to the Geelong area for sport in 1859 (Barr and Cary 1992) — were responsible for much land degradation, including soil erosion and damage to native trees and grasses.

Nonetheless, land degradation was not just a post-European settlement phenomenon. According to Chartres 'some features such as bare, naturally eroded surfaces were commonplace before European settlement according to accounts of early explorers such as Sturt' (1987, p. 9).

In February 1829, the water of the Darling River was too salty for Sturt and his horses and bullocks to drink (Sturt 1963). That was not because of agricultural practices, but because the Murray-Darling Basin is a naturally saline environment.

Neither was environmental degradation solely the result of private actions. Closer settlement and irrigation policies of successive governments have not been particularly successful in economic or environmental terms. Government-imposed requirements to clear stipulated areas of native vegetation, or to maintain certain stock levels, have often been conditions in allocating freehold and leasehold land for farming (NLWRA 2001b; Davidson 1981; PC 2002a). Graham Davies (sub. 9) commented that farmers in Western Australia were advised by government officers to grow shallow-rooted annual crops and pastures, rather than perennial native vegetation, which had the unintended effect of promoting rising water tables and salinity. Tax incentives and cheap government loans made land clearing more financially attractive to farmers in the period 1970–1990 (AGO 2000).

Landholders' incentives and constraints

Had there been a better understanding of the impacts of traditional European agriculture on the Australian landscape, many environmental impacts would have been avoidable and may in fact have been avoided if the benefits of doing so had outweighed the costs. Ignorance of long-term environmental impacts pervaded landholder and government decisions alike.

But landholders have a strong incentive to seek information, to learn and to adopt practices that improve farm productivity in order to remain profitable and, in many cases, to bequeath an asset to their children. They have an incentive to respond to any shift in consumer preferences to 'clean and green' products. There is abundant evidence that Australian farmers are increasingly aware of, and employing, sustainable farming practices.

Barr and Cary (1992) suggest that the history of Australian agriculture can be viewed as a learning process, a 200-year search for sustainability. This is not to say that the learning process has been completed, nor that more mistakes will not be made. But it is important to recognise that landholders face a range of incentives, not least commercial realities, which are likely to promote continual improvements in agricultural practices.

Several intensive agricultural industries, including rice, dairy, cotton and sugar, have established environmental codes of practice to promote sustainable resource use (NLWRA 2001b; Canegrowers, sub. 101, Ricegrowers Association of Australia, sub. 113 and trans., pp. 828–40). A recent survey of wool growers found that ninety per cent of respondents considered that natural resource management was a key component of their whole farm enterprise (Land, Water & Wool 2003). A survey of farmers' attitudes to native vegetation and land care in the wheatbelt of Western Australia, conducted in 1996, concluded that 'there had been big changes in the attitudes of farmers to bushland on farms' (Jenkins 1998, p. 56). The changes were attributed in large part to greater knowledge of the problems of degradation caused by over-clearing. Many participants in this inquiry have also provided evidence of the adoption of more sustainable agricultural practices (box 2.7).

Because land is a long-lived asset, it is to be expected that landholders — especially those with long-terms leases or freehold title — take into account the longer-term impacts on their properties of actions today. Either because they plan to leave properties to their children — an inter-generational bequest — or they are concerned about the market value of their property, they face significant incentives not to degrade the productive capacity of the land. Some may just think it is the 'right thing to do'.

Box 2.7 **Examples of sustainable agricultural practices**

According to Munmurra Landholder Action Group (New South Wales):

> There can be no doubt that the more enlightened, scientific approach the majority of farmers are now taking in the management and development of their country, is more environmentally sustainable than some past practices.
>
> Examples of these improvements would be: Minimum till cultivation; Cell grazing; More effective vermin control (rabbits, feral dogs and pigs); Development of bio-diverse farming systems; The growth in farmer participation in catchment management; Land care groups and the general increase in awareness of the economic benefits of on farm tree planting. (sub. 69, p. 2)

John McKindlay (Moama, New South Wales) described his farming practices:

> We have fenced off 70% of the river bank from stock and much of it has been planted with a native cane grass to reduce erosion. Over the years we have established 5.5 kms of trees and understorey and 12 kms of saltbush. The implementation of a full recycle system for our farm has reduced any run off from irrigation and we have established 80 hectares of deep rooted lucerne to limit accessions to the water table. We believe we are environmentally conscious and we actively promote the landcare ethic. As well as our normal farm operation we run a native plants nursery supplying farms, Landcare groups and Government Departments. (sub. 114, p. 1)

Murray Davis, a farmer in Western Victoria, noted:

> We understand that there needs to be a balance between production and environmental sustainability, so over the last ten years all the waterways on my property have been fenced off, native trees have been planted and areas have been fenced off for revegetation. All stock have been excluded from all waterways due to the fencing along the creeks. This consists of approximately 40 hectares plus other areas retained for shelter belts and has resulted in lost productivity to this farm. (sub. 103, p. 1)

That said, however, some farmers will face short-term constraints, including debt constraints due to drought or a price collapse, which may focus their attention on measures required to remain viable in the short term. The size of some farms simply may be uneconomic. Nonetheless, the market process, over time, will tend to weed out poorer performers, as Anthony Wait (Victoria) observed:

> Any farms that have been run down in this district have eventually been sold. The next owners have picked up the pieces and started again and have these properties back to their former productive capabilities. (sub. 43, p. 1)

Lack of information and understanding of the relationship between certain actions and their effects on the natural resource base is also likely to continue to inhibit adoption of appropriate, cost-effective practices. According to Anthony Witham (Western Australia):

> The farmer's self imposed environmental constraints on how much land should be cleared are currently defined by either genuine environmental concern on the part of the farmer or a reaction to obvious degradation that has already occurred or is likely to

> occur (such as wind erosion, water logging and salinity). The more subtle cases of degradation such as the approaching critical point of soil biochemistry toxicity, or continually greater fluxes of pest insect populations are not being accounted for … In the Broomehill and Tambellup districts we have no information how important biodiversity per se is to maintain the stability of current production systems. (sub. 34, p. 2)

Government policies may continue to distort individual decisions with undesirable, albeit unintended, environmental effects. For example, exceptional circumstances assistance may encourage higher stocking rates during drought years and impede farm rationalisation (PC 2003a). Other distortions may include:

- restrictions on exporting, farming or harvesting native flora and fauna that prevent the development of commercial markets;
- disincentives for the establishment of private conservation areas (PC 2001a); and
- prices for water or other inputs that do not fully reflect social opportunity costs and which consequently distort production decisions.

As discussed further in chapter 5, native vegetation controls themselves may discourage private conservation effort because they reduce the private value of native vegetation.

In the case of off-site effects, such as native vegetation clearing on one property affecting salinisation of land or water downstream, there is not the same financial incentive for the landowner to protect the natural resource base. Yet landholders have also initiated and engaged in voluntary collective activities through Landcare and through catchment management bodies. In its 2001-02 Annual Report, Landcare Australia Limited (2002) reports that there were around 4500 landcare and catchment groups and more than 1000 coastcare groups operating across Australia. The activities of these groups have been directed partly at enhancing the catchment-wide sustainability of farming.

Possible explanations for voluntary community action include the desire by individuals to be, or to be seen as, good citizens by their peers, as well as the scope for benefits (for example, improved regional water and soil quality) accruing to individual landholders. In other words, the potential individual pay-off from group effort may exceed the pay-off from individual action or, indeed, non-action. These private, community solutions are more likely to occur where spillovers or externalities are confined to a region and/or affect relatively small numbers.

However, where there is little likelihood of commensurate reward (or simply recognition), it is unlikely that individual landholders voluntarily will address off-site effects at their own expense, especially if the scale of effort required would

significantly affect their financial viability. Hence, they are unlikely voluntarily to set aside large tracts of native vegetation (that may have some prospect of future commercial use) where the *private* benefits to them of doing so are not obvious even though the off-site or spill-over benefits to the wider community, the *public* benefits (such as the benefits of biodoversity), may be greater than the private costs. Nonetheless, to the extent that production and consumption of public good-type conservation services are complementary with production and consumption of private benefits, then the community will be able to 'free-ride'.

2.4 A role for government?

From society's viewpoint, the optimal 'solution' is the provision of environmental services from native vegetation to the level where the additional benefits to the community equal the extra costs. Importantly, however, even though there may be a divergence between social and private benefits flowing from native vegetation and biodiversity conservation and the level of private provision, this does not of itself justify policy intervention — it is a necessary but not sufficient condition. The problem is that intervention is not costless. Intervention to correct any remaining shortfall in the provision of the environmental good can be justified only where the benefits of the intervention outweigh the costs.

In those cases where government policy constrains private conservation effort, the efficient policy response may be reasonably straightforward (though not necessarily so politically): address the policy distortion. Where private costs and benefits are affected by a lack of information or high costs of information, there may be a possible role for government in funding research (for example, into the benefits of native vegetation or potential commercial use of native vegetation) and dissemination of information (for example, extension services).

Where the problem is caused by public good or externality-type issues, policy intervention is more problematic. On the one hand, governments have coercive powers that may overcome some of the factors, including transactions costs and strategic bargaining,[4] that may undermine market or private collective (or so-called club) solutions. For example, governments potentially can overcome the problem of free-riding. On the other hand, a major challenge for policy-makers is identifying the efficient solution.

Major practical impediments to devising good policy to address large-scale externalities and public goods related to native vegetation include:

4 If one party can 'hold out' because of market power, an efficient transaction may not proceed.

- the incompleteness of scientific knowledge about cause and effect; and
- the need to devise mechanisms for revealing society's willingness to pay and for bringing about least-cost solutions, thus delivering an appropriate trade-off between costs and benefits.

The high costs of obtaining information or simply a lack of clear objectives, for example, may mean that governments implement policies that make matters worse by imposing high costs for little environmental pay-off. Thus, while governments have some advantages over the market in addressing externalities and public goods, it cannot be assumed that government intervention will generate better outcomes than private actions. The main advantage of private mechanisms is that willingness to pay for environmental services is revealed — the outcome generally will be welfare-enhancing because a transaction will occur only if the benefits to buyers exceed the costs.[5] In addition, suppliers of the environmental services, landholders, will seek out efficient and innovative ways of delivering services in order to maximise profits or, in the case of community actions, net community gains.

Recognition that government intervention may 'fail' has underpinned the national competition policy review process, for example, to ensure that the benefits of anti-competitive regulations outweigh their costs. Regulatory review principles and principles of good regulation have also been agreed through the Council of Australian Governments process (chapters 1 and 7). A major task for this inquiry is to consider the efficiency and effectiveness of various forms of policy intervention, including regulation, against the background of the information and incentive problems confronting policy-makers in attempting to improve conservation outcomes on what is currently private land (chapter 8).

The rationale for promoting public good conservation on private land

Historically, native vegetation and biodiversity public-good conservation have been provided in national parks and other public reserves. The current approach of increasing native vegetation conservation on private land has been justified partly on the grounds that certain habitats and biota are not well represented in national parks. A number of ecological and biogeographical studies have argued that to achieve conservation outcomes in protected areas, sympathetic management of adjoining private land is essential. Perhaps because of the budgetary costs of expanding reserves, or of paying inducements to landholders, most governments control clearing of native vegetation on private land by way of regulation.

5 Assuming that private values do not diverge significantly from social values.

Leaving aside short-term budget considerations and the question of who should bear the costs of public-good conservation efforts, a more fundamental economic rationale is that conservation of native vegetation and biodiversity can be provided more efficiently (that is, at lower cost to the community overall) and effectively on private land than in public reserves. This result is possible if the private land can continue to be used for private and commercial purposes as well as public-good conservation. As Clarke observes:

> In some cases if land can be jointly used for conservation and other commercial uses, conservation objectives can be advanced at lower cost than would occur with specialised pursuit of biodiversity conservation alone. (2002, p. 306)

In other words, at least over some range, production and consumption of environmental public goods such as biodiversity and the production and consumption of other land-based outputs may be complementary.

At some point, however, it is likely that production of increased levels of conservation on private land will begin to 'crowd out' commercial and other private uses, and the cost advantage arising from joint production and/or consumption gradually will be lost. At some stage, private land virtually will become public land devoted to community-wide conservation objectives. Then the only possible cost advantage to society of retaining the land in notional private ownership is if the landholder can be made (via compulsion or inducement) to manage the land at a lower cost to the community overall than public agencies.

That there may be social cost advantages (over some range) in providing conservation and other commercial outputs jointly on private land may be an argument for policies that encourage joint production, but not necessarily an argument for landholders bearing any additional costs arising from increased conservation effort. Some issues relevant to cost-sharing are discussed below.

2.5 Who should pay?

An important part of the debate is about who should pay for the provision of environmental services provided by native vegetation on private land. Some issues are discussed in this section that the Commission considers pertinent to attempting an answer.

In the case of externalities, where the actions of one landholder directly affect other landholders or local communities and vice versa, there is a clearer case for landholders, in the aggregate, to pay. Which particular landholders pay will depend on the mechanism used and property rights assignment — beneficiaries could pay 'the polluter' to cease the offending activity, or the polluter could be made liable for

the consequences of his or her actions. In some cases, solutions might involve all landholders making a contribution in kind (for example, pest and weed control) or via a levy.

In practice, some actions will produce private, local and community-wide benefits (for example, salinity reduction or prevention may improve agricultural yields on individual properties and across regions, and also improve biodiversity). The difficulties of isolating the private, regional and public components of benefits have contributed to disagreement about the extent of the burden that individual landholders or landholders as a group should be expected to bear. Establishing an agreed process for identifying these different components and, hence, the extent of landholder responsibilities, will be critical.

A wide spectrum of views has been presented by participants on the matters of property rights and compensation (box 2.8). At one end are those landholders who dispute that governments have any right to interfere with their right to farm their freehold land. At the other end are those who argue that governments have a duty to act to promote whole-of-society objectives and, moreover, that 'polluters' should be made liable. The latter view seems to have underpinned the introduction of clearing restrictions on freehold and leasehold land, in most cases without compensation.

Thus, while the Victorian Government acknowledged that:

> … the initiation of native vegetation retention controls in Victoria, under Planning Schemes, weakened landholders' property rights to native vegetation in some instances, transferring power from landholders to the community, (sub. 185, pp. 18–19)

there has been no provision for compensation for the effects of native vegetation policies under Victorian Government planning controls.[6]

In similar vein, Grafton (2003) argues that landholders do not have 'rights' but rather have been granted 'privileges' to undertake certain activities. Importantly, he argues that landholders do not have a right to cause harm to the property rights of others, where harm is interpreted broadly to include harm to the environment generally.[7] The ACF commented that they were 'not comfortable that retaining native vegetation should necessarily be cast as the provision of an environmental service' (trans., p. 1647). In other words, from this perspective, the concept of common law nuisance and externality is extended to a broader notion of environmental harm now and in the future.

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6 However, there is provision for compensation under Victoria's threatened species legislation, but this legislation is seldom invoked, partly because planning provisions can be used to pursue these objectives (chapter 6).

7 Even so, Grafton notes that removal of 'privileges' may warrant compensation.

Box 2.8 **Participants' views on property rights and compensation**

The Constitutional Property Rights Committee questioned the validity of current regulations in New South Wales and defended landholders' 'legislative right to a 'continuing and existing use' of the significant freehold primary investment [land]' (sub. 51, p. 3).

Professor Wolfgang Kasper argued that:

> The proliferation of diverse regulations to conserve nature in Australia amounts to the confiscation of many private property rights, frequently without offers of 'just compensation' (to use the words of the Commonwealth Constitution). (sub. 13, p. 1)

The Wildflower Society of Western Australia stated that it:

> … does not support compensation to landholders that are prevented from clearing remnant bushland. The Society strongly believes that farmers wanting to clear native vegetation for business viability must look for alternatives, and further clearing is unacceptable. (sub. 33, p. 2)

While acknowledging that there may be a case for short-term adjustment assistance, the Western Australian Government expressed the view that:

> In considering the appropriateness of the current distribution of costs for preventing environmental degradation, regard must be had to the 'polluter pays' or 'impacter pays' principle, according to which the person who causes environmental damage should bear the cost of avoiding or abating that damage. (sub. 151, p. 5)

The Australian Conservation Foundation expressed its opposition to rights to compensation per se for environmental regulation because environmental laws 'are an exercise of government's authority to regulate the use of private property that has always been recognised' (sub. 146, attachment 1, p. 5). However, it also accepted:

> … legitimate equity concerns demand a 'cost-sharing' solution … the cost of which should be funded on the following principles:
>
> - Application of the 'polluter' or 'impactor' pays principle, reflecting the sustainability responsibilities of landholders to manage both on-farm and off-farm impacts.
> - Contributions of public funds from both Commonwealth and state governments … where regulations impact beyond private sustainability obligations to benefit the wider national interest. (sub. 146, attachment 1, p. 2)

A contrary view is put by Epstein (1998) who observes that while 'the law of nuisance represents a good first rough and ready means to regulate by law relations *between neighbors*' (emphasis in original, p. 229):

> … common law actions are forlorn in the context of habitat preservation, because so much of the modification and destruction of habitat … typically comes from ordinary husbandry of land … It would take a stunning reversal of hundreds of years of legal history if these activities, generally productive, were now for the first time, castigated by the common law as generally harmful. (p. 229)

Indeed, several participants argued that clearing restrictions affecting existing use of freehold land was illegal (for example, Constitutional Property Rights Committee (New South Wales), subs 51, 55 and DR224 and Kevin Cole (New South Wales), sub. DR228). However, although clearing restrictions may yet be challenged in the courts, at the end of the day, governments have wide-ranging powers to regulate. In addition, the Australian Network of Environmental Defender's Offices (sub. DR235) observed that currently there is no constitutional or legal obligation for Australian governments to compensate for 'regulatory' takings.[8]

Whether or not governments have the powers to take without compensation, in the Commission's view, the more pertinent issue is whether a particular form of intervention (and the associated allocation of costs), on balance, is likely to have desirable or undesirable incentive, efficiency and equity consequences. In other words, given the problem at hand, what is likely to work best? Simply because governments may have the power to take private property via regulation without paying compensation, does not automatically imply that this is a desirable course of action to take. At the same time, government intervention cannot be ruled out simply because it may affect property rights.

Efficiency considerations

If governments had perfect knowledge and were inclined to maximise social welfare, they could and would impose the efficient solution in this and every other matter. Who should bear the cost of (or benefit from) that solution would simply be a matter of determining the socially-desirable distribution of income.

Reality is different — imperfect information and self-interest are pervasive for individuals and governments alike. Once the limitations of government actions are admitted, then the question of who should pay may have a bearing on efficiency as well as equity because of the potential incentive effects of policy. For example, a policy that is deemed unfair and consequently is not complied with, or which unintentionally encourages evasive practices that undermine the policy objective, is not good policy.

8 However, Bryan Pape (trans., p. 956) drew attention to Mr Justice Deane's judgement in the Tasmanian Dams case to the effect that a buffer zone required by the Department of Defence might constitute 'an effective confiscation or acquisition of the benefit of use of the land in its unoccupied state, notwithstanding that neither the owner nor the Commonwealth possessed any right to go upon or actively use the land affected'.

Economic theory does not indicate, *a priori*, who should pay for conservation effort on private land.[9] It is sometimes suggested that having 'polluters' pay is preferable because it forces them to 'internalise' the externality — that is, to take into account the social cost of environmental resources used in the production process. However, an externality can also be internalised efficiently if beneficiaries of any remedial action pay the producer to take such action — the opportunity cost incurred by the producer in using up the environmental resource is then the payment (compensation) forgone. Thus, in the context of a market solution, if the 'polluter' holds the property right, the potential for compensation, or payment, is critical in bringing about that solution. In short, then, there is no presumptions that 'polluter pays' is more efficient than the beneficiary paying. Which assignment of costs works better in practice will depend on the circumstances of the problem at hand, especially the information and incentive effects of any particular assignment.

Where the market solution proves infeasible because of high transactions costs (for example, because there are many affected parties as in the case of a public good), as already noted, there is a potential role for government intervention. The approach currently in place in most Australian jurisdictions is regulation of native vegetation clearing by private landholders without, in most cases, any automatic right to compensation. Potential *efficiency* consequences of the absence of compensation are that:

- So long as the parties benefiting from an increase in the services provided by native vegetation do not have to pay, they are likely to continue to press for further conservation effort until there are no more benefits to be had (where the marginal benefit is zero, or the point QNV_X in figure 2.1). In other words, without the constraint imposed by having to pay the costs of producing environmental benefits, there may be over-provision of the environmental public good, which imposes a net social loss (Coase 1960 and Buchanan and Stubblebine 1962); and
- Regulation of native vegetation on private property essentially asserts public ownership of the native vegetation resource, with the landholder then expected to manage the land. If there is an expectation that permission to use native vegetation on their properties will not be granted, then the only way private landholders have to avoid what most perceive as a 'taking' and loss, and to retain 'ownership' of the native vegetation, is to clear it illegally (after taking

9 Coase (1960) demonstrated that in the case of externalities, provided property rights were allocated to one party, and trade were feasible, the efficient solution could be achieved regardless of the initial rights assignment. If a particular allocation of rights reduces the likelihood (increases the costs) of achieving (negotiating, monitoring or enforcing) the market solution, then the assignment of rights may have efficiency implications, but that is an empirical matter.

into account the probability of being caught and penalised), to allow it to degrade (for example, by allowing weed and vermin infestation or over-grazing), or to clear it before regulations are imposed.

These possible incentive effects are arguments against regulation without payment of compensation for losses incurred but not necessarily the regulatory instrument itself. The efficiency of governments establishing prescriptive rules requiring retention of native vegetation on private land is considered in subsequent chapters of this report. However, there are also some efficiency arguments against payment of compensation for regulation — principally, that payment of compensation may encourage inefficient investments and actions by landholders (Blume et al. 1984).

As discussed in chapter 9, there are other policy instruments that avoid the need for compensation for compulsory takings because they mimic voluntary private trades. As such, they involve payments being made to landholders for environmental services rendered, which could include retention of native vegetation.

While there is an argument that the budgetary impact of compensation or payments to landholders may constrain the level of public conservation effort (see, for example, Australian Network of Environmental Defender's Offices, sub. DR235), if the policy actions are socially-desirable, then the benefits will outweigh the costs such that beneficiaries would still be in a position to compensate losers and reap net gains.

Fairness and equity considerations

Fairness is a slippery concept — what seems fair to one person will seem unfair to another. It should be noted that fairness and efficiency considerations are not unrelated. For example, if a policy is considered unfair, those affected may not comply with and/or may lobby against the policy. Some dimensions of fairness are discussed briefly in this section, including the distribution of impacts across landholders and the treatment of landholders compared with the treatment of other groups affected by policy interventions.

Should polluters pay?

Leaving aside efficiency implications, making the polluter pay may seem 'fair' because it appears to apportion blame. However, there are several reasons why imposing costs on those landholders with native vegetation on their properties may not be fair:

- those landholders (rural and urban) and others, including governments, who have

been responsible for the damage caused by clearing in the past are largely unaffected by clearing restrictions. Indeed, they may benefit from clearing controls placed on others who have caused little or no damage;

- not all land-clearing imposes net costs on society and, indeed, over some range will deliver net benefits (figure 2.1). Suggesting that an individual landholder who clears part of his or her property is solely responsible for land degradation or biodiversity loss misses the point that it is the aggregate impact of many individual actions that leads to clearing beyond the socially-optimal level; and
- where native vegetation conservation is undertaken largely for the benefit of society overall, if the landholder held what may be termed a 'presumptive' property right in the sense that certain actions historically had not been proscribed and, as a consequence, the landholder suffered large losses from an effective reassignment of that right to the public domain, it is not clear why this would be more equitable than the beneficiaries paying.

Are property owners compensated for the effects of other policies?

Bonyhady (1992) highlights numerous inconsistencies with respect to payment of compensation within and across Australian jurisdictions. While he suggests some reasons for different treatment apart from 'political expediency' (for example, size of losses or the need for cooperation from affected parties), he also observes that legislators rarely proffer any such rationales. A question then is whether it would be inequitable to recompense property owners for any detrimental impact of the environmental policies under review or whether, indeed, there may be a rationale for superficially inconsistent treatment of farmers affected by environmental regulation and, say, urban landowners affected by planning laws.

Several participants (for example, Australian Network of Environmental Defender's Offices, sub. DR235) pointed out that many activities of rural and urban landholders are regulated without compensation being paid, for example, by urban planning laws and zoning.

Urban planning laws and by-laws are designed to internalise what are usually localised externalities, that is, where the effects are largely confined to neighbours. For example, the opportunity cost to one party of not being allowed to build a certain development may be broadly offset by the fact that their amenity will not be diminished by an adjacent development by a neighbour. While such reciprocity is unlikely to be perfect, there is a rough symmetry of costs and benefits, which may explain broad acceptance of those rules, and the absence of compensation.

Another example of uncompensated regulation might be by-laws proscribing the 'burning off' of rubbish. Once again, the benefits of the restriction are localised and likely to be evenly distributed. Moreover, in this case, the costs are likely to be minimal, especially as alternative forms of rubbish removal exist (for example, green waste collection and composting).

Pest and weed controls which have long applied to landholders also seem to fall within this category; that is, the costs and benefits largely accrue to landholders. Landholders appear to have been more accepting of their responsibilities because inaction by a neighbour could impose costs on them. Indeed, in the absence of such regulation, landholders are likely to devise informal rules or other mechanisms to address such local externality problems.

The ACF (trans., p. 1627) argued that benefits from native vegetation clearing restrictions would accrue to landholders (as a group) through time, thus balancing costs they incurred today. While there may be net long-term benefits to landholders from retaining some native vegetation, the critical question is whether the benefits to them exceed the costs of retaining all native vegetation protected by regulation. Given the lack of information about costs and benefits of current regulation, it would appear difficult to assert that costs and benefits balanced. Moreover, landholders typically are forward-looking because they own a long-lived asset and, as such, might be expected to take into account future private benefits arising from management practices undertaken today. For the same reason, many landholders are likely to accept responsibility for (and the cost of) taking actions designed to address resource degradation and sustainability across regions.

In a report on structural adjustment, the Commission notes that:

> Where a policy change is likely to impose large losses or result in large adjustment costs, and those affected can be readily identified, well designed direct compensation or specific adjustment assistance may be appropriate. (PC 2001b, p. 67)

For example, dairy farmers have been compensated for removal of dairy quotas in some States and similarly owners of taxi licences, even though the scarcity value of quotas has been artificially created by government-imposed restrictions. In other words, in these instances, there has been a recognition that the scarcity rents have been capitalised into the value of the businesses and removal of this scarcity rent would impose significant losses.

Another common form of compensation is the 'grand-fathering' of allocations of property rights when introducing an auction system or secondary market trading (for example, water rights, emission quotas, and airport slots). Thus, while scope for trading of these rights promotes efficiency, incumbents retain or realise profits from their initial allocations.

Where the adverse effects of policies are less clear, the Commission (PC 2001b) identifies other approaches frequently used to promote structural adjustment, including the phasing in of policy change (which allows capital assets to depreciate and gives employees time to learn new skills), broad-based reforms that roughly allow gains and losses accruing within various groups to cancel out, and adjustment assistance for relatively mobile factors such as labour (including standard unemployment and re-training benefits).

One possible explanation for the suitability and use of different approaches relates to the mobility and adaptability of the productive factors (land, capital and labour) — key determinants of the potential to adjust to the effects of the policy change. Where an explicit or implicit property right exists, the value of the right encapsulates the net present value of expected future net earnings. For freehold (or long-term leasehold) land, where the asset normally is not written off over time, a permanent policy change that affects net earnings affects the income stream in perpetuity. Phasing in of a policy change in this context may reduce the effect on the property value but not eliminate it.

With a depreciating asset such as machinery, however, policy delay can allow the asset to be used up and then the financial capital to be switched to other areas. For example, stricter emission standards often have been introduced progressively to give firms time to depreciate and phase-out old, and to introduce new, equipment and technology. In this sense, the delayed policy change largely is not 'retrospective', whereas policies that affect the value of freehold land or even long-term leases virtually always will contain an element of retrospectivity.

Mutual obligation

It has been suggested that if landholders receive various forms of assistance (for example, exceptional circumstances assistance, subsidised services) from the rest of the community they have an obligation to promote the community's environmental goals at their own expense.

Certainly it would seem difficult for landholders who support and benefit from various government interventions to argue against the right of governments to intervene on environmental matters. However, policies are best judged on their own merits. If assistance of some form is inefficient and/or confers unwarranted benefits on a particular group, then attempting to rectify this by requiring landholders to bear other policy costs (which may or may not be efficient) is unlikely to be the most appropriate response. If the assistance is efficient, and corrects a distortion, then the argument for an offsetting 'payment' from the beneficiary breaks down.

2.6 Summary

The purpose in this chapter is to set out some key preliminary issues relevant to the framing of efficient and effective native vegetation and biodiversity policies. In particular, effective policy should be based on an understanding of:

- the nature of the problem being addressed and its causes; and
- the nature of the cost-benefit trade-off.

Where the objective is to increase native vegetation and biodiversity conservation on private land, an understanding of landholder incentives is especially critical. Without landholder cooperation, it is unlikely that environmental objectives will be achieved efficiently. On the question of who should pay, on efficiency grounds, there is no theoretical basis for preferring 'polluter pays' over another cost assignment. It is a matter of assessing the incentive and transaction cost implications of different cost allocations. Nor is there a clear-cut answer as to what cost allocation is fair. Relevant factors are the size of losses imposed (for example, whether livelihoods are affected) and the distribution of costs and benefits.

3 State and Territory regulatory arrangements

Current and, where relevant, proposed legislation regulating native vegetation clearance and biodiversity conservation on private land in each State and Territory are briefly summarised in this chapter. The development and implementation of the regimes are explored, including the extent of community consultation and involvement (terms of reference 3(f)), the adequacy of assessments of economic and social impacts (terms of reference 3(e)), and the level of understanding of the regimes amongst stakeholders (terms of reference 3(a)(ii)).

Administrative aspects of the regimes are also discussed, including the consistency, transparency and accountability of decision-making, the adequacy of dispute-resolution and appeals mechanisms and the direct and indirect costs of compliance, administration and enforcement. These matters are relevant to the Commission's assessment of the overall effectiveness of existing regimes in achieving their objectives (chapter 7). Comprehensive discussions of the regulatory regimes applying in each State and Territory jurisdiction are presented in appendixes C–J.

3.1 State and Territory native vegetation and biodiversity legislation

The primary legislation currently underpinning native vegetation and biodiversity management regimes in each State and Territory is outlined in box 3.1. In some jurisdictions, legislation has been introduced very recently or is currently being amended (details of foreshadowed changes are given where possible).

Native vegetation controls

State and Territory legislation typically sets out (on a jurisdiction-wide basis) when permits or approvals must be obtained by landholders who intend to clear native vegetation. As discussed below, however, the application and breadth of controls varies significantly across jurisdictions.

Box 3.1 **State and Territory native vegetation and biodiversity legislation**

New South Wales

The *Native Vegetation Conservation Act 1997* (NVC Act) controls clearing on private rural land. The Act provided for the development of Regional Vegetation Management Plans (RVMPs) to guide the clearing of native vegetation. In the absence of RVMPs, landholders must obtain approval for the removal of native vegetation (subject to some exemptions).

In December 2003, the NSW Parliament passed the *Native Vegetation Act 2003*. The Native Vegetation Act is expected to replace the NVC Act by mid-2004 (when supporting regulations for the new Act have been developed). Objects of the Native Vegetation Act include: to provide for the management of native vegetation on a regional basis; and to prevent broadscale clearing unless it improves or maintains environmental outcomes. Under the Native Vegetation Act, approval is required to remove native vegetation (but not for clearing 'regrowth'). Biodiversity objectives are pursued under the *Threatened Species Conservation Act 1995*.

Victoria

Under the *Planning and Environment Act 1987,* landholders must obtain permits for the removal, destruction or lopping of native vegetation (with some exemptions). Objects include: the protection of natural and man-made resources and the maintenance of ecological processes and genetic diversity; and to provide for the fair, orderly, economic and sustainable use and development of land. There is provision for Regional Native Vegetation Plans but none has yet been finalised. The *Flora and Fauna Guarantee Act 1988* aims to ensure that Victoria's flora and fauna can 'survive, flourish and retain their potential for evolutionary development in the wild' (s. 4(1)(a)).

Queensland

The *Vegetation Management Act 1999* (VM Act) makes clearing on freehold land assessable under the *Integrated Planing Act 1997*. The *Land Act 1994* applies to leasehold land. Objects of the VM Act include regulating the clearance of native vegetation to maintain or increase biodiversity. The *Vegetation (Applications for Clearing) Act 2003* imposes a moratorium on applications to clear remnant vegetation on freehold and leasehold land (clearing exempt under the VM Act or Land Act is not affected). In March 2003, the Government introduced the Vegetation Management and Other Legislation Bill 2004. Regulation of native vegetation clearance on both freehold and leasehold land is to be consolidated under this legislation. The Bill has been introduced to phase out clearing of remnant vegetation by 2006 and is expected to take effect by mid 2004. The *Nature Conservation Act 1992* focuses on conserving and managing native animals and plants and declaring and managing protected areas such as national parks. It allows for the declaration of protected areas on private property.

(Continued next page)

Box 3.1 (continued)

Western Australia

Native vegetation management is regulated under the *Soil and Land Conservation Act 1945* (SLC Act), in conjunction with the *Conservation and Land Management Act 1984* and the *Environmental Protection Act 1986*. Under the SLC Act, landholders intending to clear more than one hectare of vegetation for a change in land use are required to notify the Commissioner of Soil and Land Conservation. The WA Parliament recently passed the *Environmental Protection Amendment Act 2003*. The Act provides for a permit system for the clearance of native vegetation. However, the sections of the Act which relate to clearing controls have not yet been proclaimed. A Biodiversity Conservation Bill is being developed to replace the *Wildlife Conservation Act 1950*.

South Australia

The primary legislation for native vegetation management in South Australia is the *Native Vegetation Act 1991* (NV Act). The NV Act requires property managers, in matters not covered by an exemption, to submit a proposal to the Native Vegetation Council seeking approval for the clearance of native vegetation. The Council was established under the Act and has responsibility for overseeing all issues concerned with vegetation. The Council represents a range of interests including the South Australian Farmers' Federation and the Conservation Council of South Australia.

Tasmania

In 2002, the *Forest Practices Act 1985* was amended to make clear that non-commercial clearing of forests for the purposes of agriculture is subject to the same environmental regulation applying to the commercial harvesting and clearing of forests. In April 2003, as a result of a bilateral agreement with the Australian Government, the Tasmanian Government announced its intention to strengthen regulation of non-forest communities and 'vulnerable' forest communities. Biodiversity objectives are contained in the *Threatened Species Protection Act 1995*.

Northern Territory

New native vegetation clearing controls for freehold and crown land were introduced in December 2002 under the *Planning Act*. Landholders are required to obtain a permit to clear more than one hectare of native vegetation. Pastoral leases are subject to clearing controls under the *Pastoral Land Act*.

Australian Capital Territory

The *Land (Planning and Environment) Act 1991* establishes the Territory Plan. The Plan sets out when permits are required for the removal of remnant native vegetation. Since 1991, rural lessees have been required to enter into 5-year land management agreements with Environment ACT. The *Nature Conservation Act 1980* provides for the establishment of a Nature Conservation Strategy that formulates conservation objectives and strategies.

This planning approach means that applications to clear native vegetation are treated as development proposals, with the onus placed on the landholder to obtain consent or otherwise face possible penalties. Several jurisdictions (New South Wales, Victoria, and Queensland) have established regional processes to devise regional clearing guidelines. Local governments usually may impose planning overlays or conditions on permits, although any regional or local guidelines and conditions must at least meet jurisdiction-wide requirements.

In some jurisdictions, leasehold land represents a significant proportion of private rural land (table 3.1). In Queensland and the Northern Territory, clearing of native vegetation on leasehold and freehold land is subject to different legislation, with requirements for Crown lessees incorporated in long-standing legislation governing lease conditions.[1] There are some differences between the treatment of Crown lessees and holders of freehold title, typically with more onerous requirements being placed on the former group. In the Australian Capital Territory all rural land is leasehold.

Table 3.1 **Leasehold and freehold land**

State/Territory	*Total land area (thousand km^2)*	*Freehold (% total)*	*Private Crown Lease (% total)*
New South Wales	803	50.5	38.5
Victoria	228	68.1	0
Queensland	1 722	36.4	54.6
Western Australia	2 511	8.2	35.8
South Australia	978	16.2	42.8
Tasmania	68	40.0	0
Australian Capital Territory	2	0	39.0
Northern Territory	1 346	0.5	49.5

Source: Geoscience Australia (2003).

Species and biodiversity conservation

In addition to planning controls over native vegetation clearing, which may be used to protect habitat and species, most States and Territories also have legislation targeted specifically at preservation of endangered or threatened species and their habitats. These Acts typically provide for listing of endangered or threatened species. Depending on the Act and the category of species listing, the Acts may require the development of species 'recovery plans' aimed at controlling activities

1 Under reforms proposed by the Queensland Government in March 2004, clearing controls for both leasehold and freehold land are to be contained in one piece of legislation.

that may threaten species survival, including the preservation of habitat on private land that otherwise would be exempt from native vegetation clearing controls.

Other legislation

In most jurisdictions there is a range of other legislation that can affect native vegetation clearing and/or management on private land, including:

- soil conservation legislation;
- environmental protection legislation;
- coastal protection legislation;
- water and catchment management legislation;
- fisheries legislation;
- heritage legislation;
- national parks legislation (especially where private land abuts public land); and
- weed and vermin legislation.

Landholders must also comply with the Australian Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

This chapter focuses on the primary legislation controlling native vegetation removal on private land. However, requirements imposed by other legislation occasionally can lead to inconsistencies and, for some landholders, can affect their management of native vegetation significantly, as well as generally increase the complexity and burden of landholder responsibilities.

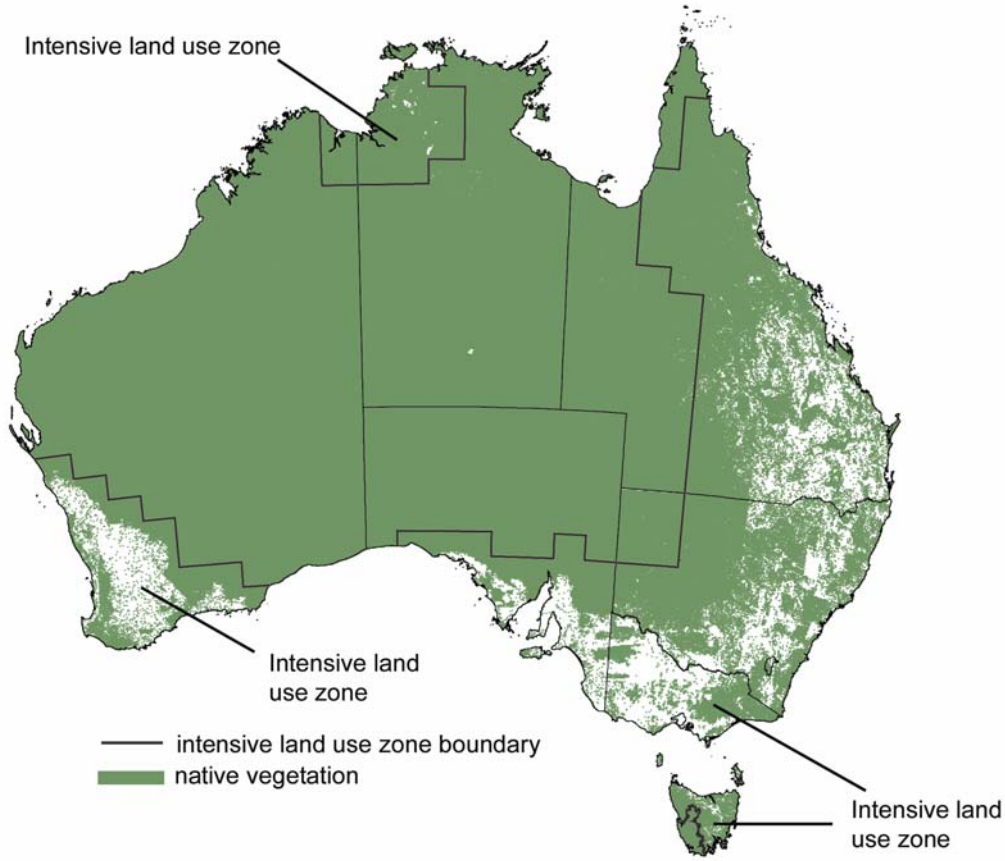
3.2 Development and introduction of the regimes

Most of the native vegetation regimes under review are of relatively recent origin, yet several have been, or are in the process of being strengthened.

The main stated rationales for the introduction and progressive tightening of clearing controls have been land degradation (particularly salinity problems in Western Australia, and to a lesser extent Victoria, Queensland and South Australia, attributed to native vegetation clearing), and a concern in some jurisdictions that levels of remnant native vegetation were approaching critical levels for habitat and biodiversity functions. The extent of native vegetation is shown in figure 3.1 — approximately 32 per cent of native vegetation in the 'intensively-used' areas is estimated to have been cleared or highly modified. Estimated levels of native

vegetation by State and Territory are presented in table 3.2.[2] While aggregate levels of remnant vegetation remain substantial in many jurisdictions, the National Land and Water Resources Audit (2002a) expressed concern about the representativeness of ecosystems and land and water degradation in particular regions (box 1.1).

Figure 3.1 **Extent of native vegetation in Australia**
Circa 1997



Data source: NLWRA (2002a).

South Australia and Victoria introduced comprehensive native vegetation clearing controls in 1983 and 1989 respectively. In both jurisdictions, criteria guiding assessments of clearing applications have been progressively tightened. For example, in 1997, Victoria introduced a State-wide target of 'no net loss' of native vegetation by 2001; in 2002, a policy of 'net gain' was announced. In South

2 Because the percentage area covered by native vegetation might be 'inflated' by remote and almost uninhabited areas of native vegetation (eg semi-arid and arid areas), NLWRA excised these areas and assessed native vegetation as a percentage of the 'intensively used areas'.

Australia, penalties for non-compliance have been progressively increased, and the overall guiding principle is achievement of net environmental benefits.

Table 3.2 **Native vegetation by State and Territory 1997**

State/Territory	*Native vegetation (% total intensively-used zone)*[a]
New South Wales	67
Victoria	37
Queensland	72
Western Australia	56
South Australia	64
Tasmania	80
Australian Capital Territory	69
Northern Territory	98

[a] Native vegetation includes shrublands and grasslands. Intensively-used zone refers to the agricultural area of Australia where the predominant land uses are cropping and improved grazing, with introduced grasses and legumes (Hamblin 2001).

Source: NLWRA (2002a).

The Victorian Government observed that:

> Over two thirds of Victoria is private land. Of this, some 95 per cent of tree cover has been lost … The extent of clearance varies around Victoria. Accessible and relatively fertile landscapes that were developed for pastoral and agricultural activities have been the most affected. These areas now contain the most severely depleted and poorly reserved ecosystems in Victoria.
>
> There are two major legacies of this history of clearing. Many of the ecosystems upon which our presence and productivity depends are now beyond the point of sustainability and the biodiversity that built and maintained these ecosystems is also in decline … Many threatened habitats and species are now confined to private land. For example, about 29 per cent of known threatened species populations occur on private land, 38 per cent within parks and reserves and 18 per cent in State forests. Thus, private land has an important role to play in conserving nearly one third of our threatened species. Private land is also important for species that move between places to obtain essential resources. (sub. 185, pp. 5–6)

In 1995, the NSW Government introduced the *State Environmental Planning Policy 46* (SEPP 46) as an interim measure to regulate the clearing of native vegetation. It then replaced SEPP 46 in 1998 with the more comprehensive *Native Vegetation Conservation Act 1997* (NVC Act). In December 2003, the NSW Parliament passed a suite of legislation reforming natural resource management. Part of the reforms include replacing the NVC Act with the *Native Vegetation Act 2003* (box 3.1). The Native Vegetation Act is expected to be in force by mid-2004 and is to be implemented with the objective of ending broadscale clearing in the State (subject to some exemptions — box 3.3). In announcing the reforms, the

NSW Government considered that the regime implemented through the NVC Act was 'overly complicated and couldn't deliver on agricultural and conservation outcomes' (DIPNR 2003b, p. 1).

In Queensland, where more than 80 per cent of the State was estimated to be covered by remnant vegetation in 2000, clearing controls were introduced in 1997 for leasehold land and in 2000 for freehold land, prompted by what were considered to be high rates of land clearing and loss of endangered vegetation. In April 2003, a moratorium on new applications to clear native vegetation on freehold or leasehold land was announced. In March 2004, the Queensland Government introduced a bill to the Parliament that is intended to 'phase out broadscale clearing of remnant vegetation in Queensland by December 2006' (NRM&E 2004, p. 1). The Bill differs from other State and Territory native vegetation legislation in that the reduction of greenhouse gas emissions is explicitly listed as an object of the legislation (along with objectives such as the prevention of land degradation and the loss of biodiversity).

In Western Australia, where a major rationale for intervention has been salinity control, soil conservation legislation has been in place since 1945. This legislation has been the principal vehicle for a progressive tightening of clearing controls, particularly since the mid 1980s. According to the WA Government:

> Western Australia faces enormous economic costs from salinity and rising water tables, which could have been avoided or ameliorated with the earlier introduction of native vegetation clearance controls. Annual costs to the State due to salinity are estimated at $660 million … It is important to point out that the retention of native vegetation assists in containing these costs by maintaining watertable levels and thus reducing salinity impacts. (sub. 151, p. 2)

Legislation passed in the WA Parliament in October 2003 introduces a permit system to be administered by one agency (the Department of Environmental Protection), bringing regulation of native vegetation clearing more into line with regulatory arrangements operating in the rest of Australia (box 3.1).

Until recently, in Tasmania, regulation of native vegetation removal focused on commercial forestry operations. Removal of forest vegetation for non-commercial reasons was brought within the purview of regulation requiring clearing approvals in 2001. The Tasmanian Government announced its intention to strengthen regulation of 'non-forest communities' and 'vulnerable' forest communities' in April 2003. Details of these changes are yet to be specified.

In the Northern Territory where most private land is leasehold (just 0.5 per cent is freehold), regulation of native vegetation clearance is of relatively recent origin, presumably reflecting the low level of clearing in the past (less than 0.4 per cent of

the Territory has been cleared, for any purpose) and relatively low demand for clearing currently.

In announcing the introduction of new controls for freehold land in the Northern Territory, the Minister stated that:

> These new measures clearly demonstrate this Government's commitment to the long-term sustainable development of our natural resources … While the Northern Territory has so far avoided the environmental damage that goes with poor land clearing practices, now is the time to act. (Vatskalis 2002, p. 1)

In November 2003, the NT Government announced a moratorium on further land clearing in the Daly Region until an Integrated Regional Land Use Plan is developed for the region.

In the Australian Capital Territory, where all rural land is leasehold, conservation objectives are integrated into the management of rural leasehold land (box 3.1).

Assessment of regulatory impacts

Regulatory impact assessment guidelines for Australian Government legislation and regulation are outlined in chapter 1. Broadly, the objectives of these guidelines is to encourage the development of regulations that are both 'effective' and 'efficient' — that is, that regulation should only be implemented where the benefits outweigh the costs and where no other approach could deliver greater net benefits.

Regulatory Impact Statements (RISs) must be prepared by all Australian Government agencies making, reviewing and reforming regulations. State and Territory governments also widely use RISs (ORR 1998, PC 2003b).[3] Some of the legislation under review pre-dated development of RIS processes. Based on responses to its inquiries, the Commission is not aware that formal or informal RIS statements have been prepared for any of the State and Territory regulatory regimes under review.

Consideration of alternative policy options

The Commission has found little evidence in jurisdictions regulating clearing of native vegetation that alternative approaches (including non-regulatory methods of

[3] Formal RIS requirements now exist in all Australian jurisdictions with the exception of Western Australia. The South Australian, Tasmanian, Northern Territory and ACT Governments require RISs to be produced for both primary and subordinate legislation. RISs are required only for subordinate legislation in New South Wales, Victoria and Queensland. In Western Australia impact statements focus only on small business and regional effects.

limiting clearing or other ways of delivering environmental goals) were formally considered.

In South Australia, a voluntary scheme was introduced in 1980 that provided financial incentives to encourage farmers to enter into heritage agreements to retain and manage areas of native vegetation. The assistance on offer was not sufficient to encourage many landholders to enter into agreements, and the program was abolished in 1985. The Tasmanian Government has 'placed a strong emphasis on facilitating conservation on private land through incentives, conservation plans, education and awareness' (sub. 201, p. 8) although it also recently announced an extension of regulation.

The WA Government (sub. DR290) argued that there has been ongoing State and Territory government consideration of alternative approaches to native vegetation regulation as part of the national environmental policy process. The *National Strategy for Ecologically Sustainable Development* (1992) and the *National Strategy for Conservation of Australia's Biological Diversity* (1996) were cited as examples of programs where alternative policy options have been considered, including options for managing the clearing of native vegetation. In relation to consideration given to policy approaches other than regulation to achieve environmental objectives, the WA Government argued that an:

> … enormous amount of effort … has been devoted to these policy questions by all Governments, and stakeholders, over an extended period. (sub. DR290, p. 3)

Moreover, the WA Government considered that the introduction of State and Territory regulations was often influenced by Australian Government policy:

> … examples of the Commonwealth driving the agenda to control land clearing include the *National Land and Water Resource Audit* … and the *National Objectives and Targets for Biodiversity Conservation 2001-2005* … and very importantly, linking these to Commonwealth funding programs such as the Natural Heritage Trust. (sub. DR290, p. 3)

There is evidence that financial incentives increasingly are recognised as having a role in encouraging appropriate management of native vegetation (for example, payments for fencing and, in some States, stewardship programs) and therefore in supplementing regulation. However, a strong underlying view remains that regulation is required to prevent further clearing. This view does not appear to be based on an assessment of the relative efficacy of regulation[4] in achieving environmental goals, but may simply reflect cost-sharing preferences. For example,

4 In a Victorian Government working paper, Stoneham et al. (2003) proffer an argument for regulation of clearing on efficiency grounds. However, no such rationale had been suggested previously by State and Territory governments.

the Victorian Government commented that in 'Victoria's case, the legislative and regulatory framework for native vegetation defines, in effect, a landholder's 'duty of care' for biodiversity on their land' (sub. 185, p. 18).

The Victorian Government also noted that it was continually seeking to implement the most cost-effective policies, although regulation generally would underpin other mechanisms:

> Victoria has traditionally focussed on delivering biodiversity outcomes via a mix of regulation and investment through information and education programs. More recently, market-based mechanisms have been successfully developed and Victoria continues to investigate the relative benefits of alternative approaches for their ability to achieve desired biodiversity and native vegetation protection and management outcomes in a cost-effective manner. As a general rule most voluntary, self-regulatory and/or market-based mechanisms are underpinned by regulation. (sub. 185, p. 14)

A somewhat similar approach is being adopted by the NSW Government. Approximately $406 million, jointly funded by the Australian and NSW Governments, has been made available to implement natural resource management reform in New South Wales. Part of these funds are to 'encourage land managers to actively manage and restore vegetation' (DIPNR 2003a, p. 2). While the introduction of financial incentives is an important component of the reforms, regulation remains central to the regime, with the Government also intending to strengthen the native vegetation compliance framework (NSW Legislative Assembly, 12 November, p. 4898).

FINDING 3.1

In most jurisdictions, little formal consideration has been given to policy approaches other than regulation for delivering environmental goals. Regulation impact assessments, or equivalent assessments in the absence of formal RIS requirements, do not appear to have been undertaken.

Consideration of costs and benefits

As far as the Commission has been able to ascertain, no jurisdiction has attempted a benefit–cost analysis (in the sense of quantifying likely costs and benefits) of clearing regulations across States and Territories prior to or, indeed, since their introduction. That said, some jurisdictions state that they seek a balance of environmental, economic and social considerations (for example, the NSW NVC Act and Native Vegetation Act, and the Tasmanian Government's 20-year social, economic and environmental plan *Tasmania Together*).

While the benefits of the regulatory regimes seem to be accepted as axiomatic, that they may impose costs appears to be less well accepted. In part, this may reflect a view expressed by the Australian Conservation Foundation that 'many of the benefits of protecting biodiversity and controlling land clearing accrue to landholders themselves, although this is not often acknowledged' (sub. 146, p. 14). (Potential benefits accruing to landholders of current regimes are considered in chapter 6).

Commenting on the introduction of the *Vegetation Management Act 1999* (VM Act) in Queensland, AgForce stated 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. (sub. 54, p. 40)

The Queensland Government is to introduce measures to offset some of the costs associated with reforms to native vegetation management announced in March 2003 (box 3.1). A $150 million financial assistance package is to be made available to landholders 'disadvantaged' by changes to tree clearing laws:

> The bulk of that funding, some $130 million, will form a structural adjustment package similar to existing industry adjustment packages. It will assist landholders significantly disadvantaged by the new vegetation framework, with a focus on sustaining primary production in the affected regions. Twelve million dollars will be provided for targeted incentives to support landholders willing to manage and maintain remnant and high value non-remnant native vegetation as part of their operation. The remaining $8 million will be used to provide direct financial assistance to support rural industry groups in promoting best management practices in sustainable agriculture. (Queensland Legislative Assembly, 18 March 2004, p. 66)

The WA Government acknowledged that some costs were imposed by the regulations, albeit that these were likely to be small:

> … the progressive tightening of clearing controls during the 1990s has affected land values, albeit not in a uniform way. The Valuer-General's office advises that in the more remote wheat and cropping areas the value of uncleared land has been significantly discounted, but in the higher rainfall and more populated areas land values are being sustained by non-agricultural buyers.
>
> The rural real estate market has been adjusting to the tighter clearing controls introduced in the past decade. The landowner who has held bushland for more than a decade with the expectation of future development prospects is most affected. The proportion of landowners in this category is small. (sub. 151, p. 3)

As discussed in chapter 6, Western Australia and South Australia have offered limited compensation at various times to landholders for the effects of clearing restrictions; Victoria, Queensland and Tasmania provide for compensation for the

effects of biodiversity legislation but these provisions have been exercised infrequently.

FINDING 3.2

In most jurisdictions, there has been limited assessment of the likely economic and social costs of native vegetation and biodiversity regulatory regimes, while the benefits of the regimes appear to be taken as self-evident.

Consultation when introducing native vegetation legislation

The level of consultation associated with the introduction of legislation and associated regulations has varied across and within jurisdictions. In some instances, there appears to have been a decision taken deliberately not to consult in order to prevent pre-emptive clearing of vegetation (for example, Victoria in 1987 and South Australia in 1983,[5] and Western Australia and Queensland in 2003). The SA Government commented that:

> Legislation controlling the clearance of native vegetation needs to be drafted in consultation with stakeholders, however panic clearing is a real issue for other States without legislation. The South Australian experience is that a moratorium on clearance is vital. (sub. DR324, p. ii)

In Queensland, the Minister noted in the second reading speech for the *Vegetation (Application for Clearing) Act 2003*, which established a moratorium on applications to clear native vegetation, that:

> … the halt was agreed to in discussions between the Commonwealth and Queensland governments as a precursor to consultation with stakeholders about strengthening vegetation management arrangements across the State. (Queensland Legislative Assembly, 27 May 2003, p. 2082)

In terms of the operation of the native vegetation regimes, the Queensland Government has encouraged stakeholder involvement in development of clearing guidelines for leasehold and freehold land, as well as through regional committees, which are discussed below.

In some jurisdictions, consultation appears to be regarded as an important part of the development of environmental policy. The Tasmanian Government, for example, advised that it places significant weight on the role of community participation in establishing 'an agreed direction for the use and development of resources and the appropriate parameters to achieve it' (sub. 201, p. 5).

5 In South Australia, extensive consultation was undertaken prior to the introduction of a replacement regime in 1985.

In the Northern Territory and in New South Wales, consultation has occurred after the introduction of interim measures. Following the introduction of SEPP 46 in 1995, the NSW Government undertook extensive consultation prior to the introduction of the NVC Act — which included the establishment of a community forum, and the release of a White Paper seeking public comment.

Consultation prior to the implementation of the Native Vegetation Act in New South Wales appears to have been focussed on key interest groups. In response to a report released by the Wentworth Group (2003), the NSW Government appointed the Native Vegetation Reform Implementation Group (NVRIG) to identify ways to improve native vegetation management. The NVRIG comprised members of the NSW Farmers' Association (NSWFA), peak environmental interests, the Wentworth Group and representatives of State government agencies. The NVRIG's report (NVRIG 2003) formed the basis of reforms introduced in late 2003.

Following the introduction of a 2-year Interim Development Control Order prohibiting the clearing of native vegetation on freehold or Crown land without consent, the Northern Territory Planning Act is currently being reviewed with public submissions invited.

Notwithstanding the existence of formal consultation channels, the Commission received several complaints from landholders about a lack of consultation and transparency of process. This was especially the case when criteria for assessing clearing applications had been tightened via policy announcements, regulation or administration rather than by legislative amendment.

For example, in Victoria, a 1997 policy announcement targeting no net loss of native vegetation by 2001, has been strengthened to a policy of 'net gain'. This policy has since been promulgated as regulation. While such changes may have significant implications for the assessment of clearing applications (and planting offset requirements), they have been introduced into the planning system without the scrutiny that normally would accompany legislative amendment. The Victorian Farmers Federation (VFF) noted that although the rules look the same, their interpretation changes (sub. 149).

Several participants criticised the WA Government for failing to consult. John Dival claimed that:

> The degree of transparency and extent of community consultation when developing regulatory conservation regimes has been low, and, when implementing the regimes at an individual level, almost secretive. (sub. 137, p. 24)

Peter Wren expressed a similar view:

> The West Australian State Planning Strategy and in particular the Leeuwin-Naturaliste Statement of Planning Policy in 1998 … arbitrarily reclassified our land use categories from rural and farming to reflect nature conservation and landscape values. Consultation with private landowners was available only after the maps were drawn and new land use categories set. No consideration whatsoever was granted as to the financial implications of losing the choice to determine the future use of our private freehold land. (sub. 119, p. 1)

The WA Government explained its approach:

> The level of consultation has varied depending on whether the change that has been implemented is an incremental change or a major change. For example, the 1995 policy announcement signalling a tougher approach to clearing applications was a change in approach to clearing applications rather than a whole new regime for considering clearing applications, and so did not go through a broad public consultation process. On the other hand, the proposal for a new Biodiversity Conservation Act to replace the existing *Wildlife Conservation Act 1950* is a clear change in the regime relating to biodiversity conservation, and is going through a detailed public consultation process involving public comment on a consultation paper and draft Bill. (sub. 151, p. 7)

The WA Government also highlighted the level of consultation associated with the introduction amendments to the *Environmental Protection Act 1986* (EP Act):

> … a number of reviews of the current system of native vegetation regulation have occurred including the final report of the *Native Vegetation Working Group (2000)* and the *Report from the Inter-Departmental Committee on Native Vegetation (2001).* Groups representing landholder, conservation interests and Government compiled these reports … a large proportion of the amendments … to the EP Act are a result of implementing recommendations from these reports. (sub. DR290, p. 13)

Consultation when introducing biodiversity legislation

In jurisdictions that have introduced biodiversity (threatened species and ecosystem) legislation, the Commission did not receive any comments about a lack of consultation prior to the introduction of the legislation. In 1988, Victoria introduced the *Flora and Fauna Guarantee Act 1988* (FFG Act). Queensland introduced similar legislation in 1994, and New South Wales and Tasmania in 1995. Western Australia is in the process of introducing biodiversity legislation. (There is no specific biodiversity legislation in South Australia, the Northern Territory or the Australian Capital Territory.)

The Tasmanian Government consulted with interested parties prior to introducing the *Threatened Species Protection Act 1995*. In Western Australia, the current proposal for a Biodiversity Conservation Act is undergoing a detailed public consultation process involving a consultation paper and a draft Bill.

There appears to have been little public consultation associated with the introduction of the *Threatened Species Conservation Act 1995* (TSC Act) in New South Wales. In the second reading speech for the Bill in 1995, the Minister acknowledged that there was a lack of time to undertake adequate consultation because the existing threatened species legislation, the *Endangered Fauna (Interim Protection) Act 1991*, was due to expire and a new Act needed to be introduced urgently. The Minister stated that:

> … intensive effort has gone into the development of new legislation and a detailed scheme was delineated. Inevitably, however, there has not been time available for full consultation with industry or with conservation interests. We knew that this would be the case. Having given a preliminary briefing on the new scheme to key stakeholders in recent days, it was obvious that both conservation and industry interests had concerns … (NSW Legislative Assembly, 7 December 1995, p. 4483)

There have been some concerns about the transparency and extent of community consultation regarding the operation of the regulatory regimes established under biodiversity legislation in New South Wales and Tasmania. For example, concerns have been expressed about the processes used to determine species listings as well as about the development and implementation of species recovery plans. In Tasmania, the Resource Planning Development Commission (RPDC 2002, p. 51) observed that while:

> … consultation has occurred on what is essentially a technical scientific issue with a limited number of interested stakeholders, it appears that the process for community consultation on changes … for management of priority species has not always been full and open to the public.

The NSWFA (2003a) questioned the effectiveness and integrity of the listing process in the State. The Local Government Association & Shires Association of NSW observed:

> … in relation to socio-economic implications of listings of threatened species through the [TSC Act] … Greater consultation with the regional and local community is required to ensure that recovery plans for these species can be implemented with success, and fully consider the implications to local communities. (sub. 178, p. 2)

The VFF considered that there was appropriate scope for public consultation contained in the provisions of the FFG Act:

> The [FFG Act] is far less adversarial than much of Victoria's other conservation legislation and regulation, and appears designed around consultation and agreement, rather than command and control. There are also provisions within this Act for payment of compensation to landowners who are required to protect a critical habitat. It is felt that this legislation has been largely usurped by the VPPs, which has no provision for compensation and requires protection of all native species at the cost of the landowner. (sub. 149, p. 7)

The level of consultation associated with the introduction of native vegetation legislation and associated regulations has varied across jurisdictions. In some jurisdictions, there has been adequate consultation; in others, there has been little or no public consultation. This has been the case particularly when regimes have been introduced to avoid pre-emptive clearing, or in cases when regimes have been changed through policy announcements, regulation or administration rather than legislative amendment.

Generally, there has been greater public consultation about the development of biodiversity legislation than native vegetation legislation, but the processes for consultation in application of the Acts vary.

Regional consultation processes

An important element of the native vegetation regimes operating in New South Wales, Victoria and Queensland has been the promotion of regional approaches to guide native vegetation management. Regional committees and processes have been a major vehicle for fostering community involvement and consultation.

In Queensland and Victoria draft plans have been developed for all designated regions (24 regions in Queensland and 10 catchment areas in Victoria) but await approval. In New South Wales, 2 plans of a potential 22 were finalised before the process was suspended in 2003. Under reforms introduced by the NSW Government in late 2003, a new regional system of vegetation management is to be implemented, with 13 Catchment Management Authorities replacing the existing Regional Vegetation Committees, Catchment Management Boards and Water Management Committees.

The Commission received evidence about the effectiveness of regional consultation processes. A common theme was that, even where the consultative process had worked well and a draft plan had been developed, plans submitted for approval had been subsequently modified by State Governments or, in the case of Queensland and New South Wales, superseded by changes in the regulatory framework. (In New South Wales, the RVMP process ended with the introduction of the Native Vegetation Act, whereas in Queensland, the regional planning process ended with the announced moratorium on new clearing applications).

Peter Voller described the consultation process in developing regional plans in south-western Queensland:

> The process we ran was participative. We had over 400 land-holders who actually participated in a discussion paper process before we even started writing the vegetation

> plans and across south-west Queensland over 1200 people formally participated in written discussions with us about their concerns before we even started writing and that process of communicative participation is the basis of those quite supportive and powerful outcomes in terms of vegetation planning in our landscape. (trans., p. 1022)

At public hearings in Moree, several landholders from south-western Queensland praised the efforts of Mr Voller in 'husbanding' their regional plans; they also expressed their disappointment about the announcement in May 2003 of a clearing moratorium which:

> … left everyone with a very bitter taste in their mouth because really we put an awful lot of time into this process and we were told we should have been talking about greenhouse and not biodiversity or as well as biodiversity. (Denzil Mills, trans., p. 1024)

The Institute of Public Affairs noted that while, in some cases, the regional planning process may have been effective in involving local communities it 'does not mean that they had any effect other than as a listening post' (sub. DR279, p. 4). Similarly, Murrumbidgee Irrigation argued that a number of shortcomings with the RVMP process in New South Wales limited its effectiveness and contributed to community frustration:

> … the department support was patchy, data was limited, advice was inconsistent and the focus squarely on legislative means. Ideas developed at the committee level to deal with a regional issue were often overridden by the government desire to have a single approach across the state. This just compounds the regional community feeling that they are not consulted and remote/political decisions are being made with no reference to the local considerations. (sub. DR262, pp. 1–2)

In relation to draft regional vegetation management plans prepared for Victoria's catchments, the VFF stated that:

> … in the last few months the VFF has learned that these Draft Regional Native Vegetation Plans have been internally reviewed and edited by Catchment Management Authorities to conform to the State Framework. It is understood that these substantially altered documents are being prepared for imminent release, without the stakeholder involvement required to ensure practical applications are considered. (sub. 149, pp. 6–7).

Regional committees often include representatives from outside the region for which a plan was being developed (for example, from environmental non-government organisations and State government agencies). This issue appears to have been a particular concern in New South Wales. The Local Government Association and Shires Association of New South Wales noted that there was a concern in local communities:

> … in relation to Committee representatives making decisions about future activities in a region but not residing in the region, or having any link to the region, or livelihood dependent on the economy of the region. (sub. 178, p. 3)

The range of diverse interests on committees sometimes makes consensus in decision making difficult, and has the potential to extend the time required to achieve consensus. The problem of consensus decision-making in natural resource management was highlighted with regard to New South Wales:

> The risk is that committees relying on total consensus often make limited progress toward developing resource management plans and dissolve into unresolvable stand-offs. (Thompson 2001, p. 66)

In New South Wales and Queensland, questions were raised as to whether regional committees had adequate resources to develop effective regional management plans, including technical and other support, including good quality mapping. AgForce (Queensland) commented:

> … 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. (sub. 54, pp. 43–4)

Legislation introduced by the NSW Government in December 2003, appears to be intended to improve the regional management process by addressing issues such as a lack of funding and non-local participation on regional committees.

FINDING 3.4

Generally, regional consultation processes have been effective in involving local communities in native vegetation management. However, the effectiveness of the process in some jurisdictions appears to have been hampered by inadequate technical support (such as accurate mapping) and a lack of funding. 'Outside' representation on regional committees also appears to have been a source of discontent with some consultation processes.

Disenchantment with the regional consultation process has arisen where regional vegetation management plans have not been adopted or, subsequently, have been changed by government.

3.3 Key features of the regimes

The regulatory regimes in each State and Territory, with one or two exceptions, are broadly similar in their approach in that a permit is generally required to remove

native vegetation, unless the activity is specifically exempted (box 3.2). Broadly speaking, in most jurisdictions, exemptions are designed to allow small-scale clearing for personal use and routine farm management. Urban residential and industrial areas also usually are exempt from native vegetation regulations, although not new developments on agricultural land. Thus all jurisdictions allow some removal of native vegetation, but regimes differ significantly in their detail and impacts.

In Queensland, restrictions placed on leaseholders are somewhat more onerous than those placed on owners of freehold title. In New South Wales, Victoria, South Australia and Western Australia, regulation generally extends to the clearing of native grasslands. In Queensland and Tasmania grasslands are excluded from the general regulatory framework. (However, there may be restrictions on the removal of certain species of native grasslands under threatened species or biodiversity legislation in these States).

Variation also exists in the extent to which regulation applies to the clearing of non-native vegetation, and to native vegetation planted by landholders. For example, a permit is required for the removal of non-native trees and shrubs on leasehold land in Queensland and for the removal of non-native forest vegetation in Tasmania. In New South Wales a permit generally is not required for the removal of non-native vegetation except on areas designated as being susceptible to land degradation (steeply sloping land and land alongside streams and riverbanks).

A summary of the main features of native vegetation legislation in each State and Territory is provided in table 3.3. It should be noted that the information in the table relates only to the primary native vegetation legislation in each jurisdiction — in some instances, biodiversity legislation or local planning instruments may override the requirements described in the table.

Box 3.2 **Key definitions and requirements**

New South Wales

Under the *Native Vegetation Conservation Act 1997*, a permit is required to clear native vegetation including: indigenous trees; understorey plants; groundcover (where native vegetation is not less than 50 per cent of vegetation); and wetland plants in areas where a regional plan has not been developed or an exemption does not apply.

The *Native Vegetation Act 2003* provides new definitions for native vegetation, regrowth and broadscale clearing. Native vegetation includes indigenous trees, understorey plants and groundcover. Vegetation is considered indigenous if it is of a species, or comprises a species of vegetation that existed in the State before European settlement. Broadscale clearing is not to be permitted unless 'it improves or maintains environmental outcomes' (s. 3). Consent is not required to clear regrowth (as defined in the Act). In cases where consent is needed to clear native vegetation, landholders have two options: submitting a development application to the Department of Infrastructure, Planning and Natural Resources; or submitting a Property Vegetation Plan to the relevant Catchment Management Authority.

Victoria

Permits are required to remove, destroy or lop any native vegetation. The overarching objectives are 'net gain' and, where possible, to avoid clearing. However, some flexibility is introduced through offsets. The area to be revegetated or protected, as an offset, is linked to the quality and quantity of the vegetation to be cleared.

South Australia

Permits are required for clearing native vegetation, which is defined as naturally-occurring local native plants including trees, native grasses, wetland plants and marine plants. Clearing is not permitted if native vegetation provides significant habitat or diversity of plant species; is a rare, vulnerable or endangered species; is in a wetland environment; is a significant remnant in an area already cleared to a significant extent; or if clearing would contribute to soil erosion or salinity or a deterioration in surface or underground water quality.

Australian Capital Territory

A licence is required for the felling of native timber on leasehold land. Native timber is defined as timber taken from a tree which is a native plant. Considerations taken into account when assessing a licence application include: the effect of the felling on the land to which the application relates; the conservation requirements of the native timber species or ecological community with which it is associated; and the management objectives for the land.

(Continued next page)

Box 3.2 (continued)

Western Australia

Landholders are required to notify the Commissioner of Soil and Land Conservation of their intention to remove native vegetation. Clearing can proceed in 90 days if objection is not raised. The grounds for objecting are officially limited to land degradation issues such as salinity. Where there may be implications for biodiversity or water quality, the proposal is referred to the government agency with responsibility for the legislation dealing with that issue. Under legislation passed in October 2003, a permit system is to be introduced where it will become an offence to clear without a permit. The legislation contains clearing principles that must be considered when assessing applications for permits. The clearing principles are based on principles in use in South Australia.

Queensland

Permits are required for clearing native vegetation, which includes any native tree or plant other than grass or mangrove on private land; and trees and shrubs (which need not be native) on leasehold land. Clearing of remnant 'endangered' ecosystems, areas of high conservation value or areas vulnerable to land degradation generally is not allowed on leasehold or freehold land. For leasehold land, 'of concern' regional ecosystems are also protected and additional objectives such as visual and landscape values may guide decisions.

Under the proposed Vegetation Management and Other Legislation Amendment Bill 2004, broadscale clearing on both freehold and leasehold land is to be phased out by 2006. The proposed legislation provides for a transitional clearing cap of 500 000 ha, some of which will be allocated to landholders through a ballot. Broadscale clearing permits will not be issued once the ballot process has been completed. Landholders will be able to make ongoing applications to clear some vegetation for the purposes of thinning out 'thickening vegetation' and managing invasive weeds. Landholders will not be required to obtain approval to clear vegetation designated as 'regrowth' through an agreed Property Map of Assessable Vegetation.

Tasmania

An approved 'forest practice plan' is required for clearing trees (clearing, cutting, pushing or otherwise removing, or destroying in any way). The regulation applies to forest vegetation only — any woody plants with a height or potential height of 5 metres or more, whether native or introduced. The primary objective of the legislation is to achieve sustainable management of public and private forests with due care for the environment.

Northern Territory

Permits are required for cutting down (but not lopping) or destroying native vegetation by any means. The objective has not been to stop clearing but to ensure that it occurs in a sustainable manner.

Table 3.3 **Selected features of State and Territory native vegetation regulations**

Regulatory requirements to clear native vegetation[a]

	New South Wales		*Victoria*	*Queensland*	*South Australia*
	Native Vegetation Conservation Act	Native Vegetation Act[b]	Planning and Environment Act	Vegetation Management Act[c]	Native Vegetation Act
Approval not required	• Less than 2 ha/year • Regrowth less than 10 years old • Fencelines	• Routine agricultural activities • Regrowth (as defined in the Act)	• Properties of less than 0.4 ha • Firebreaks • Regrowth less than 10 years old	• Clearing associated with building a single residence • Clearing for routine management (including regrowth)	• To comply with another Act • Maintenance of agricultural land for cultivation • Regrowth less than 5 years old
Approval process	• Approval required from State Government to remove any non-exempt native vegetation	• Approval required from State Government for broadscale clearing (only when clearing improves environmental outcomes) • Apply to have vegetation classified as 'regrowth', which can then be cleared	• Application to local council to clear native vegetation. State Government is the referral authority for applications greater than 10 ha • Approvals granted usually contain offset requirements to meet 'net gain' policy	• Approval required from State Government to remove any non-exempt native vegetation • A moratorium has been placed on accepting applications to clear remnant native vegetation	• Approval required from statutory authority to remove any non-exempt native vegetation • Approvals usually contain offset requirements
Approval unlikely/will not be granted	• Stricter guidelines for 'State protected land' (steeply sloping land, riparian land)	• Broadscale clearing which does not improve environmental outcomes • Clearing of 'protected regrowth'		• Stricter guidelines for areas of 'high conservation value' or 'vulnerable to land degradation'	• Where vegetation contains a high level of diversity; and where it contains significant habitat for wildlife

(Continued next page)

Table 3.3 (continued)

	Western Australia		*Tasmania*	*Northern Territory*	*ACT*
	Soil and Land Conservation Act	Environment Protection Amendment Act[b]	Forests Practices Act	Planning Act[c]	Nature Conservation Act
Approval not required	• Less than 1 ha of land	• Details currently being negotiated	• Where volume of timber harvested is less than 100 tonnes a year, or the area of land is less than 1 ha	• Less than 1 ha of land • Weed removal • Lopping	• Timber planted by landholder • Timber cleared for personal use
Approval process	• Notification to statutory authority of intention to clear more than 1 ha of land for change in land use. If no objection received, clearing may proceed	• Approval required from State Government to remove any non-exempt native vegetation • A 'no net loss' principle is to be implemented in assessing applications	• Approval required from statutory authority to remove any non-exempt trees (exotic or native)	• Approval required from Territory Government to remove any non-exempt native vegetation	• Approval required from Territory Government to remove timber
Approval unlikely/will not be granted	• Some proposals may be referred to State Government for further assessment • Proposals with implications for salinity are unlikely to be approved		• Proposed clearing that is inconsistent with the published guidelines		

a Regulatory requirements described in this table are not comprehensive. In addition, in some instances biodiversity legislation or local planning instruments may override or complement the requirements described. **b** Provisions of this legislation relating to some aspects of native vegetation management are yet to take effect. **c** Applies to freehold land only.

3.4 Implementation and administration

In this section, the processes for submitting and assessing applications to clear native vegetation in the various jurisdictions are discussed and assessed.

Obtaining approval to clear native vegetation

In all jurisdictions, the onus for determining whether approval is required to clear or modify native vegetation lies with the landholder. In most jurisdictions, State and Territory government agencies have provided considerable information on the requirements necessary to comply with legislative regimes. However, the Commission received evidence that the demands placed on landholders to understand the operation and interaction of the various regimes were often significant. Landholders are required to determine which, if any, legislative regime applies to the proposed activity — for example, local government planning order, State legislation (threatened species or native vegetation controls) or the Australian Government's EPBC Act.

Complexity

Complex regulatory regimes increase the costs to landholders in terms of the time and effort needed to understand the regulation. Uncertainty as to how regulations apply may also result in non-compliance due to incorrect interpretation of the restrictions. The complexity of regulation was an issue that was raised by participants from most jurisdictions (box 3.3).

The South Grafton Residents Progress Association (New South Wales) argued:

> The statutes are very complex and will require considerable expenditure on the part of landholders to ensure that they do not become penalised for breaching various sections of one or more of the requirements.
>
> Where clearing of an area requiring the submission of a development application becomes necessary the landholder (at his/her cost) could be required to secure expert reports as well as legal assistance to ensure that their application has a chance of success. Further costs will be incurred if an appeal mechanism is undertaken when an application is rejected. (sub. 104, pp. 2–3)

Box 3.3 **Participants' views on the complexity of native vegetation and biodiversity regulation**

AgForce (Queensland):

> The key point is that the interpretation of the different requirements of State and Federal Legislation requires considerable advice … 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. (sub. 54, pp. 4–5)

Kempsey Shire Council (New South Wales):

> The confusion and often intimidation felt by many farmers as a result of this complicated procedure (gaining consent) may drive farmers to undertake works in an illegal manner (according to one piece of legislation or another). Many farmers have indicated (to me) that this menagerie of legislation requirements is often used by agencies to avoid the identification of responsibilities in certain situations by certain agencies. (sub. 3, p. 2)

South Australian Farmers' Federation:

> Enquiries regarding native vegetation matters represent a major proportion of concerned farmer calls to the South Australian Farmers' Federation on natural resource matters. In an attempt to rectify the confusion that exists in rural communities the Federation has published a series of articles — written by Native Vegetation Council Officers — detailing the current controls on clearing and existing exemptions. The need to do this is evidence enough of a failure by the Council to properly communicate current rules and regulations to the general public. (sub. 140, p. 10)

Reserve Design Management (Tasmania):

> One of the main issues we had come across in [dealing with some local councils] was that there was a very limited understanding and an enormous amount of confusion in the community about the responsibilities of individuals, the requirements that are placed on organisations by legislation, regulation and the opportunities that exist for them to achieve funding. (trans., p. 801)

Inconsistencies in regulation

Understanding of, and compliance with, regulation appears to be impeded in some jurisdictions as a result of inconsistencies in regulatory regimes. In New South Wales, for example, clearing that is exempt under the NVC Act may be subject to other regulation such as a local government planning order or a recovery plan made under the threatened species legislation. The National Farmers' Federation argued, in relation to the situation in New South Wales, that:

> Farmers [who] are required to comply with the [NVC Act] … must seek approval to clear land … unless it falls within a statutory exception … Yet where a proposed development activity falls within this exception it may still trigger the [TSC Act] which may result in severe restrictions in property use. Under the [TSC Act] where a species is identified as 'threatened' it is an offence to 'harm, pick or damage' the species and

> potential development is likely to involve an expensive and time-consuming Species Impact Statement. The [TSC Act] provides that clearing done in the interests of 'routine agriculture' may be exempt from the operation of the Act yet fails to provide any definition of what this exemption entails. (sub. 128, p. 15)

In relation to Queensland, the Queensland Farmers' Federation observed:

> Amid the natural resource management reform process of late, it is clear that Queensland's primary producers are struggling to keep up with the raft of natural resource management agendas at local, State and Commonwealth levels. In Queensland natural resource management has evolved in a piecemeal fashion, with vegetation, water, salinity, greenhouse, biodiversity conservation, chemical management and other priorities addressed inconsistently in terms of planning and the subsequent implementation of such planning. (sub. 177, p. 1)

Inconsistency between legislation does not appear to be a problem in jurisdictions where decisions made under the primary vegetation legislation have primacy over other regulatory instruments, such as in Tasmania.

Some considered that the administration of native vegetation regulations had implications for other legislative and policy objectives, such as controlling noxious weeds and maintaining road safety.

In New South Wales, some participants argued that native vegetation controls were preventing landholders from meeting their obligations under the *Noxious Weeds Act 1993* to remove designated species of weeds from their properties. Rod Young (trans., pp. 1240–59) argued that when 'cost-effective' measures such as the spraying and burning of weeds are prohibited because of their implications for native vegetation, landholders are effectively prevented from managing the weeds. Other NSW participants who expressed similar views included Doug Stanton and Jim Edwards (trans., pp. 1240–59) and Anne Waugh (sub. 106).

The Dalrymple Landcare Committee (Queensland, trans., pp. 1047–56) observed that the Dalrymple Shire Council classified Parkinsonia as a 'high priority' weed targeted for control in the local catchment area. However, native vegetation regulations have prevented the Landcare Committee from employing measures to control the weed. In this situation, the native vegetation regulations 'have taken precedence' (trans., p. 1052).

Robin Weatherald (trans., pp. 1596–602) described the tension in Victoria between local government requirements to manage roadside vegetation for safety purposes and State vegetation management regulations.

Mr Weatherald considered that councils' ability to manage native vegetation was hampered by the legislation and contributed to increased compliance costs:

> … there's an extraordinarily large amount of money being required to be spent on roadside vegetation and its management. Just the removal of one tree basically has the estimated cost of approximately up to $5000 in paperwork bureaucracy. We've had it explained to us by officers that in particular positions, the lopping of limbs off overhanging trees on roadways will require a planning permit …
>
> It's totally unsustainable for local government in my opinion to continue on down this process. (trans., pp. 1597–8)

Other participants who highlighted the issue of native vegetation regulations and road safety included Geoff Sebire (trans., pp. 1609–23) from Victoria and Sally McKay and Jim McDowall (trans., pp. 1689–702) from South Australia.

FINDING 3.5

The obligations placed on landholders by the various regimes often seem unnecessarily complex and onerous. In some jurisdictions, landholders are required to obtain approval from several government departments and authorities.

Assessment of applications to clear native vegetation

Applications for permits to clear native vegetation are usually the responsibility of a State government agency or statutory body (for example, the Native Vegetation Council (NVC) in South Australia and the Forest Practices Board in Tasmania). In Victoria, under the *Planning and Environment Act 1987* (PE Act), local government assesses small applications, but for applications to clear an area greater than 10 hectares, local government is required to seek the view of the Victorian Department of Sustainability and Environment (DSE) and implement their decision. Under the proposed NSW regime, landholders may apply to the DIPNR for development consent to clear native vegetation, or submit a Property Vegetation Plan (outlining the proposed removal or modification of native vegetation) to a Catchment Management Authority for certification. The *Forest Practices Act 1985* (FP Act) in Tasmania provides for limited self-regulation, where landholders and the forestry industry have some responsibility for the development and certification of Forest Practice Plans.

Transparency and consistency

In a number of jurisdictions the decision-making process has been criticised for a lack of transparency. Transparency may be aided by the publication of guidelines on

how applications are assessed, and by making available the reasons and rationale for rejecting or accepting a particular application.

The Audit Office of New South Wales considered that there were a number of factors that contributed to a lack of transparency in the assessment process in that State. These factors included that internal staff guidelines for assessment, and detailed assessment reports on decisions, were not made available to the public and that there were no public hearings for major proposals (AONSW 2002).

In South Australia, operation of the *Native Vegetation Act 1991* (NV Act) has been criticised for a lack of transparency (Elliot 1999a). The Act was amended in 2002, in part, to ensure that the process of permit approvals for native vegetation follows a more transparent process, including allowing public comment in relation to the granting or refusal of consent to an application to clear native vegetation.

The WA Government considered that recent amendments to the EP Act will contribute to a more open decision-making process:

> The new legislation will require proposals to clear native vegetation to be advertised, and submissions from the public to be considered. All decisions will be made public, along with the reasons for the decision and proponents and third parties may appeal these decisions. This will allow third parties to obtain information regarding permits and decisions and submit appeals and comments. (sub. DR290, p. 14)

A lack of transparency appears to have contributed to perceptions of inconsistency in the determination of applications in a number of jurisdictions (box 3.4). Assessment processes were also criticised for using policies or decision-making rules that were not clearly articulated in the relevant legislation or supporting policy documents. In some jurisdictions, participants considered officers administering the regulations had too much discretion in interpreting and applying regulation.

In New South Wales, Mark Drury provided an example of apparent inconsistent application of regulations in regard to the need for exemptions to clear certain types of native grasses:

> … the fact that [the requirement to submit a clearing application] has been applied differently in different regions by different representatives of the one regulatory authority is surely a matter of great concern … Representatives from the Department of Land and Water Conservation [DLWC] … operating in the northern part of my organisation's operating area were requiring clearing applications to be submitted before any form of clearing could be undertaken on native grasses when representatives in my area of working were allowing clearing of such grasses under exemptions set out in the NVC Act. Surely this is not an acceptable approach to applying this legislation as inconsistency undermines the legitimacy of the legislation. (sub. 217, p. 2)

In South Australia, the South Australian Farmers' Federation (SAFF) argued that the policy, under NV Act, of allowing clearance in particular cases with 'a requirement to compensate the environment for the losses associated with the clearance', had been more broadly applied than the legislation allowed:

> The development of this policy is a good example of lapses in accountability with regard to administrative standards which is a charge often levelled at the NVC and its Officers. It is a feature of law that administrative policy may not exceed the powers of the parent Act or its associated regulations. The development and implementation of this policy is a clear example [of] where the principles of proper administrative behaviour have been breached. (sub. 140, p. 11)

Box 3.4 Participants' views on consistency of permit processes

The Victorian Farmers Federation:

> The regulations appear to vary significantly from Shire to Shire, and region to region, depending upon the way in which Department personnel or Shire planners are willing to interpret them. (sub. 149, p. 11)

Murray Irrigation Ltd (New South Wales):

> … there is a lack of consistency in the treatment of different applications for vegetation removal/clearing … Whilst flexibility is an important component in assessment, inconsistent interpretations and administration is not desirable, and leads to further frustration within the community. (sub. 79, p. 1)

Ron Hawkins (West Wimmera Shire Council, Victoria):

> … problems arise when referral bodies take on more authority than their charters warrant, when they attempt to regulate where they are entitled only to advise. Also, farmers should be able to rely on consistency in permit application outcomes — this consistency is too frequently lacking in referral authority advice and requirements. (sub. 111, p. 1)

Peter Weston (New South Wales):

> The [DIPNR's] inconsistency and consent process and the time lag is quite unacceptable. We've got an example … [where] they've allowed a family to take out individual trees across the landscape … yet another chap up the road, who's got 8000 acres of encroached timber, made an application to clear 600 acres to try and get some degree of drought control … he got denied [completely]. He could not disturb a tree. (trans., p. 1284)

Bruce Meyer, a Councillor with the West Wimmera Shire Council (Victoria), considered that broadly-worded regulations allowed too much discretion to those administering the legislation:

> … exemptions need to be spelt out more clearly as the [DSE] often try and interpret what they mean, and try to put their own slant on it. Replacement numbers for removal also need to be better spelt out as there is a continual upward movement. Replacing 1 tree with 30 others makes the operation unviable, with no consideration given to other

> remnant and existing vegetation on private and public land. Replacement numbers are not spelt out in the Act but are the policy of the individual [DSE] branches, leading to much confusion. (sub. 112, p. 2)

Similarly, in Tasmania, the Southern Midlands Council argued that application of the Regional Management and Planning System (RMPS) had given too much discretion to administrators in the development and implementation of legislation:

> … independent and non-democratically accountable bodies within the RMPS are forced to make 'informal' state policies. Such policies, on occasion, result in the removal of the rights of citizens. It is often highly questionable whether State Parliament intended such rights to be removed when it set the overarching 'sustainable development' objectives for the RMPS. In other words, too often there is no clearly traceable link between actions 'on the ground' that remove the rights of citizens and the intent of their elected representatives. (sub. 166, p. 4)

FINDING 3.6

In several jurisdictions, a lack of published guidelines and the absence of publicly-available information about the rationale for decisions on clearing applications, have encouraged perceptions of inconsistency in the decision-making process.

Consideration of economic and social factors in the application process

There is variation across jurisdictions regarding the requirement to consider the economic and social aspects of applications to clear native vegetation. Variation also exists in the extent to which economic and social considerations need to be considered in the application of regimes within a jurisdiction.

In Western Australia, under the *Soil and Land Conservation Act 1945*, the focus of the regime is on attaining environmental objectives and there is no formal requirement for economic and social aspects to be considered in the assessment of applications. The WA Government (sub. 151, p. 6) stated that environmental considerations generally are not balanced against economic and social considerations when assessing rural clearing proposals. However, recent amendments to the EP Act in Western Australia, recognise the need to address the 'social and economic impacts of protecting the environment' when assessing clearing applications (WA Government, sub. DR290, p. 15).

In South Australia, under the NV Act, the Native Vegetation Council considers the extent to which its decision may affect the viability of the property. However, in both Western Australia and South Australia, a lack of consideration of economic and social aspects was raised by participants.

Tatiara District Council (South Australia) stated that:

> … the current legislation does not provide for … social, economic and environmental benefits … It seems that the current landholders are being penalised for excessive vegetation clearance that has been undertaken over previous years. (trans., p. 444)

The Shire of Dandaragan (Western Australia) argued that:

> … little or no weight is given to these assessments if indeed they are ever carried out.
>
> The Western Australian Commissioner of Soil and Land Conservation does not balance the likelihood of land degradation resulting from the proposed clearing against the social and economic benefits that may result from the clearing. (sub. 191, p. 4)

The WA Government (sub. DR290) noted that the Commissioner of Soil and Land Conservation does not have the authority to consider the social and economic benefits of a clearing proposal.

Some regimes have as their objective the sustainable use of natural resources. In a number of these, there appears to be an implicit requirement to consider economic and social aspects when assessing applications to clear native vegetation.

In Tasmania, an objective of the FP Act is to achieve 'sustainable management of State and crown forests' (Schedule 7). Threatened species legislation in Tasmania has more explicit environmental objectives, but these are to be pursued within the context of the objectives of the State's planning system, the RMPS. One objective is to 'facilitate economic development' in accordance with the sustainable use of the State's natural and physical resources. Planning legislation in the Northern Territory has a sustainable resource use objective as does the VM Act in Queensland.

In Victoria, vegetation clearing controls are implemented through the State's planning system, which aims to achieve 'a sensible balance between economic development, social growth and cohesion and the sustainability of Victoria's environment' (Thwaites 1999). However, decisions on individual applications for permits for native vegetation clearance are based on environmental factors.

In Victoria, New South Wales and South Australia, an application to clear may be approved on the condition that the landholder agrees to provide native vegetation 'offsets'. The offsets are implemented with the objective of mitigating the environmental impact of the proposed clearing. The VFF observed:

> There is no requirement on those who apply native vegetation and biodiversity legislation to assess the cost of their decisions or to balance costs against environmental benefits. The current policy position of the State Government is to produce a 'net gain' at any cost. The Federal position through the EPBC Act is also to conserve everything at any cost (even the cost of improved native vegetation management). (sub. 149, p. 10)

Nonetheless, offsets allow potentially 'high value' projects to proceed.[6]

Other regimes have an explicit requirement for economic and social impacts to be taken into consideration. An objective of the NVC Act in New South Wales is to 'encourage and promote native vegetation management in the social, environmental and economic interests of the State' (NVC Act, s. 3). A number of the processes and instruments, such as recovery plans, implemented under threatened species legislation in Victoria, Tasmania and New South Wales require the consideration of economic and social impacts.

However, even where there is a requirement for the consideration of economic and social aspects, participants suggested that insufficient weight was given to these factors, particularly when assessing clearance applications that had implications for threatened species (box 3.5). The NSW Audit Office observed:

> Reconciling multiple objectives can be difficult, and there is limited guidance to staff on how to address this tension. The [DLWC's] staff guidelines do not generally distinguish environmental screening criteria that are likely to trigger a refusal, from tradeable benefits and costs. In particular, there is little guidance on 'trading-off' environmental impact for socio-economic gain. (AONSW 2002, p. 36)

Box 3.5 Participants' views on the consideration of economic and social implications of clearing proposals

Ferguson, Kenneison and Associates (Western Australia):

> There has been virtually no assessment in Western Australia, conducted at any level, of the social and economic impacts ensuing from decisions arising from the regulation of native vegetation clearance and biodiversity conservation. (sub. 142, p. 19)

Southern Midlands Council (Tasmania):

> … most decisions within the [Regional Management and Planning System] … in Tasmania do not adequately take into account economic and social values as well as natural values. They certainly take into account natural values … most of the decision-making in this sphere seems to be centred on assessing the natural values and the economic and social values are add-ons … if they're considered at all, or are not considered. (trans., p. 773)

District Council of Elliston (South Australia):

> Observation of the approval process indicates that the main criteria for consideration are the considered impact on the flora and fauna species. It is not apparent, from local government perspectives, that economic or social impacts are considered. (sub. 120, p. 4)

6 As currently applied, 'offsets' require new and additional activity (eg tree planting) even if other parts of the property have been protected or regenerated over many years. Some participants noted that they receive no 'credit' for actions taken previously or elsewhere.

FINDING 3.7

Consideration of economic and social factors when assessing clearing applications is not required in all jurisdictions and is precluded in some. In jurisdictions where these factors are required to be examined, little guidance has been provided on how to weigh economic and social factors against environmental considerations.

Delays

Lengthy application processes can result in increased uncertainty for landholders and lost production opportunities. Reasons provided to the Commission for extended assessment processes included the complex nature of the regulation and insufficient resources allocated to the agencies responsible for administering the regimes. For example, in Queensland, landholders and environmental groups were concerned that insufficient resources had been provided to administer land clearing regulations efficiently.

In New South Wales, the time taken to assess clearing applications was often considerably longer than the 40-day period recommended in the administering agency's customer service guarantee (AONSW 2002, p. 34). The Nature Conservation Council (New South Wales) considered this was partly because of inadequate funding:

> The implementation of the NVC Act has seen widespread failure of government departments to promote the spirit and intent of the regulations perhaps due to confusion or antagonism towards the process.
>
> There has been an unrealistic 40 day turn around period for all applications. Staffing resources have not been adequate to uphold this promise, which has not helped to inspire confidence in the system. Further to this, the criteria for assessing applications are not sufficiently transparent, making the auditing process for clearing applications difficult and cumbersome. (sub. 109, p. 3)

In Victoria, the VFF noted that a decision on a development application 'can take months or even years' (sub. 149, p. 9).

FINDING 3.8

Few jurisdictions specify the time periods within which applications to clear native vegetation have to be assessed and, in some jurisdictions, long delays occur. Delays in processing applications add to costs even if applications ultimately are successful.

Dispute resolution

In a number of jurisdictions, controls on the clearing of native vegetation are implemented, either directly or indirectly, through general planning legislation. In these jurisdictions, appeals against decisions on native vegetation clearing proposals are heard in the tribunals or courts established to hear appeals against planning decisions.

In New South Wales, appeals against decisions made under the NVC Act are heard in the Land and Environment Court. In Victoria, decisions on native vegetation clearance can be appealed to the Victorian Civil and Administrative Tribunal. In Tasmania, decisions made under the RMPS are heard in the Regional Management and Planning Appeal Tribunal, while the Forest Practices Tribunal is established specifically under the FP Act to hear appeals arising from the regulation of native forest vegetation.

Generally, tribunals or courts established to hear appeals under planning legislation attempt to resolve appeals through mediation, before moving to more formal, and costly, court or tribunal hearings. Information on the number of appeals specifically related to decisions made on native vegetation clearance proposals tends not to be available. In New South Wales, the Department of Infrastructure, Planning and Natural Resources is required to maintain a public register of appeals made against decisions implemented under the NVC Act. Since the introduction of the Act, there have been few appeals. The NSW Audit Office noted that opportunities to appeal decisions were limited and expensive (AONSW 2002, p. 38).

The issue of landholders' unwillingness to appeal decisions on native vegetation clearance because of the costs of the process was raised by participants in Queensland (Canegrowers, sub. 101) and Victoria. Peter Pacers (Victoria) observed:

> Should a farmer disagree with the State or Local government environmental legislation implementation decision their only recourse is [to] take that body to the Administrative Appeals Tribunal or Supreme Court respectively. For farmers struggling with drought, low commodity prices and the impacts of environmental legislation this is a recourse most cannot afford. (sub. 93, p. 7)

In Tasmania, under the FP Act, the Forest Practices Tribunal is established to hear appeals arising from the regulation of clearing of native forest vegetation. The Tribunal appears to be more informal, and less costly to use, than the appeals process that applies to other planning decisions in the State (those made under the Resource Management Planning System). However, the Forest Practices Tribunal has been criticised for a perceived lack of independence (Tasmanian Conservation Trust, sub. 84).

In South Australia, a recent amendment to the NV Act, allows appeals made against decisions of the NVC to be heard in the Environment, Resources and Development (ERD) Court. Appeals to the ERD Court may result in the matter being returned to the NVC for further consideration. However, the ERD Court may not overturn the ultimate decision of the NVC. Helen Mahar (sub. 40) suggested that a lack of an appropriate appeals mechanism for decisions made by the NVC weakened the accountability of the system.

Similarly, SAFF observed:

> Perhaps the greatest inequity in this whole process has been the lack of mechanisms of appeal (other than resorting to the courts) against either process or the science underlying [NVC] decisions. In a democracy it is completely inappropriate that any section of the government is removed from scrutiny. (sub. 140, p. 11)

In Western Australia, there does not appear to have been a standing dispute resolution process. Appeals against decisions made by the Commissioner of Soil and Land Conservation are made to the Minister for Agriculture. The Minister establishes an appeal committee to report on the matter, with the Minister's decision being final (WA Government, sub. DR290). A more transparent and independent appeals process appears to be provided for in the regulatory regime established under the 2003 legislation. Under the proposed system, the Office of the Appeals Convenor is responsible for administering the appeals inquiry process and recommending an 'appropriate action' on the appeal to the Minister. The rationale for the Appeals Convenor's recommendation is to be made public, as are the reasons for the Minister's final decision.

Under the interim arrangements regulating the clearing of native vegetation on freehold land in the Northern Territory, there is no facility for landholders to appeal decisions of the consent authority.

FINDING 3.9

Appeals and dispute-resolution mechanisms have not been available in some jurisdictions and have been limited and costly in others. Recent legislative amendments appear to improve appeals mechanisms in some jurisdictions.

Costs of administration and compliance

The costs of developing and administering native vegetation and biodiversity conservation regimes are borne primarily by one or two State or Territory agencies. In some jurisdictions, local government has an important role in the administration of regimes, through the development of planning instruments and assessing applications to clear native vegetation. Local government, and others, such as

landholders and representatives of environmental organisations, may also bear some of the administrative costs through their participation on bodies such as regional vegetation committees and catchment authorities.

In New South Wales and Queensland, State government agencies are primarily responsible for administering native vegetation and biodiversity regulations. The NSW Department of Infrastructure, Planning and Natural Resources is responsible for assessing applications to clear native vegetation, monitoring the status of native vegetation (through mapping and maintaining a register of permits), assessing compliance with the regulations and pursuing breaches of the Act. The National Parks and Wildlife Service is responsible for developing and administering instruments under the threatened species legislation.

Territory agencies are responsible for administering native vegetation and biodiversity legislation in the Northern Territory (Department of Infrastructure, Planning and Environment and the Pastoral Land Board) and the Australian Capital Territory (Environment ACT and the ACT Planning and Land Authority). In South Australia and Western Australia, responsibility for administering native vegetation legislation lies with state-funded statutory bodies, the NVC and the SLCC respectively. The permit system to be introduced in Western Australia is to be administered by one agency, the Department of Environmental Protection.

The system of regulation of forest native vegetation in Tasmania is intended to be, as far as possible, self-funding. The Forest Practices Board oversees a system where the forest industry and landholders undertake activities such as preparation and certification of forest practice plans, supervision of forest practices and the training and education of forest practice officers. The State Government provides some funding for the implementation of the forest practices system. The Tasmanian Department of Primary Industries, Water and the Environment is responsible for administering threatened species legislation.

Local government in Tasmania also has a role in implementing native vegetation and biodiversity regulations through the State's planning system, the RMPS. The issue of local government being able to effectively administer the requirements of the RMPS with respect to native vegetation was raised by the Huon Valley Council:

> An issue for Council[s] is the increasing complexity of vegetation management and the associated regulatory framework. Local councils must be fully informed and understand how this framework is administered in order that the Council's role as a planning authority is able to be fulfilled. Councils must not only ensure that the regulations are being met in regard to new development applications but also must monitor compliance in regard to existing activities …

> This complexity is an issue in itself. A regulatory framework that is overly complex will not be effectively implemented and this has been an ongoing concern for local government within Tasmania. (sub. DR230, p. 2)

Administration of native vegetation legislation in Victoria differs from most other jurisdictions in that administration and enforcement of regulation generally rests with local government. Local government is responsible for assessing native vegetation clearing applications, although for applications involving an area of clearing greater than 10 hectares, councils must seek and implement the views of the DSE. The issue of whether local governments were appropriately resourced for their role in the implementation of native vegetation regimes was raised by some participants. For example, Nillumbik Shire Council (sub. 174, p. 3) commented that local government needed more resources to ensure that native vegetation regimes were adequately monitored and enforced. Similar concerns were raised by the Corangamite Shire Council (sub. DR236, p. 2) and Moyne Shire Council:

> Of major concern at a local government level is the requirement to implement the Native Vegetation Framework through the [PE Act]. To be effective Council relies upon the skills and availability of staff within the [DSE] to assist with the implementation of the Native Vegetation Framework. Councils are neither resourced nor adequately skilled in native vegetation ecological assessments to effectively and efficiently implement the framework. (sub. DR229, p. 1)

As a consent authority on planning applications, local government is required, in most jurisdictions, to ensure that planning applications are consistent with the relevant threatened species legislation. For example, local government has this role in New South Wales, Tasmania and Victoria. Shoalhaven City Council noted that in New South Wales, there:

> … are costs to both Council and landowners in the Shoalhaven that arise from legislation that deals with biodiversity conservation and native vegetation protection. Because Council is a consent authority, they are required to invest resources into assessment relating to biodiversity conservation and native vegetation protection that relate to requirements under the *Environmental Planning and Assessment Act 1979]* and the [TSC Act]. Because of the nature of Shoalhaven, Council has many applications that need to have issues of threatened species assessed and has therefore employed a Threatened Species Officer to deal with the large amount of environmental assessment work that is required in development applications. (sub. 98, p. 1)

Compliance costs

Although fees to submit an application tend to be nominal or non-existent in most jurisdictions, providing the information required by a government agency to assess an application can often involve significant costs for landholders.

In Queensland, under the VM Act, applications to clear native vegetation on freehold land must be accompanied by a Property Vegetation Management Plan. The Plan is required to provide information on: the location and extent of clearing; the amount and type of native vegetation to be cleared; and the possible implications of the proposed clearing for soil quality, erosion and threatened species. In some instances, Plans are required to include proposals on ways to improve or rehabilitate areas of native vegetation on properties. Similar information needs to accompany applications to clear in Tasmania under the FP Act, and in New South Wales under the NVC Act.

Depending on the jurisdiction and the nature of the proposed clearing activity, an assessment of impacts of the activity may need to be procured from an independent consultant at the landholder's expense. In New South Wales, for example, when a proposed clearing activity has implications for threatened species, a Species Impact Statement may need to be submitted as part of the application. Similar requirements exist under Queensland and Victorian legislation. The VFF noted that:

> Farmers who seek permits for farming activities often regret trying to conform with the regulations. More often than not, a development application will incur great expense and the requirement for flora and fauna studies and consultant reports. (sub. 149, p. 9)

The Institute of Public Affairs (New South Wales) observed that:

> Under the [NVC Act], any 'clearing' is subject to the development consent procedures. The clearing application process involves 30 or more steps, numerous consultations, opportunities for almost anyone to object and a mountain of paper. This puts such processes beyond the reach of most landowners. They all have a day job and are already grappling with many other regulations. (sub. 135, p. 4)

FINDING 3.10

Landholders frequently have to provide detailed surveys and other information as part of their applications, increasing compliance costs.

3.5 Summary

All jurisdictions in Australia now have in place regimes that require a landholder to apply for a permit to remove native vegetation. There is significant variation in the nature of the regimes across jurisdictions.

The amount of consultation associated with the introduction of regimes has varied significantly across jurisdictions. No jurisdictions have undertaken cost–benefit analysis of clearing regulations prior to their introduction.

Decisions made under the regimes are often characterised by a lack of transparency — guidelines are generally not publicly available and reasons for decisions sometimes are not given. A lack of transparency appears to have encouraged perceptions of inconsistency in the decision-making process and perceptions that officers have acted outside the purview of the relevant legislation. Economic and social considerations do not appear to have been adequately incorporated into the assessment of clearing applications.

In most jurisdictions, the legislation is complex and has resulted in significant compliance costs for landholders, in terms of the information required to be provided in the application process and the length of time taken to obtain a decision. Dissatisfaction with certain aspects of the administration of the regimes appears to have contributed to landholder antagonism to the regimes in general.

In some jurisdictions, recently-announced changes appear to be intended to address some of the issues associated with the implementation and administration of regimes raised in this inquiry.

4 Environment Protection and Biodiversity Conservation Act

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is the Australian Government's main legislation dealing with native vegetation and biodiversity conservation. The EPBC Act commenced on 16 July 2000. It comprises:

- environmental impact assessment and approval processes for certain actions that affect the environment; and
- mechanisms to conserve biodiversity.[1]

Through the EPBC Act, the Australian Government consolidated and updated its regulations for the environment, and enacted Australia's obligations under several international treaties, such as the Convention on Biological Diversity. This chapter summarises some key aspects of the EPBC Act. Additional information is in appendix B.

In addition to administering the EPBC Act, the Australian Government plays other important roles in environmental management. For instance, it:

- coordinates development of national policies and programs (such as the National Framework for the Management and Monitoring of Australia's Native Vegetation), which are adopted by all States and Territories as well as the Australian Government;
- funds research on environmental issues through programs such as the National Land and Water Audit and the Australian Biological Resources Study; and
- provides significant funding for projects that protect or enhance the environment through the programs of the $2.7 billion Natural Heritage Trust (established by the *Natural Heritage Trust of Australia Act 1997*) and through other programs such as the National Action Plan for Salinity and Water Quality (box 4.1).

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1 In addition, in September 2003, the Australian Parliament passed legislation to also protect places of heritage significance under the EPBC Act. A new system to protect heritage started on 1 January 2004. It comprises a National Heritage List and a Commonwealth Heritage List and retains the Register of the National Estate. A new advisory body — the Australian Heritage Council — will replace the Australian Heritage Commission (DEH 2004a).

Box 4.1 **Natural Heritage Trust and National Action Plan for Salinity and Water Quality**

In May 2001, the Australian Government extended the Natural Heritage Trust (NHT) (established in 1997) to 2006-07 with an extra $1 billion in funding. The $2.7 billion program funds environmental actions under four categories — Landcare, Bushcare, Rivercare and Coastcare. Its overarching objectives are biodiversity conservation, sustainable use of natural resources, and community capacity building and institutional change. Under the NHT extension there will be a shift towards more strategic investment and regional implementation, with regional delivery of funding to follow the model established by the National Action Plan for Salinity and Water Quality (NAPSWQ), where appropriate.

In November 2000, the Australian, State and Territory Governments jointly committed $1.4 billion over seven years to address salinity problems and to improve water quality under the NAPSWQ. The NAPSWQ complements the NHT.

The NAPSWQ targets 21 priority regions across Australia that are most affected by salinity or water quality problems. Accredited regional plans that address the specific water quality, salinity and biodiversity problems of each region form the basis for funding under the NAPSWQ. Community-based catchment/regional bodies will develop and implement the plans for each priority region, with the support of government.

It is stated in the NAPSWQ agreement that funding from the Australian Government will be contingent on 'land clearing being prohibited in areas where it would lead to unacceptable land or water degradation' (p. 5) and also that compensation to promote adjustment may be required.

Funding under the NAPSWQ has been made available for a National Market-based Instruments Pilot Program. This program aims to increase understanding of the use of market-based instruments to address environmental issues, particularly salinity and water quality problems.

Sources: COAG (2000); EA and AFFA (2002).

4.1 Description of the EPBC Act

Under the Act, certain 'actions' are prohibited unless prior approval is obtained from the Australian Government Environment Minister. Actions that 'trigger' the approval process under the EPBC Act include those that have, will have, or are likely to have a significant impact on:

- a 'matter of national environmental significance' (these matters are listed in the Act); or

- the environment[2] on Commonwealth land even if the action is taken outside Commonwealth land, and on the environment in general if the action is taken on Commonwealth land; or
- the environment, inside or outside Australian jurisdiction, where the actions are undertaken by the Australian Government or Australian Government agencies.

The Department of the Environment and Heritage (DEH) noted that the approach to native vegetation and biodiversity conservation regulation under the EPBC Act differs from that generally taken by the States and Territories:

> In contrast to most State and Territory vegetation protection legislation that directly regulates the clearing of areas of native vegetation, the EPBC Act does not specifically apply to native vegetation *per se*. Rather the EPBC Act is triggered only when a specific action has a significant impact on a matter of national environmental significance such as listed threatened species. (sub. 190, p. 3)

Thus, the legislation potentially could apply to clearing of native vegetation if the action has a significant impact on one of the areas listed above. The definition of action in the legislation is very broad — projects, developments, undertakings, activities or a series of activities, or an alteration to any of these (EPBC Act, s. 523) — but environmental assessment and approval are required only for 'new' actions. Approval is not required to continue actions that were authorised before commencement of the Act or that represent a lawful continuation, in the same place, of land use started before the Act's commencement, unless these actions are enlarged, expanded or intensified (ss 43A–43B). DEH considered that there is confusion about this exemption:

> … [there is] a misconception that a cyclical increase in use occurring sometime after the commencement of the Act is an enlargement, expansion or intensification and therefore subject to the assessment and approval requirements of the Act. (sub. 190, p. 16)

The Act contains other exemptions from the environmental assessment and approval process, including discretion for the Minister to exempt an action if it is in 'the national interest' to do so. Because of these exemptions, DEH submitted that:

> … the overwhelming majority of agriculture activities do not trigger the EPBC Act. Examples include routine grazing (including periodic grazing), cropping and crop rotation, maintenance of existing dams, roads and fences, and continuation of existing weed control programs.

2 Amongst other things, the definition of 'environment' under the Act includes ecosystems and their parts, natural and physical resources and the heritage values of places (s. 528).

> Even for actions that come within the scope of the EPBC Act, experience has been that the actions of individual farmers rarely meet the threshold test of having a 'significant impact' on a matter of national environmental significance as defined in the Act. (sub. 190, p. 3)

Indeed, the Act places more onerous requirements on the Australian Government as a landholder and in terms of its activities, than on the private sector. This is because Australian Government actions that have a significant impact on the environment (which is broader than 'matters of national environmental significance') are regulated. In addition, most of the biodiversity provisions in chapter 5 of the Act are binding only on Australian Government agencies, or in Commonwealth areas.

Matters of national environmental significance

The triggers most likely to subject private sector activities to environmental assessment and approval are matters of national environmental significance. The Act currently lists seven of these:

- World Heritage properties;
- National Heritage places (since 1 January 2004);
- wetlands of international importance (Ramsar wetlands);
- listed threatened species and ecological communities;
- internationally protected listed migratory species;
- Commonwealth marine areas; and
- nuclear actions.

In the first three years of the Act's operation, 'listed threatened species and ecological communities' was the most common trigger for assessment, including for agricultural activities (appendix B). DEH argued that:

> Conceptually … it is difficult to envisage how or why the farming sector might be treated differently from other sectors, particularly given other sectors are more affected by the protection of species and communities afforded by the Act both in overall numbers of referrals and in the overall value of projects. (sub. 190, p. 5)

The Environment Minister may add additional matters of environmental significance to this list through regulations, but must consult with the States and Territories before doing so.

Some participants commented on the list of matters of national environmental significance. For instance, the Brisbane Region Environment Council (sub. 132, p. 2) considered the triggers 'narrow and insufficient' while the

Australian Conservation Foundation (ACF, sub. 146) recommended that land clearing be included as a matter of national environmental significance so that assessment and approval would be required for land clearing of areas greater than 100 hectares.

Significant impact

As stated above, approval under the EPBC Act is required if an action has (or is likely to have) a 'significant impact' on certain matters (for example, a matter of national environmental significance). Despite its importance in the regulatory regime, the term 'significant impact' is not defined in the EPBC Act or its regulations. However, DEH has issued *EPBC Act Administrative Guidelines on Significance* (EA 2000) which set out criteria for judging whether an impact is likely to be significant. Supplements to the Guidelines have been produced for some specific species of interest to the agricultural sector, such as the Bluegrass ecological communities, the Spectacled Flying-fox and the Grey-headed Flying-fox. The Guidelines are currently being reviewed (DEH, sub. 190).

While these publications may help clarify the meaning of significant impact, the National Farmers' Federation (NFF) observed:

> … these guidelines are non-binding, provide no statutory protection and do not provide any guidance as to how a referred action will be assessed. (sub. 128, p. 27)

The absence of clear guidance on the meaning of this term contributes to uncertainty regarding the scope of the operation of the Act. The Queensland Farmers' Federation (QFF) submitted that:

> From a producer's perspective, the amount of knowledge required for them to determine if an action they propose to undertake constitutes a significant impact and the referral lodgement process is daunting, though the establishment of the EPBC Information Officer based with the National Farmers' Federation has assisted in clarifying the process and has provided useful advice ... (sub. 177, p. 18)

In addition to producing administrative guidelines and publications such as fact sheets, DEH has established other arrangements to help landholders understand and comply with the Act. Examples include:

- development of the EPBC Act website (www.deh.gov.au/epbc), including a section specifically for farmers;
- funding a full-time EPBC Act officer position at the NFF; and
- assisting landholders through site visits (DEH, sub. 190).

DEH also noted that a referral 'toolkit' is being developed to provide examples of referrals of agricultural activities and to give landholders information about how to access maps and data on matters of national environmental significance.

Assessment and approval processes

Actions that trigger the EPBC Act are required to undergo an environmental assessment and approval process that involves three key stages:

- referral by the proponent;
- assessment; and
- approval.

Essentially, the Act requires case-by-case assessment of certain activities to determine whether or not they may proceed. AgForce Queensland commented on this approach:

> 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 …
>
> 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. (sub. 54, p. 42)

In its recent audit of referrals, assessments and approvals under the Act, the Australian National Audit Office (ANAO 2003, p. 12) concluded that processes were 'generally thorough and well documented' and that they were improving with experience.

Referral

The EPBC Act (s. 68) requires those proposing to take an action that they think will have, or is likely to have, a significant impact on a matter protected, to refer a proposal to the Australian Government Environment Minister for a decision on whether it is a 'controlled action'. Certain State and Territory agencies may also refer an action or the Environment Minister may request a referral (s. 70).

As noted by Gecko – Gold Coast & Hinterland Environment Council (sub. 127), the requirement for proponents to establish whether an action should be referred can be onerous. However, where a proponent is in doubt, an action may be referred for a binding decision from the Minister on whether it is a controlled action.

On the basis of the information contained in the referral, the Minister determines whether the proposal is a controlled action and which of the controlling provisions apply. A controlled action then proceeds to the assessment stage.

DEH (sub. 190) submitted that only 27 of the 958 referred actions as at 31 July 2003, related to 'agriculture and forestry'. Seventeen of these were 'not controlled actions' (or were withdrawn or lapsed) and could proceed. Of those requiring approval, three were approved, one was rejected, one was withdrawn and five were still undergoing assessment. (Appendix B contains additional statistics on operation of the Act). These statistics suggest that the Act is having little direct impact on agricultural activities, a view supported by DEH (sub. 190) and by the ACF:

> Apart from contradicting the claims of farmers that the EPBC Act is causing unreasonable hardship on their operations, the figures suggest a disturbing trend of non-compliance within the agricultural sector with the existing provisions of the EPBC Act.
>
> … the EPBC Act as currently drafted should be attracting a greater number of referrals from the agricultural sector than it currently is. After all, the agricultural sector is a sector that:
>
> - has a direct impact on approximately 60% of the Australian landscape;
> - is largely responsible for clearing over 500 000 hectares of native bushland every year … (ACF, sub. 146, attachment 2, p. 3)

Similarly, WWF Australia considered that:

> … the evidence indicates that the EPBC Act has had little or no impact on landholder decisions in relation to clearing native vegetation, and consequently are likely to have had minimal economic effect on landholders despite claims to the contrary … (sub. 108, p. 3)

In contrast, the NFF claimed that:

> … the small number of referrals is unrepresentative of the real effect of the Act in producing both real and perceived uncertainty within the farming sector. (sub. 128, p. 12)

While the QFF submitted that:

> It is difficult to determine the major impacts on agricultural practices and production, especially any long-term impacts given the *EPBC* and *VMA* [Vegetation Management Act (Qld)] are comparatively new pieces of legislation. Further, it is difficult to determine the impacts on individual producers and growers … and the combined impacts of the regimes with other environmental and natural resource management reform agendas, such as agendas associated with water use and allocation. (sub. 177, p. 11)

In a submission on the Commission's Draft Report, the Queensland Resources Council (sub. DR311, p. 2) noted 'what appears to be the growing potential of the … [Act] to impact on the mining and resources sector' after a Federal Court decision in December 2003[3] indicated that the Environment Minister is required to consider all likely consequential impacts of an action and not just its immediate direct impacts.

DEH also acknowledged that application of the Act to actions in sectors other than agriculture (for example, the Meander Dam in Tasmania and the Paradise and Nathan Dams in Queensland) may affect the agricultural sector. However, it observed that such projects would be subject to State and Territory assessment and approval in any case.

FINDING 4.1

The actual and perceived impacts of the EPBC Act on landholders appear to differ markedly. In terms of preventing activities, or of requiring activities to undergo the assessment and approval process, the EPBC Act to date has had little direct impact on the agricultural sector. However, uncertainty about its potential future impacts has been a concern for some landholders.

Assessment

If the Minister determines that approval is not required, the action may proceed provided other approvals, such as State and Territory approvals, have been obtained. For controlled actions, the Minister must choose, generally within 20 business days, how the impacts of the proposed action will be assessed. The following assessment options are available to the Minister under the Act:

- preliminary documentation;
- an accredited assessment process — a bilateral agreement or Ministerial declaration (see below);
- a public environment report;
- an environmental impact statement; or
- a public inquiry. (s. 87)

These options vary in terms of the information that must be supplied and the extent of public consultation required (appendix B). If a bilateral agreement is in place, the assessment will be conducted by the State or Territory on behalf of the Australian

3 *Queensland Conservation Council Inc v Minister for the Environment and Heritage* FCA 1463, 19 December 2003.

Government. If a declaration is in place, the Australian Government agency with which the declaration is made will conduct the assessment. To date, the Minister has usually required assessment on the basis of preliminary documentation or an accredited assessment process. Both of these options may result in fewer delays and lower information costs for proponents relative to the other assessment options.

Bilateral agreements

Some participants were concerned about potential duplication and 'layering' of regulatory requirements with respect to the environment. For instance, the QFF stated that:

> In isolation the *EPBC* and *VMA* [Vegetation Management Act (Qld)] may not disastrously impact on landholders however, together and combined with the myriad of other environment natural resource management focused reforms it is the cumulative impacts that may be the cause of most concern at the grass-roots level. (sub. 177, p. 4)

In addition to potentially reducing duplication of regulatory requirements by restricting the Australian Government's role to certain matters (such as matters of national environmental significance), the EPBC Act also allows for 'bilateral agreements' to reduce potential duplication and inconsistencies in environmental assessment and approval, and to improve timeliness (s. 44). A bilateral agreement between the Australian Government and a State or Territory Government allows for Australian Government accreditation of environmental assessment and/or approval processes in the State/Territory (or vice versa). To date, the Australian Government has signed bilateral agreements with Tasmania (2000), the Northern Territory (2002) and Western Australia (2002). It is difficult to assess whether timeliness has improved as a result of the bilateral agreements due to the limited number and age of such agreements in place, and the fact that only some referrals are assessed under them. Where there is no bilateral agreement, State and Territory assessment processes can be accredited case-by-case (DEH, sub. 190).

Some participants considered that there is no problem of duplication or inconsistency between the States and Territories and the Australian Government. For example, the SA Government noted that 'there do not appear to be problems in this regard' (sub. DR324, p. i).

Similarly, the WA Government observed:

> There is, in general, no problem of inconsistency between the Commonwealth's [EPBC Act] … and Western Australia's native vegetation and biodiversity conservation regimes. The normal practice of the Commonwealth is to accredit the State's assessment process on a case-by-case basis, so that any dual assessment is avoided. This will be formalised when a bilateral agreement between the Commonwealth and Western Australia comes into effect [this came into effect in

> November 2003]. Under this bilateral agreement … environmental impact assessment is carried out by the State for all matters requiring approval under Part 9 of the EPBC Act. (sub. 151, p. 6)

However, the WA Government also noted that the petroleum industry in Western Australia had expressed concerns about overlaps between the EPBC Act and the Australian Government's petroleum legislation.

The Victorian Government (sub. 185) said that there needs to be a bilateral agreement between Victoria and the Australian Government to recognise the role of Victorian legislation in achieving national environmental goals and to promote cost-effective achievement of those goals.

In contrast, the Brisbane Region Environment Council was concerned that a bilateral agreement might reduce protection for the environment in Queensland:

> Future application of the EPBC Act in Qld may be hampered by a bilateral agreement with the Qld Government which would have powers delegated by the Commonwealth particularly to the State Works Act and the inadequate Integrated Planning Act 1997 [IPA]. This IPA has featured many rollbacks of environmental standards … *It is an anathema to most communities and to many thinking Councillors.* [italics in original] (sub. 132, p. 1)

Gecko – Gold Coast & Hinterland Environment Council considered that a 'layering' of regulatory requirements by different levels of government can be beneficial:

> One of the benefits of this legislation [EPBC Act] is the control on state government infrastructure, where the proponent and the regulator are the same. The other benefit is that the nexus between developers and state government Ministers is broken by the requirement for the Commonwealth to oversee assessment and approval of proposed developments. (sub. 127, p. 6)

Approval

On the basis of the completed assessment, the Minister generally has 30 business days (at least 40 business days if a commission has conducted a public inquiry) to decide whether or not to approve the action (with or without conditions). Generally, before doing so, the Minister must receive a notice from the relevant State or Territory Government that impacts of the action (on matters other than those of national environmental significance) have been assessed.

In deciding whether to approve an action, and whether to attach conditions to it, the Minister must consider economic and social matters in addition to environmental matters (s. 136). Information about economic and social matters is obtained from

public comments, other Ministers, information provided by the proponent, and information contained in the assessment documentation (DEH, sub. 190).

In 2002-03, an approval was refused for the first time, while 24 controlled actions were approved with conditions and one was approved with no conditions (appendix B).

Biodiversity conservation

Chapter 5 of the EPBC Act contains other mechanisms to encourage biodiversity conservation. In general, however, only Australian Government agencies are required to comply, or compliance is required only for Commonwealth areas. That said, some non-coercive provisions, such as conservation agreements, may apply to the private sector.

The provisions for listing threatened species, ecological communities and key threatening processes are outlined below. Other biodiversity provisions are outlined in appendix B.

Listings of threatened species, ecological communities and key threatening processes

The EPBC Act requires the Minister to establish a list of threatened (native) species (ss 178–80) and a list of threatened ecological communities (ss 181–2) (table 4.1).

Table 4.1 **Categories of threatened species and ecological communities**

	Threatened species	*Threatened ecological communities*
Extinct	✓	
Extinct in the wild	✓	
Critically endangered	✓	✓
Endangered	✓	✓
Vulnerable	✓	✓
Conservation dependent	✓	

Source: EPBC Act (ss 178–80; ss 181–2).

In addition, the Minister must establish a list of 'key threatening processes' — a process which 'threatens, or may threaten, the survival, abundance or evolutionary development of a native species or ecological community' (s. 183).

While the Minister is required to 'take all reasonably practical steps' to ensure that all of the eligible threatened species and ecological communities are included in the lists (s. 185), this requirement does not apply to the list of threatening processes.

At 30 June 2003, total listings were:

- threatened species — 1611;
- threatened ecological communities — 29; and
- key threatening processes — 13 (DEH 2003, p. 205).

Although not directly comparable (for example, because not all ecosystems would necessarily be eligible for listing as threatened under the EPBC Act), a few participants (for example, the ACF, sub. 146) observed that the total numbers of threatened species and ecological communities listed under the Act are significantly lower than those identified in the *Australian Terrestrial Biodiversity Assessment 2002* (NLWRA 2002b), which found that Australia has almost 2900 threatened ecosystems.

The threatened species and ecological communities lists maintained under the EPBC Act do not necessarily match similar lists maintained by the States and Territories. For example, with respect to species found in the Shoalhaven area that are listed under the NSW *Threatened Species Conservation Act 1995*, Shoalhaven City Council (sub. 98) observed that 24 plants and 26 animals are also listed under the EPBC Act. However, it said that some local species listed under the EPBC Act are not listed under the NSW Act.

The QFF also commented on the listing of species:

> Another area that may present inconsistencies and replication of effort is the listing of numerous species both under the *EPBC* and Queensland *Nature Conservation Act* 1992 such as the Mary River Tortoise (Elusor macrurus), listed as Vulnerable under the *Nature Conservation Act* 1992, and Endangered under the *EPBC* ... dual listing poses extra complexities when it comes to the management of the species, especially given the different emphasis caused by the different levels of classification. The development of recovery plans, threat abatement plans and so forth for the species may take different priority under the different jurisdiction[s] in accordance with the level of classification … adequate communication across jurisdictions is required to ensure duplication is minimised. (sub. 177, p. 19)

FINDING 4.2

The listings of threatened species and ecological communities under both the EPBC Act and State and Territory legislation contribute to confusion and uncertainty for landholders because listings, or the requirements that arise from them, differ in some cases.

The Threatened Species Scientific Committee (TSSC) (established under the EPBC Act to advise the Environment Minister on listing matters) said that it:

> … agrees that there is a need to improve alignment between the Australian Government and State/Territory lists of threatened entities. (sub. DR223, p. 1)

The TSSC is working to address this issue.

The list of key threatening processes includes 'land clearance' (effective 4 April 2001) which refers to the destruction of native vegetation and its substantial replacement with non-local species or human artefacts (TSSC 2001). Land clearance includes clearing of native vegetation for crops, pasture, plantations, gardens, houses, mines, buildings and roads but does not include activities like grazing, which can also change native vegetation composition and structure. The listing of land clearance as a key threatening process appears to have had no direct effect on landholders' activities. For instance, there is currently no threat abatement plan (appendix B) for dealing with land clearance. A threat abatement plan is only required for a key threatening process if the Minister decides that it is a 'feasible, effective and efficient way of abating the process' (s. 270A).

Any person may nominate a native species, ecological community or threatening process for listing. Some farming organisations were concerned that public nomination could result in excessive claims for protection. However, the Minister can choose not to forward a nomination to the TSSC for advice if it is 'vexatious, frivolous or not made in good faith' (s. 191). Given the research and consultation requirements of listing, the TSSC usually has 12 months to provide its advice to the Minister. The threatened species, ecological communities and key threatening processes lists must be made available to the public (s. 194).

Not surprisingly, changes to the threatened species and ecological communities lists can generate vigorous debate. For instance, the listings of Bluegrass dominant grasslands of the Brigalow Belt Bioregions (North and South) and the Brigalow ecological communities made in April 2001 generated controversy as these ecological communities occur in productive agricultural areas. Box 4.2 outlines a case involving a proposal to clear Brigalow. Although changes to the threatened species and threatened ecological communities lists are likely to attract attention from the agricultural sector, DEH observed:

> Typically, actions by individual farmers impacting on native vegetation and biodiversity will trigger the Act only when they have a significant impact on nationally protected species or ecological communities, whether threatened or migratory. (sub. 190, p.3)

DEH also considered that:

> The vast majority of agricultural activities undertaken in Australia, by themselves, do not have a significant impact on protected species or ecological communities *per se* even if they might impact on individual members of the species or parts of a protected community. (sub. 190, p. 3)

Box 4.2 **Proposal to clear Brigalow under the EPBC Act**

The EPBC Act lists some of the Brigalow ecological community as 'endangered'.

A Queensland farmer sought to develop his 5000 hectare property which contained Brigalow (some not protected by the EPBC Act). The EPBC Act Information Officer, seconded to the National Farmers' Federation, visited the farmer's property with an officer from the Queensland Department of Natural Resources and Mines to identify the listed community, to help the farmer with his proposal and to ensure that Australian Government considerations were consistent with State requirements for Brigalow.

The farmer submitted a referral under the EPBC Act to clear 2300 hectares of Brigalow country and to protect 1100 hectares of the listed community that had never been cleared. The farmer proposed development of a property vegetation management plan (required by State legislation prior to obtaining Queensland Government approval to clear) to protect remaining remnant Brigalow and to maintain buffer zones adjacent to the remnant. The Australian Government is funding surveys and helping the farmer develop his plan.

The Environment Minister determined that the referred action was 'not a controlled action', provided the steps outlined above for protecting the Brigalow were taken.

Source: DEH (sub. 190).

With respect to a more recent nomination for listing — Western (Basalt) Plains Natural Temperate Grasslands — the Victorian Farmers Federation (VFF) commented:

> An unknown party nominated the Western Native Temperate Grasslands for the EPBC. In our view, the listing process is the dumbest way of all to protect these grasslands …
>
> We are talking about something in the order of two and a half thousand hectares of private land … It would be far simpler and much more effective to find out where the grassland exists on private land and if the community is endangered, as suggested, then either purchase the land or pay the farmers to protect it. The cost would be much less overall than the total EPBC nomination process, I would suggest. (trans., pp. 667–8)

(Other options, such as purchasing land or paying farmers, to promote native vegetation and biodiversity conservation objectives are discussed in chapter 9.)

When making or changing either the threatened species or threatened ecological communities lists, the Minister must not consider any matter that does not relate to

the survival of the native species (s. 186) or to the survival of the ecological community concerned (s. 187). The VFF (sub. 149, p. 7) described this as 'conserve at all costs'. However, the Act specifically requires the Minister to take the social and economic factors into account when making approval decisions. In addition, the Minister has been calling for public comments on nominations before the TSSC has submitted its assessment, even though there is no statutory requirement to do so (EPBC Unit 2002). This information could be relevant for individual assessment and approval decisions under the Act. DEH (sub. 190) also said that it uses the information collected through this process to develop communication strategies to explain the implications of listing, to facilitate compliance with listing requirements, and to allay concerns of those who may be potentially affected by the listing.

While still expressing some concerns about the process for amending the lists maintained under the Act, the QFF stated that it:

> … has been encouraged by advice received from Environment Australia, indicating that whilst the Threatened Species Scientific Advisory Committee (TSSC), in assessing nominations under the Act, is unable to take social or economic considerations into account, any information on such issues could provide important background information for the Minister during consideration of activities requiring approval under the Act. However, despite this creating an avenue to provide socio-economic advice, QFF maintains that a Socio-Economic Committee of the same Ministerial status as the TSSC must be established. (sub. 177, p. 18)

In addition to requiring approval for actions with a significant impact on listed threatened species and ecological communities, it is an offence to kill or injure members of listed threatened species (except 'conservation dependent' species) or listed threatened ecological communities that are in Commonwealth areas (s. 196). It is also an offence to take, keep, trade, or move members of listed threatened species or listed threatened ecological communities in Commonwealth areas, except in certain circumstances (s. 197).

Other notable provisions of the EPBC Act

Opportunities for public involvement and reporting requirements

Apart from requirements for the Minister to consult with State and Territory Governments, the Act provides many opportunities for public involvement. For example, members of the public may:

- comment on referrals and assessments made under the Act;
- comment on the development and operation of bilateral agreements; and

- nominate species, ecological communities or threatening processes for listing under the Act.

In its audit of referrals, assessments and approvals under the EPBC Act, the ANAO (2003, p. 41) noted that stakeholders had identified opportunities for public comment on referrals as one of the 'most positive aspects' of the Act and an 'example of good practice management'. However, while the role of Indigenous people is recognised under the EPBC Act, the Northern Land Council said:

> These formal statements [of the role of Indigenous people in sustainable use and conservation] are welcome … However, we are aware of no coherent steps to achieve that engagement in northern Australia. There is certainly no evidence of a comprehensive Federal plan. Representation of a few Indigenous people on advisory boards on biodiversity conservation/resource use or management boards for national parks cannot be reasonably construed as satisfying these objectives. (sub. 221, pp. 14–15)

DEH communicates with the public through the public notifications page of the 'EPBC website' (www.deh.gov.au/epbc) and through weekly notices in the Australian Government Gazette (DEH 2002). Sections 170A and 515A of the Act list the types of information DEH must publish on the internet every week, such as the Minister's intention to develop a draft bilateral agreement, referrals received, and decisions made about controlled actions.

QFF stated that it supported the:

> … transparent decision-making process of the *EBPC*, particularly the posting of referrals, refused referrals, approvals etc on a web based information system for public access. (sub. 177, p. 17)

The Act imposes other reporting requirements on the Minister. A report on the Act's operation must be produced and laid before each House of Parliament each year (s. 516) (some of the statistics included in these reports have been summarised in appendix B). The Act also requires 'state of the environment reports' to be prepared every five years with the next report due in 2006. The Act must also be independently reviewed at least every 10 years (s. 522A).

FINDING 4.3

Opportunities for public involvement in decision making under the EPBC Act appear to be adequate. Public reporting of key information about the Act's operation promotes transparency.

Enforcement mechanisms

The Act provides for severe civil and criminal penalties for breaches concerning matters of national environmental significance. Penalties are lower for breaches in relation to the environment on Commonwealth land, or for actions by the Australian Government.

In 2001-02, DEH responded to more than 120 reports of potential impacts on matters listed under the Act, of which a small proportion required detailed investigation and further enforcement action (DEH 2002). In other cases, DEH chose to use low-level responses, such as sending 'educative' letters to those who may potentially breach the Act to promote compliance (ANAO 2003). In 2002-03, three masters of Indonesian fishing vessels were sentenced under the Act for illegally killing dolphins in Australian waters (DEH 2003).

In addition to enforcement by the Australian Government, the Act allows an 'interested person' to apply to the Federal Court for an injunction, or interim injunction, restraining a person from engaging in conduct that contravenes the legislation. An interested person is defined as an individual:

- who is a citizen or resident of Australia; and
- whose interests are, have been or would be affected by the conduct or proposed conduct; or
- who, at any time in the two years immediately preceding the conduct or proposed conduct that is the subject of complaint, was engaged in environmental protection activities or conducted research into environmental issues (s. 475).

The Federal Court may also order repair or mitigation of damage to the environment if an injunction is granted. The usual common law obligation to provide an undertaking as to damages when seeking an interim injunction has been removed. Interested parties have sought several injunctions under the Act (appendix B).

In its submission, the Australian Network of Environmental Defender's Offices (ANEDO) considered public involvement in the regulatory regime desirable:

> The need for public participation throughout the development process is highlighted by the fact that Governments of all types have often been reluctant to enforce their own legislation ... In the first two years of operation, the Commonwealth has also only recently brought its first enforcement proceedings under the *EPBC Act*, whilst the Queensland EDO has brought two sets of proceedings on behalf of both a concerned individual and a conservation group ... (sub. 131, p. 7)

Indeed, ANEDO suggested that the Act be amended to allow for open standing for more effective enforcement of the legislation, noting that the experience in other

jurisdictions (such as New South Wales) indicates that open standing does not 'open the floodgates' to litigation.

4.2 Development of the EPBC Act

In 1997, a review of the roles of the Australian Government and the States and Territories with respect to the environment resulted in a Council of Australian Governments *Heads of Agreement on Commonwealth/State Roles and Responsibilities for the Environment*. Reform of Australian Government environmental regulation was required to implement some aspects of this Agreement. Following a review of existing legislation, a consultation paper was released for public comment and the EPBC Bill was drafted.

Around the time of the Act's commencement, DEH gave presentations about the Act to State and local governments, peak industry groups and professionals, members of the public and provided more detailed workshops for environmental consultants and Australian Government Departments.

Regulation Impact Statement

The Regulation Impact Statement (RIS) prepared for the EPBC Bill stated that the objectives of reviewing Australian Government environmental legislation were to improve the efficiency and effectiveness of the regulatory regime. Two options for achieving these objectives were outlined in the RIS — 'status quo' (that is, no reform of environmental legislation) and 'reform the Government's environmental legislation'.

The impact analysis in the RIS focused on the potential benefits to governments and industry from reforming the legislation, such as streamlined assessment and approval processes and greater clarity and certainty about the Australian Government's role in environmental regulation. The costs to governments and industry of revising procedures for environmental assessment and approval, and of becoming familiar with new arrangements, were raised but it was considered that these 'should be small' (Senate 1998, p. 16). However, the likely costs for industry from the potential restrictions the Act might impose on activities, for example through the listing of threatened species and ecological communities, were not discussed in the impact analysis.

4.3 Administration and implementation

Although acknowledging the existence of some complaints, DEH considers that industry has generally reacted positively to administration of the Act because it provides 'greater certainty and a more streamlined approach than the previous ad hoc regime' (DEH 2002, p. 170). This view was supported by the Department of Defence:

> Generally, Defence's experience of the assessment and approval process under the EPBC Act is that the legislation provides greater certainty and timeliness of process than previous regulations. (sub. 42, p. 1)

However, as acknowledged by DEH (2002), parts of the farming sector are concerned about operation of the Act. Some of these concerns were discussed above. Some participants also expressed concern about the Act in terms of its overall effectiveness in promoting its objectives. For instance, the ACF stated:

> The EPBC Act has clearly not had a large impact on landholders, either in relative or absolute terms. Nor has it or will it have a major impact in actually protecting biodiversity or native vegetation unless several weaknesses in the Act are addressed … The Act's weaknesses result in the failure of the Act to achieve its objectives … (sub. 146, p. 8)

Anthony Witham from Western Australia considered:

> The EPBC Act has teeth but only for the limited circumstances where the ecosystems or species being protected have a high profile and or are under imminent threat of extinction. (sub. 34, p. 2)

In contrast, the Cardwell Shire Council (in conjunction with the Development Bureau of Hinchinbrook and Cardwell Shires Inc) considered that the Act:

> … and [VM Act (Qld)] are contributing an additional planning control above the Planning Scheme that is resulting in a higher level of conservation. (sub. 123, p. 3)

Given its recent introduction, it is difficult to judge the long-term effects of the EPBC Act on the environment. However, the Act contains strong mechanisms to promote its objectives. Effectiveness in terms of environmental outcomes depends on how the Act is used and enforced.

4.4 Summary

The EPBC Act consolidated prior Australian Government legislation for the environment. The Act seeks to clarify the situations in which the Australian Government will be involved in environmental impact assessment and approval. While the Act goes some way to clarifying the roles of the Australian Government

and the States and Territories regarding the environment, there remains potential for duplication and inconsistency, particularly with respect to the listing and protection of threatened species and ecological communities. There may be scope to define more clearly which jurisdiction is responsible for this, or to improve coordination of listings.

Despite DEH's efforts, there also still appears to be considerable uncertainty about the Act's impact on landholders. However, the evidence suggests that operation of the Act to date has had little direct impact on the agricultural sector overall, in terms of requiring assessment and approval of activities.

The Act offers opportunities for public involvement, processes are transparent and information about operation of the Act is readily available on the EPBC website. Statutory timeframes that apply to the assessment and approval process are generally met. DEH has made various efforts to educate landholders and others about the Act's requirements, and social and economic factors must be taken into account in approval decisions. There was also some opportunity for the public to comment on development of the Act. Additional information about the EPBC Act, including its development, operation and impacts on landholders, is contained in appendix B.

5 Promoting environmental goals

The environmental objectives of the various jurisdictions' regulatory regimes, including their clarity, consistency and transparency, are discussed in this chapter. For each of the jurisdictions, evidence is provided on the progress of the regimes towards attaining their objectives. Perverse environmental outcomes stemming from the regulations and their implementation are discussed.

5.1 Environmental objectives

The importance of clear, concise and transparent objectives in legislation cannot be overstated. Not only does the objects section in legislation guide Ministers, government agencies and others in interpreting and applying the legislation, but it may be used to indicate the boundaries of legal power under the legislation (PC 2002b). The environmental objectives of legislation therefore underlie and guide the specific regulations in place.

It is imperative for good regulation that the objectives of the regulatory regime be specified so as to address the underlying environmental problem. However, the Office of Regulation Review (ORR) warns that objectives should not be specified so closely as to align with, and thereby pre-justify, the particular effects of proposed regulations:

> The objective should be clear, concise and as specific as possible. It should be specified broadly enough to allow consideration of all relevant alternative solutions, but should not be so broad or general that the range of alternatives becomes too large to assess, or the extent to which the objective has been met becomes too hard to establish. (ORR 1998, p. D3)

The environmental objectives of the various Acts that regulate native vegetation and biodiversity throughout the jurisdictions are diverse. In some cases, the objectives appear to be quite clearly specified, in other instances they are of a very broad nature, and in still other cases, objectives are altogether absent from the legislation. Where objects have not been specified in the legislation, they may sometimes be inferred from second reading speeches or other public statements.

Nearly all of the legislation regulating land clearing, across all jurisdictions, specifies sustainable development as an objective. However, clarity may be

compromised and implementation difficulties may arise with legislation that specifies such broad objectives. For example, the problem with specifying 'ecologically sustainable development' (ESD) as an objective is that the definition of ESD is nebulous at best, and there are several widely-accepted meanings (PC 1999; Pearce et al. 1989; Upton 2002).

This may mean that the range of alternatives for achieving a broadly-defined objective is difficult to establish and, therefore, does not satisfy the ORR definition of a well-specified objective of legislation. Of course, the specification of broad objectives is preferable to a failure to specify any objectives at all. This is because objectives provide the benchmark against which the success of the regulatory regime is assessed.

Several Acts relating to native vegetation and biodiversity conservation fall into the category of failing to specify objectives, including:

- Tasmania's *Environmental Management and Pollution Control Act 1994* and *Resource Management and Planning Appeal Tribunal Act 1993*;
- Northern Territory's *Planning Act 1999*; and
- Australian Capital Territory's *Nature Conservation Act 1980*.

In the case of the Northern Territory Planning Act, the second reading speech for the Planning Bill gives some insight into the objectives of the legislation. For the other Acts listed above, environmental objectives appear not to be specified in other public documents.

Where legislation omits objectives, it is also difficult to maintain transparency and accountability of decision-making. It is difficult for landholders to know the basis for assessment of clearing applications. Some participants (in Western Australia) suggested that clearing permits could be denied because removal of native vegetation would cause environmental harm by way of salinity. Others had been denied permits on the basis of a different type of environmental harm (biodiversity loss), even though the applicant had proposed measures to limit the potential impact of salinity. The WA Government argued that the need to avoid secondary salinity is the overriding objective of its legislation, even though the objective is not explicitly stated in the legislation (sub. DR290).

Even where objectives have been clearly defined, there may be debate as to their appropriateness. For instance, the New South Wales *Native Vegetation Conservation Act 1997* (NVC Act) has been criticised for its focus on conservation of native vegetation above all else, including sustainable resource use (NSWFA 2003b).

The objectives of Tasmania's Regional Forest Agreement have also been questioned. There is debate as to whether the native vegetation retention targets are appropriate, and whether the system is providing adequate protection for certain classifications of forest communities.

Where objectives have been set out, there may also be an issue in relation to the way those objectives are achieved. In some instances, the problem may lie in enforcement of the legislation. For example, Senator Bartlett argued that:

> The manner in which the EPBC Act [Environment Protection and Biodiversity Conservation Act] is being administered and the Commonwealth's reluctance to take enforcement action have ensured the Act has had little or no impact on our environmental problems. It has also diminished the incentive for landholders to comply with the Act's obligations. This must be rectified if the objectives of the EPBC Act and the potential benefits to landholders and the broader community are to be realised. (sub. 168, pp. 16–17)

In other instances, the scope of the exemptions allowed in legislation may compromise achievement of environmental goals. For example, exemptions under the SA *Native Vegetation Act 1991* for clearing around fences and isolated trees were criticised (Hansard, WA Legislative Council 4 August 1999).

Multiple objectives

Where legislation has multiple objectives, the ORR (1998) recommends that where possible, a distinction should be made between primary and subsidiary objectives. This may reduce uncertainty about the priority assigned to different objectives.

The objectives in the Acts under review generally are not prioritised, with the exception of Queensland's *Land Act 1994*. In this case, the legislation clearly indicates general provisions of the Act, and also the more specific provisions that relate to native vegetation. In this way, the legislation clearly delineates the over-arching objectives that may not be compromised in the pursuit of the specific objectives.

In some cases, the objectives specified in one piece of legislation overlap and/or conflict with objectives set out under other legislation. Conflicting objectives cause problems for the agencies administering the legislation because they must determine the weightings to attach to objectives that are at variance.

There is conflict between the objectives of weed control and protecting native vegetation (both of which yield environmental benefits) in a number of jurisdictions. For example, in Queensland, the Dalrymple Landcare Committee noted the conflict between legislation requiring them to control weeds (Parkinsonia)

and the requirements of the Queensland regime for protecting native vegetation (sub. DR256). This occurred even though both requirements were administered by the same state government department. Rod Young (trans., pp. 1240–59) raised similar concerns in relation to weed control and the clearing regime in New South Wales.

This conflict can often be to the detriment of protecting environmental values. Dalrymple Landcare Committee (Queensland) argued that there were significant environmental benefits from controlling weeds:

> By controlling weeds you can increase biodiversity and also maintain those ecological processes which are part of the objectives of the veg management regulations because often it's best to have a diverse population of plants than a monoculture of weeds. (trans., p. 1050)

In relation to the objectives of the various regimes, the Northern Land Council argued that:

> … divergent objectives and related criteria for determining modes and targets of resource use have been muddled at both Federal and State/Territory levels. As a consequence, regulatory provisions and practices are often poorly matched to putative objectives. This has led to approaches to conservation that are demonstrably ineffective, expensive, and often counterproductive … (sub. 221, p. 7)

In New South Wales, although the objectives of the three main Acts are broadly consistent, there is potential for conflict between the NVC Act and the *Threatened Species Conservation Act 1995* (TSC Act). This conflict may arise because the NVC Act directs that social and economic aspects be considered in the regulation of native vegetation management, whereas no such direction is made under the TSC Act. This conflict of objectives caused problems in the development consent application process administered by the (former) Department of Land and Water Conservation.

FINDING 5.1

In a number of jurisdictions, the environmental objectives of the regulatory regimes are not specified or are poorly specified. Conflicting and multiple objectives are also likely to hinder the attainment of environmental goals.

5.2 Environmental benefits

Good regulations achieve their stated objectives while delivering the greatest net public benefit (Argy and Johnson 2003). Where environmental objectives have been clearly specified in legislation, it may be possible to devise indicators that measure whether those objectives have been achieved. However, without clearly-specified

environmental objectives, it is difficult to judge how well an existing set of regulations might be performing. Since, in most cases, no analysis has been undertaken to determine the most efficient way of delivering desired environmental outcomes, it is not possible to determine whether the regulations in place deliver the highest level of net public benefit.

Achieving objectives

Ascertaining performance against specific objectives is extremely difficult and unlikely to be achieved with any level of precision. This may be one reason why vegetation clearance is often used as a proxy for the measurement of progress towards environmental objectives. The rate of native vegetation clearance following the introduction of a regulatory regime is one indicator that may be used. However, it is at best only a partial indicator of the effectiveness of the regulations in achieving higher-order environmental objectives, such as preventing the degradation of soil and water, biodiversity conservation and habitat protection. One reason for this is that the relationship between land clearing and performance in achieving environmental objectives may be weak or non-existent. Another reason is that land clearing can be affected by many other factors, such as commodity prices, exchange rates and developments in land-clearing technology. The rate of clearing also fails to identify the quality or environmental value of the vegetation being cleared.

Nonetheless, because comprehensive monitoring of progress towards attaining regulatory objectives is still a long way from implementation in all jurisdictions, the rate of native vegetation clearance remains the most used ‘stand-in’ measure of success or failure at achieving environmental objectives.

Monitoring vegetation clearance can be problematic for several reasons. Often there are very large areas involved which creates problems of resourcing. In addition, a significant portion of illegal clearing takes place on private land, which is difficult to observe. Monitoring is thus typically undertaken using satellite imagery or monitoring of clearance approvals.

However, each of these methods has drawbacks. Satellite mapping, where available, is not always accurate. It does not allow for monitoring of native grassland and shrubland clearance as it focuses only on woody vegetation. A study conducted by the National Parks and Wildlife Service of clearing in the New South Wales wheatbelt found that targeted aerial photography exposed a rate of clearing ten times that revealed by satellite imagery alone (AONSW 2002).

Monitoring of clearance approvals may also understate the actual area cleared, as it does not include illegal clearance, and clearing that occurs under exemptions. However, figures based on clearance approvals may also overstate clearance where only part of the area approved was cleared, or where clearing was postponed or never undertaken.

In addition, if there is an expectation that clearing regulations may be introduced, there is an incentive to undertake pre-emptive clearing. Mr Rod Reedman (Mackay) noted that:

> … in the area around my farm there was more clearing done in the 12 months prior to the legislation coming out than there would ever have been if the legislation hadn't been in the wind. So I believe that the legislation has caused more clearing than it's saved. (trans., p. 1033)

Where pre-emptive clearing takes place there may be a reduction in land-clearing applications when the regime begins, because the landholders have already cleared a significant amount of land.

Data available on current rates of clearing, as determined by approvals, or satellite mapping, are outlined in table 5.1. Across the jurisdictions, clearing rates have tended to decline following the introduction of legislation although, in some cases, pre-emptive clearing has been evident.

Despite reasonable annual data on the rates of clearing, it is still not possible to determine the extent to which jurisdictions are achieving the environmental objectives set out in their legislation.

FINDING 5.2

In general, reported clearing rates have declined following the introduction of regimes regulating the clearing of native vegetation. However, there is also some evidence of pre-emptive clearing and illegal clearing.

Table 5.1 **Indicative annual rates of native vegetation clearing**

State/Territory[a]	*Period*	*Hectares per year*	*Comment*
New South Wales	1980–1990	100 000	Clearing of native woody vegetation
	1991–1995	50 000	Clearing controls introduced 1995 and
	1995–1997	30 000	strengthened in 1997
	1997–2000	14 000	
Victoria	1983–1988	10 438	Clearing of native woody vegetation
	1989–2001	2 500	Clearing controls introduced 1989
Queensland	1980–1990	297 560	Clearing of native woody vegetation
	1991–1999	330 555	Clearing controls for freehold land
	1999-2000	758 000	announced 1999, introduced 2000
	2000-2001	378 000	
Western Australia	1983–1993	26 028	Based on permit applications
	1994–2001	3 500	(includes non-woody native vegetation)
South Australia	1983–1993	11 630	Based on permit applications
	1996–2002	2 060	(includes non-woody native vegetation)
Tasmania	1983–1993	6 000	Clearing of native forest vegetation for
	2000–2002	1 500	agricultural purposes
Northern Territory	1983–1993	16 280	Figures for 1994 onwards relate to
	1995–1999	1 140	leasehold land only
ACT		—	Removal of stands of trees for urban development

[a] In **New South Wales** for the 1980s, estimates are of clearing of native woody vegetation with a canopy cover greater than 20 per cent. For the 1990s, estimates are of clearing of native woody vegetation with a canopy cover greater than 12–15 per cent (NVAC 1999). In **Victoria** for the period 1983–1993, the estimates are of clearing of woody vegetation with a height greater than 2 metres and a density greater than 10 per cent (DEST 1995). From 1993 onwards, estimates are of clearing of woody vegetation based on TREE100 dataset (ie woody vegetation at the 1:100 000 scale) (DNRE 2002). In **Queensland** for the 1980s, estimates are of clearing of woody vegetation (AGO 2000). From 1990–2000, estimates are of clearing of perennial woody plants of all sizes that can be distinguished with Landsat TM imagery (NR&M 2003a). Estimates of clearing of native vegetation in **Western Australia** are based primarily on land clearing permits issued by the Soil and Lands Conservation Council (and include non-woody native vegetation) (DEST 1995, Western Australian Government, sub. 151). **South Australian** estimates are based on land clearing permits and include non-woody native vegetation (DEST 1995, SA Parks and Wildlife 2002). In **Tasmania** for the period 1983–1993, estimates are of native vegetation clearance for agricultural purposes (includes non-woody vegetation) (DEST 1995). Estimates for 2000–2002 are based on applications to clear native forest vegetation for agricultural and infrastructure purposes (ie does not include clearing for commercial forestry operations: approximately 11 000 hectares of native forest vegetation were cleared for forestry purposes and were replaced by either plantation or regeneration in 2001-02) (FPB 2002b). Estimates for the **Northern Territory** for the period 1983–1993, are of clearing of native woody vegetation on pastoral leasehold land (DEST 1995). Data for 1995–1999 are based on clearing applications and include non-woody vegetation (Brock 2001).

Monitoring and enforcement

The Commission has received evidence from various parties suggesting that monitoring and enforcement are an ongoing concern due to a lack of resources. Compliance may be affected by a low risk of detection and prosecution, as well as inadequate penalties.

The Trust for Nature (Victoria) pointed out the threat to environmental values when legislation cannot be adequately enforced:

> In farming areas, grasslands are subject to destruction and degradation from over-grazing and cropping despite having regulatory protection. Confusion and suspicion about what actually constitutes a native grassland amongst landholders combined with a lack of resources for compliance and enforcement of legislative requirements is offering little protection for remnant grasslands and even less improved management of these areas. (sub. 129, p. 2)

Tatiara District Council (South Australia) also noted that:

> Enforcement and monitoring seems to be an ongoing concern due to lack of resources. There seems to be increased legislation in an attempt to control environmental issues. An alternative option may be to direct additional resources to on-ground staff and education to build better relationships with landholders as this may achieve the desired outcomes. (sub. 60, p. 3)

The Humane Society International (Australia) commented that a lack of resourcing was creating problems for the effective operation of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act):

> … Environment Australia is in need of significantly increased resources to fulfil the [EPBC Act] potential to protect Matters of National Environmental Significance, to consult effectively with landholders to develop environmentally and socially satisfactory solutions that uphold the law, and to carry out effective implementation and enforcement. (sub. 126, p. 3)

In response to an Australian National Audit Office audit, which also found that the Department of the Environment and Heritage was not monitoring the progress of approved actions, the Department acknowledged that its compliance, enforcement and auditing functions had been under-resourced (ANAO 2003). The Victorian Farmers' Federation (sub. 149) stated that the authorities rely heavily on landholders 'dobbing in' their neighbours as a means of finding breaches of the regulations.

Several parties indicated that lack of enforcement has been a problem under New South Wales legislation (subs 109 and 146; Wentworth Group 2003). The Audit Office of New South Wales (AONSW 2002) and the Nature Conservation Council of NSW (sub. 109) claimed that the number of broadly-worded exemptions under the NVC Act have made enforcement difficult. Bartel (2003) argued that inadequate mechanisms to enforce the provisions of the NVC Act, combined with low penalties, were unlikely to provide strong incentives for compliance.

South Australia has recently increased penalties for illegal clearing under the *Native Vegetation (Miscellaneous) Amendment Act 2002* (NV Amendment Act) to $100 000 or a prescribed rate per hectare of land, whichever is greater. This penalty

also applies to contravention or failure to comply with a condition attached to a clearing consent. However, AgForce (trans., pp. 71–2) expressed concern that approaches to improve compliance through the imposition of harsher penalties conflict with attempts to obtain greater landholder involvement in vegetation management.

FINDING 5.3

In a number of jurisdictions, monitoring and enforcement of the regulations appear to be hampered by a lack of resources.

Compliance

Compliance with regulations varies across the jurisdictions (box 5.1). To some degree, this reflects the level of land clearing that has already occurred in the past — in areas where large amounts of clearing have occurred, compliance with regulations is likely to be higher.

The complexity of regimes and the cost of meeting administrative requirements can affect compliance rates. The WA Government noted that:

> The new clearing provisions under the amended EP Act will also introduce a simpler, more streamlined application and assessment process. Landholders will be able to clearly understand how the system works and what the requirements are. It is anticipated that this is likely to increase compliance. (sub. DR290, p. 18)

Landholder attitudes to the legislation will also influence compliance. Dennis Toohey (New South Wales) argued that the nature of the native vegetation and biodiversity legislation has adversely affected farmer's views of government:

> What to me got the land-holders' backs up was that it was the use of one particular aspect of that legislation which was about 'prevent' … very little effort or attention was paid to the words of 'encourage', 'improve' and 'promote', so we had a command-control approach …
>
> One of the by-products of that command-control approach that has been applied is that we have now got substantial areas of the countryside where farmers are suspicious, concerned, wary, about actions and motives of government. I find that — from a person who grew up in an area where government was seen as supportive, of helping facilitate change, to provide educational and suasive sort of actions — we have now got suspicion and wariness. (trans., pp. 1306–7)

Compliance will also be related to the chance of illegal activities being detected, the likelihood of prosecution, and the size of the penalties in relation to the benefits gained from illegal clearing. Where cases of illegal clearing have been reported, the rate of prosecution has generally been low across all jurisdictions. Where

prosecution has resulted in conviction, the size of the penalty has been less than the maximum permitted.

Box 5.1 **Compliance in selected jurisdictions**

Australian Government

The Australian National Audit Office (ANAO 2003) found that overall compliance with the *Environment Protection and Biodiversity Conservation Act 1999* is adequate.

Queensland

The Statewide Landcover and Trees Study identified 61 000 hectares of potential illegal clearing — 25 000 hectares on freehold land and 36 000 on leasehold land (Robertson 2003).

New South Wales

Level of reported illegal clearing increased steadily following the introduction of the *Native Vegetation Conservation Act 1997* in January 1998.

Between 1998 and 2002, there were 705 reported breaches of the Act. No action was taken in approximately 70 per cent of these cases. However, warning letters were issued in about 20 per cent of cases and almost no cases were prosecuted.

South Australia

Between 1998 and 2002, reported cases of alleged illegal clearing fluctuated between 120 and 152 per year.

In 2001-02, around 30 per cent of reported breaches were not taken further, and 17 per cent of cases ended in prosecution.

Western Australia

Since July 2001, 3000 hectares of land have been reported as illegally cleared.

In 2001-02, four summonses were issued for failures to notify clearing, and one summons was issued in relation to breach of a Soil Conservation Notice.

5.3 Perverse environmental outcomes

The Commission has received evidence from several jurisdictions of perverse, or unintended, environmental outcomes resulting from the regulatory arrangements (such as more frequent clearing and lack of pest management). These outcomes may stem from: a lack of clarity in the specification of regulations; a failure to apply the regulations flexibly on a case-by-case basis in a way that focuses on environmental outcomes; a lack of recognition of the economic incentives underlying the problem at hand; and/or a lack of resources to ensure effective environmental management.

Definition of regrowth

Evidence of problems stemming from the definition of regrowth has been received from stakeholders in several jurisdictions. Where such problems arise, they generally occur due to either a lack of clarity in the regulations, leading to landholder misinterpretation, or simply due to government failure to understand the incentives created by placing arbitrary timeframes on regrowth clearance.

Typically, landholders are allowed to clear regrowth without approval until it reaches a certain age or height, after which it is classified as remnant and permission must be sought. However, this approach creates incentives for landholders to clear regrowth before age or height restrictions come into force. The Queensland Farmers Federation (QFF) stated that this has led to landholders clearing regrowth at a very early stage, which can result in environmentally-perverse outcomes:

> Shortened cycles of clearing and re-clearing may not enable enhanced greenhouse objectives to occur, as the regrowth would have reduced periods of carbon sequestration and increased incidences of the release of carbon coinciding with the more frequent clearing. (sub. 177, p. 17)

Canegrowers and CSR Sugar noted the environmental consequences of such clearing:

> Currently, landholders are motivated to behave inappropriately in regard to management of vegetation cover that has not reached trigger levels for the regulations. This leads to unintended consequences with erosion and water quality … (sub. 164, p. 6)

Where regrowth restrictions are not clearly specified, landholders may be clearing prematurely for fear of losing the capacity to develop their farms. The South Australian Farmers' Federation (SAFF) (sub. 140) submitted that while legislation in South Australia provides exemption periods of ten years for grazing and five years for activities such as cropping and maintaining pasture, landholders are not always certain which timeframes apply to which activities.

The fact that timeframes appear to be arbitrary also creates problems because landholders are encouraged to clear land far more rigorously than they otherwise would. The SAFF argued that:

> Because of the five-year rule, you would be under an obligation to clear regrowth within that five-year cycle rather than leaving things until you want to clear it. Neither the five-year rule in the lower country nor the 10-year rule in the northern country really relates to farming cycles of pasture renovation, et cetera. They are just completely out of sync with reality. (trans., p. 477)

Most authorities appear to have opted for administrative simplicity in the adoption of definitions for regrowth. However, while simple, broad-brush criteria help to allay administrative costs, they leave less scope for assessments of applications to clear regrowth based on relative costs and benefits. Simple definitions also fail to capture the diversity of conditions that may occur within a jurisdiction. Chinchilla Shire Council stated that:

> Regrowth responses to clearing vary widely and this is reflected in the wide variety of clearing rotation times in the pastoral areas. The frequency of regrowth clearing is largely dictated by a balance of economics and land/pasture conservation practice. For those communities found on the poorer quality soils with relatively slow rates of regrowth, clearing times dictated by declines in pasture productivity may extend to 10 years or longer where poor rainfall seasons or low commodity prices extend the time to when maximum financial benefit can be obtained. Clearing more frequently may result in decreased soil fertility benefits following clearing and a lower pasture regrowth response. Conversely in the better quality soils and [regional ecosystems], unless cropping is introduced immediately after clearing, regrowth can become problematic much more quickly (normally within 5 years). (sub. 88, p. 5)

FINDING 5.4

In several jurisdictions, the arbitrary reclassification of regrowth vegetation as remnant after a certain time, has resulted in landholders clearing regrowth more frequently than otherwise. This has the potential for perverse environmental impacts, since landholders may otherwise have left land fallow and/or revegetated for substantially longer periods of time, with associated native vegetation, greenhouse, and biodiversity benefits. More frequent clearing of regrowth also may contribute to erosion and water quality decline.

'Pest' species

There are several potential perverse outcomes involving pest species where landholders have been unable to clear native vegetation on their land. First, invasive native vegetation can result in land degradation and loss of biodiversity. For example, in New South Wales, the NSW Farmers' Association (NSWFA 2001, p. 10) said:

> In many of the lower rainfall areas of the State, woody regrowth of Cyprus Pines, Bimble Box and other invasive natives leads to the choking out of understorey species that are crucial to the survival of many indigenous species of fauna. The resulting monocultures do nothing to promote diversity and may in fact result in severe erosion and environmental degradation.

Second, stands of native vegetation can become subject to invasion by non-native plant species that may be poisonous. Third, areas of native vegetation can harbour feral animals that have detrimental impacts on adjacent cleared land.

Some invasive non-native species, such as Lippia, compete strongly with native pastures but are unpalatable to stock and can reduce the carrying capacity of land and make soil more prone to erosion (Augusta Saunders (Western Australia), sub. 19; Faye McPherson (New South Wales), sub. 173). Some landholders claimed that they are restricted, under the NVC Act, from undertaking the necessary management activities to control weeds effectively (Murray Darling Basin Lippia Working Group, sub. 170).

In South Australia, some of the regulations in place to deal with removal of pest plants are alleged to be onerous and ineffective. For example, the regulations require some pest plants to be removed by hand which is time-consuming and ineffective (Sally Mackay, sub. 78). Nonetheless, landholders are obliged under the Animal and Plant Control Act to destroy pest plants on their land. If they do not, the Animal and Plant Commission has the authority to undertake the required activities and to invoice the owner for the cost of doing so.

Stringent regulations relating to destruction of pest plants could be a factor exacerbating clearing of native vegetation. For example, if landholders cannot spray weeds on their properties, the only solution may be to clear the native vegetation along with the pest plants.

Other participants considered that removing invasive vegetation is more cost-effective if it is combined with cropping:

> The common practice of incorporating weed eradication with cropping to cover this expensive exercise is also prevented, so the chance to eradicate perennial weeds such as Box Thorn and Galvanised Burr is lost. Failure to destroy weeds in this way leads to a downward spiral in productivity. (Raymond Perkins, sub. 86, p. 2)

Reduced carrying capacity due to weed infestation also places greater pressure on the productive areas of a property, which has implications for the long-term sustainability of agricultural land. Tania Hall (New South Wales) observed:

> Normally the property is productive where it is open, but extreme pressure is put on these open areas by domestic livestock, uncontrolled numbers of feral and native animals, and cropping, because of the inability to use the rest of the property productively. (sub. TS10, p. 1)

Improperly managed invasive species therefore have the potential to reduce the carrying capacity of agricultural land directly as well as indirectly to lead to land degradation on areas of productive farmland, by increasing the burden on such land.

FINDING 5.5

In a number of jurisdictions, the current regimes regulating native vegetation clearance and biodiversity conservation have an adverse impact on landholders' ability to manage pest species.

Failure to achieve integrated environmental management

Evidence has been received from various participants to suggest that a flexible, all encompassing view of environmental management is often neglected when assessing applications to clear native vegetation on private land.

For example, some landholders from South Australia, Victoria and New South Wales asserted that they have been prevented from installing centre-pivot irrigators because they could not clear scattered paddock trees from their land under existing regulations. This is potentially an environmentally-perverse outcome, since centre-pivot irrigation is significantly more water-efficient than flood irrigation, which it often replaces (Tatiara District Council (South Australia), sub. 60, p. 2).

In addition to reducing water use, centre-pivot irrigation is a more economic method of irrigation. This means that landholders using this technology may be financially better placed to maintain their properties and prevent land degradation.

From an integrated environmental management perspective, restrictions on the clearance and maintenance of native vegetation in regrowth areas and along access routes could also be counter-productive. The Inland Burnett Regional Vegetation Management Committee (Queensland) suggested that:

> Early dominance by several tree species and other primary species could extend … the recovery of some of the original and short-lived species by exhausting seed banks, thereby precluding their regeneration. Thinning these regenerating trees will therefore maintain higher levels of biodiversity and hasten system recovery whilst also maintaining productivity. (sub. 139, p. 4)

Restrictions on management of fuel loads could also have impacts on biodiversity, as an inability to reduce fuel build-up may increase the incidence of catastrophic fires. The Country Fire Authority of Victoria suggested that:

> The management of the vegetative fuel in bushland areas is a key prevention and suppression activity. This can have profound impacts on biodiversity. However, some techniques for managing fuel can also have positive benefits for the natural environment. (sub. 138, p. 1)

Ben Rees (Queensland) raised similar concerns with regard to fire control:

> Less developed landowners will be forced to rely more heavily on fire to control unwanted undergrowth. This will mean increased incidence of fires and subsequent serious consequences for rural service communities and larger centers. Environmental damage will also occur from the forced reliance upon hot fires to control unwanted undergrowth regeneration from time to time. (sub. 210, p. 2)

Similarly, Peter Pacers (Victoria) (trans., p. 504) observed that the relatively small amount of land clearing undertaken by landholders is likely to be far less destructive than risking large bushfire events. Such risks, he claimed, were heightened by an 'overzealous application of a sort of no disturbance policy' in the legislation.

FINDING 5.6

The current regulatory regimes narrowly focus on native vegetation protection in a way that is not always consistent with the achievement of longer-term conservation and broader environmental goals.

Economic incentives

Some participants indicated that the failure of governments to recognise the economic impacts of native vegetation and biodiversity regulations, and the incentive structures linked to regulations, have resulted in perverse environmental outcomes.

The Nature Conservation Council of NSW (sub. 109) noted that during any transitional phase, such as legislative review, the incidence of pre-emptive or panic clearing is heightened. In Western Australia, pre-emptive clearing occurred in both rural and urban areas when clearing regulations were announced. While early notice of intended changes to legislation may be crucial in ensuring that the transparency and consultation requirements of government are upheld, the incentives created by such announcements often result in landholders rushing to clear before the new restrictions are imposed. The SA Government made a similar point (sub. DR324).

Price (sub. 38) indicated that the scale and rate of paddock tree clearance greatly increased in anticipation of the recent passing of the Western Australian Environmental Protection Amendment Bill. He noted that this eventuated even though it was still unclear whether permits will be required for such activity, or whether some form of exemption may be granted.

QFF also provided evidence that landholders may engage in panic clearing during periods of legislative change:

> In essence, the introduction of the [Vegetation Management Act (VM Act)] resulted in areas of land to be 'panic' cleared as growers and producers thought that their ability to clear land in the future would be lost and hence those who had no short term plans to clear decided they had no option but to clear — a 'use it or lose it' mentality. The accelerated clearing was one such perverse outcome that had occurred resulting from the impending introduction of the [VM Act]. (sub. 177, p. 17)

While panic clearing may be reduced through the use of retrospective clauses in legislation, it is often the case that landholders will have a window of opportunity to clear before new restrictions are enforced, and many will be unwilling to risk losing the capacity to make decisions in regard to their land. However, the Australian Conservation Foundation (sub. 146) noted that although the proposed introduction of new regulations may cause panic clearing in the short term, longer-term clearing rates should be lower as a result of regulation.

Some participants indicated that strict controls on land clearing are required to prevent widespread panic clearing. However, it is usually the case that panic clearing is a response by landholders to the threat of land-clearing controls or simply uncertainty about future controls.

Participants in New South Wales highlighted that there are poor incentives for landholders to look after threatened species on their land. As a result, environmental assets may not be protected by the people who may be best able to look after them, namely private landholders. Not only does the existing regulatory approach encourage landholders to keep quiet about threatened species on their land, but it may even create incentives for them to destroy such species. This is because the regulations impose such strict management conditions on land found to contain threatened species that the landholder may question the viability of allowing the species to remain on their land (Rod Young, sub. 27 and NSWFA 2001).

In Victoria, variation in offset requirements according to the environmental quality of the native vegetation cleared, creates poor incentives for landholders to maintain the environmental quality of the vegetation. If landholders believe they may wish to clear in future, there is an incentive for them not to manage or even actively to degrade the land to reduce the potential size of offsets. Gippsland Private Forestry Inc. (Victoria) commented that:

> There appears to be little 'reward' to native vegetation owners for good past or future management. In fact one can argue there is in fact the opposite. Degraded native vegetation is generally given wider management options than quality native vegetation. The scope to undermine the intent of policy aiming to achieve sustainable native vegetation communities in the future by inadvertent or deliberate negative management

> actions will not be lost on landowners who do not support adoption of regimes they regard as unfair or unreasonable. (sub. 92, p. 2)

The SA Government (sub. DR324) noted the potential for perverse incentives where a landholder who had degraded an area was given permission to clear while one that had looked after native vegetation was denied permission.

Other risks apply to planting native forests that may later become subject to regulatory restrictions. This means that landholders are less likely to engage in revegetation activities. Eva and Arnfried Duden (New South Wales) (sub. 57) noted that landholders were refraining from planting native vegetation because of the risk of potential restrictions on management and harvesting activities. The Leverton Pastoral Company (New South Wales) observed that:

> Since the [NVC Act] has been introduced there is less incentive to improve the environment as it is a burden to our livelihoods. (sub. 96, p. 1)

Sally McKay (South Australia, trans., p. 470) also indicated that the current regulations in South Australia act as a disincentive to planting trees as landholders have to prove that they planted the trees, rather than the authorities having to prove that the vegetation is remnant.

Regulation may create uncertainty that affects landholders' long-term plans for their land and create incentives to take short-term gains. Blue Chip Forestry Services (New South Wales) noted that the uncertainty associated with regulation can create an incentive to harvest timber in the short-term rather than focus on the long-term sustainable management of forests (sub. DR248).

The long delays often associated with applications to clear, and with appeal processes, may mean that landholders take matters into their own hands and clear land illegally, especially if refusal to clear would render their farm non-viable. This was the case presented by a landholder in Western Australia who applied in 1997 to clear his land and then spent six years appealing the decision before deciding to clear the land for cropping regardless (trans., pp. 377–8).

FINDING 5.7

In some jurisdictions, the current regulatory regimes have created incentives for landholders to clear native vegetation earlier, to clear more, or to degrade native vegetation, that are inconsistent with promoting the regimes' environmental objectives.

Lack of resources

Several participants commented on the inadequacy of resources available to ensure that environmental objectives are achieved. For example, with respect to government agencies buying up private properties for conservation (such as under the South Australian *Native Vegetation Management Act 1985*), the Institute of Public Affairs (sub. 135) noted that governments lacking resources to manage existing national parks are not likely to have the resources to manage areas of formerly private land. Moreover, the creation of a fragmented public conservation estate over multiple isolated areas is unlikely to promote environmental values in the most effective manner.

The Australian Conservation Foundation argued that other programs (such as BushTender in Victoria) may support land-clearing regulations, but:

> … funding levels are clearly not adequate, either to encourage enough landholders to participate, or to 'out-compete' the market pressures — and perverse incentives — that encourage land clearing and biodiversity decline in the first instance. (sub. DR302, p. 7)

In relation to threatened species legislation, the Tasmanian Conservation Trust highlighted the importance of adequately resourced supporting measures to ensuring that the objectives of the legislative framework are achieved.

> … the legislative framework that went into place assumed that the state government would put resources into making it work. That hasn't happened, as a result of which you do have a regulatory obligation — a legislative obligation, without any of the parallel supporting measures to make it happen. (trans., p. 1384)

Several participants, for example Dennis Toohey (New South Wales, trans., pp. 1307–8) and Paul McGowan (Victoria, trans., p.1335), argued that greater resources need to be applied to educational programs to explain the rationale behind native vegetation and biodiversity regulations.

5.4 Summary

Current native vegetation and biodiversity regulatory regimes appear to have had mixed success in promoting environmental objectives. In a number of jurisdictions, the legislation does not specify any objectives, or the objectives are poorly specified. This creates uncertainty for landholders and may make implementation of the regulatory regimes less transparent.

It is difficult to determine the success of the regulatory regimes in achieving environmental objectives in part because of the difficulty of ascertaining their

objectives. There is some evidence that the rate of land clearing has slowed following the introduction of regulation in most jurisdictions. However, there is also evidence of illegal clearing and there is no information available on the environmental quality of the vegetation retained, or how well it is being managed.

The focus of the regimes on using permits to regulate the clearing of native vegetation has been at the expense of creating a broader framework for the protection and management of native vegetation and the achievement of environmental objectives.

There is also evidence of significant unintended perverse outcomes from the regulations that may reduce their ability to achieve environmental objectives. Problems with clearing of regrowth, pest plants and feral animals, and the creation of unintended adverse incentives for landholders to care for, or plant, native vegetation are apparent in a number of jurisdictions.

6 Impacts on landholders, other industries and regional communities

Terms of reference 3(a) directs the Commission to report on various impacts (both positive and negative) of regulation of native vegetation clearance and/or biodiversity conservation on landholders and other economic activities, and the flow-on effects to regional communities. This chapter examines these issues. More detailed discussions of these impacts in individual jurisdictions are presented in appendixes C–J and the impacts of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) are considered further in chapter 4 and appendix B.

Section 6.1 examines the various impacts the regimes may have on individual landholders and considers the information the Commission has received on these effects. Section 6.2 presents the results of two regional case studies of the potential impacts on landholders' returns of banning all broadscale remnant woody vegetation clearance in the Moree Plains Shire (covering 1.8 million hectares in northern New South Wales) and the Murweh Shire (4 million hectares in southern Queensland). Section 6.3 examines impacts on regional areas and other industries, while section 6.4 considers government measures to mitigate the impact of the regulations. Section 6.5 presents the main conclusions to be drawn from the chapter.

6.1 Impacts on landholders

Regulations restricting native vegetation clearance and protecting biodiversity often reduce the levels of private production that landholders with native vegetation on their properties can achieve, either by restricting vegetation clearance, or through delays in the approval process. They can also add to landholders' costs in managing native vegetation and impose costs of dealing with regulators. Some of these regulations can also provide benefits to landholders — particularly if they are applied selectively to address regional land and water degradation issues. However, to the extent that the regulations enforce broader community objectives, such as protecting biodiversity and controlling greenhouse gas emissions, they are more likely to have net negative impacts on those landholders whose activities are restricted.

That regulations may impose net negative impacts on one section of the community does not preclude net benefits accruing to the community as a whole. Nonetheless, an evaluation of the type, size and cause of negative impacts should assist policy makers in determining the most efficient means of achieving the objectives of the regulations. An assessment of the size and causes of costs imposed on landholders will also help indicate the level of offsetting benefits necessary to justify the regulations or particular aspects of them. The extent and distribution of negative impacts would also be important if compensation were to be paid.

What are the impacts on landholders?

The impacts on landholders of native vegetation and biodiversity regulations are the costs and benefits accruing to them compared to the situation in the absence of regulation. As noted in chapter 2, many landholders receive both production and amenity benefits from selective retention of native vegetation and biodiversity. Over at least the past 30 years, there has been a growing awareness of these benefits among landholders, as evidenced by their central role in the Landcare movement. Numerous submissions to this inquiry have indicated that many landholders recognise the need to maintain a certain amount of native vegetation to improve the productivity and sustainability of their properties.[1] In addition, in some cases, vegetation is retained because the costs of clearing are currently not justified by the net income that would be generated.

In all of these situations, not being able to clear the vegetation cannot be considered a cost of the regulations — the landholder would not have cleared the vegetation in any event.[2] Similarly, the net private gains from retaining the vegetation will not be a benefit of the regulation. Any associated regional or community-wide environmental benefits from the retention of this vegetation for private reasons will be a bonus.

If a landholder intends to clear the property in stages over time the regulations may not impose an immediate cost but could do so in the future.

In some regions, there are benefits to landholders as a group from reduced soil and water degradation (for example, reduced salinity and erosion) arising from targeted

1 These include, Thomas Phelan (sub. 61) from Nathalia in Victoria, Tatiara District Council (sub. 60) of South Australia, Ron and Jennifer Collins (sub. 182) from Mt. Barker in Western Australia and Jack Vallance (sub. DR222) from Tempy in Victoria.

2 However, there may be costs (including compliance costs) of not being able to manage the vegetation efficiently for production purposes, for example, thinning vegetated areas, controlling weeds and animals within the vegetation and lopping branches near fence lines, due to regulatory restrictions.

vegetation retention or plantings. In such cases, while some of these benefits may accrue directly to the landholder involved in retaining or replanting vegetation, there will be additional benefits to other landholders (as well as to the wider regional community). In this situation, there would tend to be an under-retention of vegetation by private landholders acting in isolation, although some landholders have developed cooperative mechanisms to address at least partially some of these problems (for example, Landcare).

A number of environmental groups (for example, WWF Australia, sub. 108, the Environment Centre Northern Territory, sub. 147, and the Wildflower Society of Western Australia, sub. 33) argued that native vegetation and biodiversity regulation resulted in significant benefits for landholders due to reduced land and water degradation as a result of retaining native vegetation.

The National Land and Water Resources Audit (NLWRA 2001a) estimated that nearly 6 million hectares of Australia's agricultural and pastoral zone had high potential for developing dryland salinity. Based on current knowledge and information, and in the absence of effective solutions, it predicted that the area at risk would expand to 17 million hectares (mostly agricultural land) by 2050. These risk areas are concentrated in certain regions such as the south-west areas of both Western Australia and Victoria, the Murray Darling Basin in New South Wales and numerous scattered areas in the east of Queensland.

In assessing benefits to landholders from reducing salinity, it is not the magnitude of costs from existing salinity that is relevant but rather the future improvements in productivity that can be achieved from containing or reducing salinity. These benefits are long term in nature. Hence, to determine the net impact on landholders the benefits would need to be discounted to present values to compare with costs to landholders of retaining vegetation to reduce salinity.[3]

Regulation is one option for dealing with this under-retention of native vegetation and a number of jurisdictions have developed catchment management frameworks for this purpose. Such regulation usually encourages or requires landholders to take a variety of actions (including targeted retention or replanting of vegetation) which provide benefits to landholders in the catchment as a group. To the extent that it

[3] From the viewpoint of landholders (and possibly the community), efficiently addressing soil and water degradation may not result in all existing or future degradation being remedied. Net benefits to landholders will decline if vegetation is retained beyond the point where its marginal benefits in preventing land and water degradation exceed the marginal cost of retaining it. Also, the issue of the appropriate distribution of the costs among the individual landholders involved in reducing soil and water degradation will need to be resolved. Costs and benefits to the rest of the community would also need to be included in assessing the overall impact of salinity reduction programs.

provides the appropriate vegetation retention (extent and type of vegetation) to address the costs of regional land and water degradation efficiently, regulation could provide a net benefit to landholders as a group. Landholders themselves also have addressed these issues through forums such as Landcare and voluntary catchment management bodies (for example, in Queensland).

Regulation that requires retention of vegetation and protection of biodiversity beyond the above levels will impose a net cost on the landholders affected. All jurisdictions appear to seek to protect native vegetation and biodiversity well beyond that needed to provide net benefits to landholders.[4]

The loss to landholders will not be total revenue foregone but rather the *net* income loss after deducting clearing costs and production costs (including landholders' labour and capital costs). Ongoing losses of net income due to mandatory vegetation retention will result in property values being lower than otherwise. These reductions in property values encapsulate the reduction in the present value of expected future net income losses, and hence are not additional to those income losses.[5] Reduced property values are not an additional cost to landholders but merely encapsulate the expected impact of the restrictions on current and future income potential from the property.

Landholders will also incur costs of complying with these regulations, including the costs of delays before approvals are granted. In some regimes, permits are granted subject to offset plantings of vegetation elsewhere on the property. The costs of these plantings, the ongoing maintenance costs, as well as the production loss from the land concerned, will all be negative impacts for landholders, although, if incurred, such costs would be less than the cost of not being permitted to clear at all.

There may also be long-term costs in inhibiting innovation because restrictions on clearing vegetation may limit the potential to adopt new technologies. Similarly, the ability for some landholders to adapt to new opportunities — for example, if trade

4 The WA Government (sub. DR290) argued that, for its State, the severe and ongoing impact of salinity caused by previous land clearing meant that its regulations provide net benefits to landholders as a group. Clearly the possibility of halting or reversing dryland salinity offers significant benefits to landholders and others. Nonetheless, organisations representing Western Australian Farmers (subs 91, 94, DR287, DR289 and DR313) have been highly critical of the regulations. Specifically they have commented on the way in which the regulations have been administered and the extent to which the regulations have been used to achieve broader community environmental objectives. These organisations also questioned whether present clearing regulations provide the best means of addressing salinity problems.

5 Some of the reduced income may reflect a loss of returns to the particular management skills (for example, local knowledge) of the landholder and, hence, will not translate into lower property values.

liberalisation opens up further markets for Australian agriculture — may be restricted by vegetation clearance regulations.

If landholders purchased their property after the regulations were introduced and understood (and their implementation was not made unexpectedly more onerous on landholders), then the impact of regulations should have been factored into the purchase price. In this situation, the negative impact will have fallen on the original landholder who received a lower price for the property than would have been paid in the absence of restrictions. In the case of government-owned leasehold land, the impact eventually will fall on taxpayers as leases are renewed or as annual rentals are reduced — although, in the short term, the lessee will suffer a loss of income.[6] In both cases, there will be an ongoing reduction in the current landholder's ability to earn income from his or her property. The lower purchase price paid, or reduced ongoing lease payments in recognition of the restrictions, will offset these losses to some degree.[7]

Impacts on individual landholders

Around 150 landholders and over 30 organisations representing landholders gave evidence to the Commission detailing a range of impacts (almost uniformly negative) on them as a result of the restrictions imposed by native vegetation and biodiversity regulations (see appendixes B–J). Available information indicates that many similarly affected landholders have not made submissions.[8] In addition,

6 The ACT Government (sub. 17) has had a policy of valuing land for renewal of rural leases to reflect restrictions on vegetation clearance.

7 Over time, the initial equivalence of these positive and negative impacts on new landholders may diverge to the extent that market expectations at the time of the purchase are not fulfilled. Unanticipated changes in factors influencing the impact of native vegetation on the value of a property (for example, unexpected changes in the regulations or fires resulting in vegetation being cleared) may result in windfall gains or losses to the new landholders.

8 For example, Rod Young (trans., p. 945) of Coonabarabran in New South Wales, noted there were close to 40 people negatively affected by the regulations who he had encouraged to make a submission, but who had not done so. He commented that 'there are many hundreds of cases of victimisation and discrimination out there that you will never be made aware of for several reasons'. The submission by Peter Pacers (sub. 93) of Lower Gellibrand in Victoria was endorsed by a further 51 landholders, while Geoff Sebire (sub. DR319) of Strathbogie Shire in Victoria noted that many landholders supported his submission but did not feel confident to prepare a submission of their own. The South Australian Farmers' Federation (trans., p. 487) considered that because the regulations in that State were over a decade old, even those who had lost considerable potential production were resigned to the new situation. The Western Australian Farmers Federation (sub. 94) submitted that it had numerous members adversely affected by environmental regulations but they were very reluctant to be used as case studies.

submissions have been received from 20 local government bodies, most broadly supporting many of the impacts noted by landholders.

At the same time, there will also be many landholders that are not affected, or only marginally affected, by the regulations. They are much less likely to make submissions to this inquiry. Hence it is difficult to assess from individual submissions the exact extent of negative impacts on landholders as a group. What is clear is that a relatively large number of landholders have been affected and, for some of those, the negative impacts have been significant.

Although the Australian Conservation Foundation (ACF) considered that severe impacts would be relatively rare:

> … at property level there will be unusual cases where real hardship is faced as a result of changes in regulations. (sub. 146, p. 4)

Vegetation clearance regulations are currently permit-based systems. While there are some blanket restrictions on clearing (for example, in environmentally-sensitive areas), the impact of the regulations on landholders will depend on the extent to which permits are given and the conditions placed on them. Proposed changes to the New South Wales and Queensland regimes appear likely to result in much tighter controls on broadscale clearing in those jurisdictions, with commensurately higher negative impacts on landholders' returns.

Because prices for much of the output of the agricultural sector are established on markets largely unaffected by the supply of Australian products, most of the costs imposed on agricultural landholders cannot be passed on to consumers and will be borne by landholders.[9]

Negative impacts on farm practices and returns

Australian agriculture has a long history of adapting to large changes in market conditions (especially prices and market access), costs, technology, weather and industry-specific government regulations. Ben Rees, from Miles in Queensland, noted:

> Under conditions of long-term declining industry terms of trade, increasing farm efficiency and rising productivity become the key to long-term survival for farm families. (sub. DR227, p. 4)

A critical part of the ability of landholders to adapt has been flexibility in land use, property re-configuration, and the introduction of new technology. Many

[9] Of course, even if landholders could increase their prices, this would merely transfer some of the costs of the regulations to domestic consumers.

landholders and their representatives have provided examples of costs due to restrictions in land use or innovation as a result of native vegetation and/or biodiversity regulations. It is those landholders trying to improve productivity by changing the way they operate their properties that are most likely to be restricted by regulations controlling vegetation clearance.

Native vegetation regulations in many jurisdictions contain exemptions designed to facilitate some common farming practices (for example, clearing regrowth and maintaining fencelines). Nonetheless, the Commission has also received numerous submissions concerning properties where native vegetation and/or biodiversity regulations have significantly restricted routine farming practices or required lengthy approval processes and hence have increased production costs.

Restricting available land

The most direct way in which the regulations on vegetation clearance can reduce landholders' returns is by restricting the amount of land available for production or by reducing the productivity of available land. Many submissions have indicated that restrictions on clearing have prevented the long-term expansion necessary to make a property viable. The ability of landholders to react to changed market conditions, which requires larger cultivated areas, has also been inhibited. Landholders in this position include Kevin and Sue Campbell (sub. 11) of Hermidale, Anne Waugh (sub. 106) of Wauchope and Russell Murdoch (sub. 118) all in New South Wales, Ron and Jennifer Collins (sub. 182) of Mount Barker and Peter and Manya Wren (sub. 119) of Karridale both in Western Australia, K. and M. K. Hamill (sub. 176) of Yelarbon and Joe Galeano (sub. DR244) of Lower Tully, both in Queensland, Tasmanian Farmers and Graziers Association's King Island case study (sub. 195).

In some instances, vegetation clearance is permitted but significant offset plantings are required at a cost to the landholder of seedlings, labour, fencing and upkeep, as well as the loss of the land used for revegetation.

Clearing regrowth and thinning vegetation

Most jurisdictions provide certain exemptions from permit requirements for clearing regrowth of previously-cleared vegetation. The definition of regrowth varies across jurisdictions, but the exemption usually relates to the age of the regrowth or the extent of vegetation cover. Once regrowth vegetation exceeds these limits, it is treated as remnant vegetation for the purposes of the regulations.

Numerous submissions provided examples of reduced returns due to a decline in the area available for production because of restrictions on clearing regrowth of previously cleared vegetation, that is now declared remnant. These included: John Dival (sub. 137) of Toodyay in Western Australia; Miriam Vale Rural Science and Landcare Society (sub. 105) from Queensland; D.M.McL. and J.A. Stewart (sub. 77) of Lake Grace Western Australia; and AgForce (sub. 54) from Queensland. In some cases, the vegetation was originally planted by the landholder (for example, Sally McKay, sub. 78, of One Tree Hill, South Australia and Jack Jones, trans., p. 1362, of the Ovens Valley in Victoria).

Early clearing of regrowth to avoid vegetation being declared remnant can decrease landholders' returns and sometimes leads to poor environmental outcomes (chapter 5). Chinchilla Shire Council of Queensland noted the conundrum facing landholders in its shire, where long regrowth cycles are appropriate:

> In these areas of lower pasture productivity, clearing rotations are longer, the benefits from clearing virgin stands are higher and many properties have extensive areas of aged regrowth as a result. This problem is compounded by the fact that seasonal conditions and commodity prices often extend the regrowth rotation period. (sub. 88, p. 6)

Leverton Pastoral Company from Moree in New South Wales observed:

> Paddocks that would have been cleared on a 20 to 30 year cycle now cannot be cleared. Our land has enormous regenerative ability, regrowth timber, (belah, box and myall) which has not been taken into consideration in the [*Native Vegetation Conservation Act 1997*]. Therefore our response has been to develop all the land that could legally be cleared, even though I would have preferred not to. I.e the legislation has forced us to farm the land so that future generations will have the chance to change land use should the market demand it. (sub. 96, p. 1)

ICM Agribusiness (sub. 4) of Hillston and Joseph Mansour (sub. 206) of Kyogle, both in New South Wales, observed that ploughing had been undertaken in order to prevent vegetation being declared remnant, even during drought conditions when significant topsoil loss resulted. Because in New South Wales regrowth vegetation (including grass) is declared remnant after ten years, Charles Reynolds (sub. 48) of Narrabri has altered his traditional crop rotations, commenced using fertilisers and undertaken more frequent ploughing. He estimated the cost of the changed practices at $80 000 per year. The South Australian Farmers' Federation (SAFF, sub. 140) noted that in South Australia, the five-year period before regrowth on non-grazing land became classified as remnant created large costs and encouraged an inefficient rotation regime.

Where woodland thickening occurs land may still be used for grazing, but at much reduced productivity compared to cleared land. Sally and Gordon Moon of the Wulgulmerang area of East Gippsland in Victoria (National Farmers' Federation

(NFF), sub. 128, appendix H) were not granted a permit to clear 120 hectares of their property on which clearing for pasture would have increased carrying capacity 30-fold from 0.5 dse (dry sheep equivalents) to 15 dse.[10] At Goshen Station at Mount Garnet in Queensland, cattle-stocking rates are around 8 times higher on developed land than on uncleared land. If permission is not given to control thickening, carrying capacity is predicted to halve within ten years (AgForce, sub. 54). Property Rights Australia (sub. 171) noted the rapid rate of thickening and encroachment of woody vegetation into rangeland or pasture areas in Queensland. The Landholders Institute (Queensland) (sub. 207) also argued that if landholders were not allowed to manage woody regrowth, livestock carrying capacity of grazed woodlands would be reduced to unsustainable levels.

The potential impact of restrictions on the control of thickening remnant vegetation is discussed further in section 6.2 and appendix K.

Introducing new technology and changing land use

The regulations can also restrict the technology used by landholders thereby affecting their returns. A number of participants made this point including: Clyde Cook (sub. 12) of Nyngan in New South Wales, Tripod Farmers (Victorian Farmers' Federation (VFF), sub. 149) of Bacchus Marsh in Victoria, and the Western Australian Farmers' Federation (WAFF), sub. 94).

The NSW National Party observed:

> The argument is often made that disallowing further development leaves the existing landholder no worse off. Such an argument assumes that current farming practice is both sustainable and profitable indefinitely. This is only the case if competitors do not take advantage of the same technologies or enterprises that the farmer was seeking for his own land. (sub. 115, p. 5)

Elizabeth Tomlinson of Narrabri in New South Wales argued:

> The loss of the right to introduce, rapidly, new technology can not see our farmers continue to be amongst the most efficient in the world. If it is necessary to pass by a government department any wish to change, the time lag could see the advantage lost. (sub. DR246, p. 1)

Reg Holt of Wedderburn in Victoria considered:

> Agricultural machinery has had to become wider to enable farms to remain viable. Sparse native vegetation may be close enough to prevent the passage of these machines

[10] The conditions that would have been attached to the permission to clear (conserving 2–4 hectares of currently uncleared land for every hectare cleared) were considered too onerous by the Moons.

> through the paddocks and needs to be removed … Farmers have to compete on the international market place to sell their produce. It is absurd to expect them to do this whilst telling them that they cannot rearrange their assets to allow them to be as productive as they can be. (sub. 87, p. 2)

Centre-pivot irrigation systems can deliver significant increases in farm productivity and make much more efficient use of water resources, thereby delivering environmental benefits. However, their installation and efficient operation may require the removal of paddock trees. NFF (sub. 128, appendix J) cited a case in south-west New South Wales where installing a centre-pivot irrigation system required the removal of 19 isolated trees. A clearing permit was offered in return for 5000 trees being planted, which the landholder estimated would cost $25 000 plus the loss of usable land on an already well-vegetated property.

A number of other participants (for example, Tatiara District Council, sub. 60, of South Australia, West Wimmera Shire Council, trans., p. 532, from Victoria and the Tasmanian Farmers and Graziers Association, sub. 160) noted cases where the regulations prevented the use of these systems or required expensive vegetation offsets for the removal of isolated trees. WAFF (sub. 94) noted that using global positioning systems to sow crops can be rendered ineffective by single paddock trees.

Vegetation clearing restrictions can reduce or remove the ability to change land use totally or partially. Because of significant changes in prices, technology and regulatory arrangements, preferred land use of an agricultural property often changes over time. Also many properties have multiple land uses (for example, cropping and grazing) in order to reduce the risks of relying on a single product and to allow for more sustainable use of a property over time. Graham Potter from the Deniliquin district noted how efficient configuration of his joint grazing and cereal cropping property was restricted by clearance restrictions:

> Market forces have an impact on gross margins and Native Vegetation restrictions limit the decisions that can be made to react to the impact of market forces. It used to be the physical size and capability of the property that put a limit on such decisions but with the introduction of Native Vegetation legislation, physical size and capability are further reduced. (sub. 183, p. 4)

Bruce Meyer of West Wimmera Shire in Victoria observed problems for landholders wishing to change land use and to adopt new technology:

> Land uses are changing and there now is a changing emphasis on cropping in the southern part of the shire in traditional grazing areas. However, to grow crops such as canola and winter wheat, there often is a need to remove trees. In the northern part the size of machinery is increasing meaning that it is often difficult to get down roads and between some trees in certain paddocks. (sub. 112, p. 1)

Similarly, Don McShane of Perth in Tasmania argued:

> Farmers may need to use some non-forest grassland (silver tussock country) to grow wheat or poppies when the wool market is slack. (sub. DR274, p. 3)

Wally Peart (sub. DR304) of Injune in Queensland observed that because he had left significant tree cover on his property he was now unable to switch from grazing to cropping, unlike his neighbour who had cleared 'fence to fence' before clearing regulations were introduced.

There have also been cases where property reconfigurations not involving a significant net loss in vegetation coverage have been restricted by the regulations. For example, the Victorian and South Australian regimes often require offset plantings significantly greater than the area where clearing is proposed, thereby making reconfiguration uneconomic for landholders.

Implementation of new methods and technologies is often associated with younger farmers either joining or taking over operations of a family farm or purchasing an underdeveloped property. A number of participants observed how restrictions on vegetation clearance can inhibit this process. Ben Rees from Miles in Queensland noted:

> An un-discussed side effect of a prohibition on clearing remnant vegetation will be the impact upon young farmer entry. 'Starter blocks' for young farmers are generally underdeveloped properties that lend themselves to improvement through development (sub. DR227, p. 5)

In some cases young farmers purchase properties on which vegetation had gradually regrown over a number of years because the former owner had farmed less intensively. Under most native vegetation regimes such regrowth would be declared remnant and the opportunity for younger farmers to redevelop the property would be lost.

Others concerned about the impact on potential new farmers and farm workers included W.R. Clarke (sub. 24) of Tumbarumba Shire and Stewart and Jenny Hutchins (sub. DR266) of Narrandera, both in New South Wales, the Country Women's Association of New South Wales (sub. 31), Paul McGowan (trans., p. 1337) of Barnawartha in Victoria and Harry Berger (sub. DR251) of Cardwell, Agforce (trans., p. 67) and Bob Katter MP (sub. DR253), all from Queensland.

Costs of managing native vegetation

The existence of native vegetation — particularly if effective management by thinning is not permitted — can increase costs or reduce returns if it becomes a

haven for kangaroos, feral animals and weeds. F.S. Hespe of Rockley in New South Wales commented:

> Numerous weeds can only be effectively eliminated by clearing, and the establishment of dense pasture swards. In the central tablelands, for example, serrated tussock (Nassella trichotoma) is a pest of major proportions and a declared noxious weed. Apart from clearing and the establishment of improved pastures, the only practicable method of eradication is the repeated application of large quantities of expensive and toxic herbicide. (sub. 62, p. 5)

Augusta Saunders (sub. 19) from Jerramungup in Western Australia noted that kangaroos and emus sheltering in the significant amount of native vegetation on her property caused considerable damage to fences and crops.

Most jurisdictions have legislation requiring landholders to manage declared weeds and pest animals on their properties. This creates an ongoing cost of managing native vegetation that landholders are not permitted to clear. Many landholders complained about these costs, including Russell Murdoch (sub. 118) from New South Wales and Shaun and Tonya Ellis (sub. 14) of Tallandoon in Victoria. The SAFF noted how common weed and pest control practices, extremely valuable to farm productivity, were precluded by the South Australian regulations:

> The treatment of fire as a clearance activity is also a significant difficulty for landholders who are hamstrung in their farm management practices to manage pests and weeds in native vegetation. Snails are a major pest in cereal growing areas. They take refuge wherever possible, including in remnant vegetation. Fire, the preferred and most effective management tool for farmers is difficult or impossible to use because of native vegetation regulations, leaving farmers exposed to increasing snail populations as they search for other long term options such as biological control measures. (sub. 140, p. 7)

Dalrymple Landcare Committee (sub. DR256) from Charters Towers in Queensland, submitted that delays and restrictions caused by the way in which native vegetation clearing regulations had been applied, had significantly impeded actions to control Parkinsonia (as required by the *Land Protection Act 2002)* in its region.

Vegetation close to fencelines can add to costs of maintenance by restricting access and threatening safety of farm workers. Falling trees or branches can damage fences and allow stock to stray on to roads or adjoining properties. Generally some form of exemption from clearing restrictions is provided on the landholders' side of fencelines. A number of landholders commented that the area covered by these exemptions is often not sufficient to protect fences and guarantee safety. In addition, the administration of the exemptions has sometimes imposed costs and delays (VFF, sub. 149). Other participants noted that vegetation on the road side of fences (which local authorities are often required to retain) provides a similar risk of

damage to fences (for example, Sally McKay, sub. 78, of One Tree Hill in South Australia and J and M Boardman, sub. 39, of She Oaks in Victoria), as do trees on adjacent crown land (for example, Geoff Lucas (trans., pp. 1345–6) of Wooragee, Ian and Sue Jack (sub. 141) of Barnawartha and Robin Weatherald (trans., pp. 1600–01) of Strathbogie Shire, all in Victoria).

FINDING 6.1

Native vegetation and biodiversity regulations have adversely affected the returns of many landholders by imposing a range of restrictions on farm practices, including:

- *limiting the opportunities to expand or reconfigure the area of productive land;*
- *restricting the ability to maintain the amount of productive land on a property;*
- *inhibiting the introduction of new technologies;*
- *restricting or preventing changes in land use; and*
- *inhibiting a range of normal farm practices such as thinning vegetation, rotating (fallowing) parts of the property, clearing around fencelines and managing pest animals and weeds.*

Impacts on property values

There are many factors that will determine the market value of farms. Current levels and future expectations regarding prices, weather conditions and technological change are all variables that affect property values. For those farms containing native vegetation that landholders may wish to clear now or in the future, native vegetation and biodiversity regulations will also have an impact on land values.

Attributing any observed changes in property values to the effects of environmental regulations and to other factors can be difficult and contentious. Nonetheless, in the longer term, regulations like vegetation clearing restrictions that can permanently reduce a property's income-earning capacity, can be expected to reduce property values by the discounted present value of the future loss in net income, in the property's best available use.[11]

[11] This may not always be the current use. For example, in grazing properties in Moree Shire vegetation clearing restrictions may have some negative impact on current income but are likely to have a greater impact on potential income if the property were to be switched to cropping. The market value of agricultural properties in areas that are zoned for residential development may not be reduced at all by restrictions on vegetation clearance although their value for agricultural production may be affected.

As discussed above, the Commission has received numerous individual examples from most jurisdictions of significant permanent reductions in the net income that can be earned from rural properties as a result of restrictions on clearing native vegetation. In these cases, the property value could be expected to be reduced broadly in line with these reductions in returns. Leverton Pastoral Company of New South Wales, stated:

> On our farm I estimate the [NSW *Native Vegetation Conservation Act 1992*] is costing our business in excess of $600 000 a year in foregone production revenue. I have written to the valuer general and due to the native vegetation and the resulting loss of productivity on one block of land it has been devalued by $200 000. (sub. 96, p. 2)

Graham Davies' 1200-hectare property in Albany Western Australia was valued (in 1999) at $486 000 if clearing of 548 hectares were allowed, at $354 000 if clearing were not allowed, and at $405 000 if 234 hectares could be cleared (sub. 9).[12] Gary Anderson (sub. 194) from Arno Bay in South Australia estimated that the uncleared 75 per cent of his property was worth one tenth of the cleared 25 per cent. Raymond Perkins (sub. 86), a valuer from Dubbo in New South Wales, indicated that properties that had conserved native vegetation are now considered 'restricted use' with a much lower value.

The WA Government stated:

> … it is acknowledged that the progressive tightening of clearing controls during the 1990s has affected land values, albeit not in a uniform way. The Valuer-General's office advises that in the more remote wheat and cropping areas the value of uncleared land has been significantly discounted, but in the higher rainfall and more populated areas land values are being sustained by non-agricultural buyers. (sub. 151, p. 3)

Roy Dickson (sub. 163), a licensed valuer from Cardwell in Queensland, provided several examples of large reductions in property values due to restrictions on clearing vegetation. Other participants who observed significant declines in property values due to native vegetation or biodiversity regulations included Jane Manchee of Moree (sub. 83) and Rod Young (trans., p. 946), both from New South Wales, Neil Kerr (sub. 154) of Drik Drik and Murray Davis (VFF, sub. 149) of Dergholm, both in Victoria and D.M.McL. and J.A. Stewart (sub. 77) of Lake Grace in Western Australia.

Significant reductions in property value can have particularly severe impacts for landholders approaching retirement. A number of individuals and organisations commented that landholders often planned for the sale of their property, or the timber contained on it, to be their 'superannuation'. These included Glen and

[12] Because of the property's location, the vegetated section could be sold as a hobby farm. If subdivision to facilitate this were allowed, the property was valued at $452 000.

Christine Anderson (sub. 20) of Mayberry in Tasmania, Brian and Shirley Burns of Albany and Craig Underwood (trans., p. 353) of Jurien Bay, both in Western Australia, Rod Reedman (trans., p. 1034) of Pindi Pindi, the Shire of Cardwell (sub. DR231) and Agforce (sub. 54), all from Queensland, together with Timber Communities of Australia Grafton Branch (trans., p. 55) and WAFF (sub. DR287).

As noted above, prices paid by landholders purchasing property once the impact of the regulations is well understood should reflect the negative effect of the restrictions — the seller will have suffered the impact of the regulations. The WA Government (sub. 151) argued that there was now only a small proportion of landholders in that State who had purchased before the tighter clearing controls were introduced, with expectations of being able to develop the vegetated land.[13]

In most jurisdictions, there has been a gradual 'ramping up' over time of both the content and administration of native vegetation and biodiversity regulations. In addition, in a number of jurisdictions these regimes are relatively new and their exact impacts are uncertain. This has raised landholder concerns that, in future, their ability to clear native vegetation will be further restricted. A number of participants commented on the impact that this uncertainty has had on property values over and above the effect of existing regulations.

The ACF (sub. 146) argued that this uncertainty was partially due to lobbying from the agricultural sector which has caused ongoing delays in introducing, what the ACF considered, were appropriate levels of clearing controls.

It has also been suggested that landholders may benefit from native vegetation regulations because, in some areas, property values can be higher with some degree of native vegetation cover.[14] Higher property values could reflect that:

- the property is in an area where the demand for 'bush blocks' has increased (for example, close to urban areas) — the Mitchell Environment Group (subs 65 and DR282) from Seymour in Victoria noted that, in its region, prices of blocks with trees seemed to be higher; or
- the property had been previously cleared to a level below its current privately 'optimal' clearing level in terms of private production or consumption benefits (possibly due to earlier policy distortions, or developments in techniques or knowledge which increase the value of production benefits of native vegetation).

[13] Of course, although a new landholder may not bear losses does not mean that there are no economic costs being imposed by the regulations.

[14] The SA Government (sub. DR324) referred to a study which showed that property values could increase, decrease or remain the same as native vegetation cover increases, depending largely on the location and use of the land.

However, it would be expected in such cases that normal market mechanisms — the expectation of profit — would encourage increased native vegetation without the need for regulation. Guy Fitzhardinge of Mandurama in New South Wales considered that property values could be increased by:

> … demand by more informed buyers for properties that have been properly managed, with set aside areas, riparian areas fenced off, trees planted and appropriately stocked/utilized. The property on which I live has about 30% excluded from grazing permanently, riparian areas fenced off, trees planted etc. The productivity of the property has not diminished, and the market value has increased to the extent where were I to sell the property it would capture a premium price ($1500 acre compared to $1200). The work I have done has been capitalized in asset value. (sub. DR225, p. 2)

Simply because the values of some properties rise when native vegetation cover increases over some range is not an argument for regulation, nor does it demonstrate that the regulations are not imposing significant costs on other properties and overall.

FINDING 6.2

Native vegetation and biodiversity regulations have reduced the values of properties on which the income-earning potential has fallen because permission to clear native vegetation has been refused, or because there is uncertainty about the future ability to clear.

Investment patterns and financier attitudes

In general, negative impacts of the regulations on farm output and farm practices would be expected to reduce landholder demand and capacity for investment. In addition, the uncertainty created by the regulations will tend to encourage less capital-intensive techniques in order to avoid tying up capital that might not be recouped if regulation or its implementation changes further. Because significant changes to previously-understood property rights have been made without compensation, landholders with vegetation on their properties are likely to place higher rate-of-return hurdles on investment that could be affected by future regulatory changes. Gippsland Private Forestry (formerly Gippsland Farm Plantations) (trans., p. 524) considered that a risk premium would be attached to investing in plantations of native species in Victoria, because of uncertainty about future native vegetation controls.

Access to finance is particularly important in many agricultural industries with their large capital requirements and significant fluctuations in returns over time. The Commission has received only limited information on the effect of the regulations on the attitude of finance providers to lending to landholders. No submissions have

been received from finance providers. NFF suggested that finance providers did not want to raise these issues publicly, but had intimated that uncleared land would be given a lower valuation:

> With vegetation they're not coming out clearly and publicly yet but they're certainly saying to us, in some cases, that there is going to be a distinct change in the value of property that is fully developed or significantly developed to that which is not. (trans., p. 261)

A similar view was put by Jane Manchee of Moree in New South Wales:

> Finance providers should speak for themselves but seem reluctant. They certainly let us know the obvious, which is that land not farmed, in this district, is worth much less than that which is farmed. This has a big impact on the landholder's ability to obtain finance. (sub. 83, p. 2)

Factors such as drought and fluctuating commodity prices will also affect financier attitudes to lending to landholders. As with impacts on property values, it is difficult to disentangle the various factors that might influence attitudes to lending to landholders. Nonetheless, all else given, there are several reasons why native vegetation and biodiversity regulations may affect financier attitudes. Where the regulations reduce land values there will be a fall in the landholder's equity in their property. This will reduce the security that they can provide for loans and, consequently, reduce the maximum amount financiers are willing to lend or increase the interest rate they charge. Denise Ward of Nyngan in New South Wales noted the importance of loans based on landholder equity:

> Into the 1990's our finance providers secured our borrowings by Land Value, calculated on the basis of its development potential. 'Equity Lending' was widely accepted as a common practice. Many district farmers including ourselves, fine-tuned arrangements with their finance providers on an Equity basis … (sub. 196, p. 2)

Ron and Jennifer Collins of Mount Barker in Western Australia argued:

> Native vegetation has no value to a lender; it is non-productive. A farmer's ability to borrow is impacted by the ownership of a non-productive and valueless asset (sub. DR321, p. 4)

The additional uncertainty of future income streams of properties on which vegetation clearance may be restricted will tend to increase the risk premium associated with them and hence increase interest rates on loans. A number of other submissions from landholders indicated that financiers were less willing to lend on properties with significant native vegetation. These included Peter Weston (sub. 56) of Nymagee in New South Wales, Jane Manchee (sub. 83) of Moree in New South Wales and Lynton Freeman (sub. 21) of Gladstone in Queensland.

FINDING 6.3

All else equal, reductions in property income-earning potential, and consequent declines in owner equity, mean that landholders restricted from clearing areas of native vegetation on their properties are less able to obtain finance or face higher interest rates.

Compliance costs

Complying with native vegetation and biodiversity regulations can impose large costs on landholders and governments. The often remote and dispersed location of the regulated vegetation creates significant costs in the interaction between landholders and regulators, particularly in the larger jurisdictions. Because government officials and departments do not have to meet the costs of compliance and delays, they may have limited incentive to restrict these costs to a level consistent with efficient administration of the legislation. Chapter 3 outlined some of the compliance costs faced by landholders, including costs associated with significant delays in decisions being made on their vegetation clearance applications.

Other impacts

There appear to have been many cases where the implementation of the regulations has led to a breakdown in landholders' trust in dealing with government. For landholders this has meant reduced access to advice from government departments and, for governments, a reduction in the ability to use landholder goodwill to promote environmental goals (chapter 5).

The Commission has received many submissions commenting on the personal stress created by the operation of the regulatory regimes. Augusta Saunders of Jerramungup in Western Australia stated:

> I have suffered considerable anxiety and stress trying to develop the farm, seeing our debts rise each year, especially in the past 6 years of frost and drought, wishing we could clear the remaining land. Not to be allowed to finish the job and dealing with the opposition that comes mainly from political considerations has added to the depression. Last year I finally sought help and will probably be on medication until we sell the farm. (sub. 19, p. 6)

Other participants who cited significant personal stress included Ron and Jennifer Collins (sub. 182) of Mount Barker, Brian and Shirley Burns (sub. 202) of Albany, and Ken Harris (trans., p. 295) of Binnu, all in Western Australia, Clyde Cook (sub. 12) of Nyngan in New South Wales, Glen and Christine Anderson (sub. 20) of

Mayberry in Tasmania, Helen Mahar (sub. 40) of Ceduna, Kevin and Neville Parker (trans., pp. 431–2) of Mantung and Gary Anderson (sub. 194) of Arno Bay, all in South Australia, Darren and Peter Hepburn (sub. 75) of Lower Bendoc, Peter Pacers (sub. 93) of Lower Gellibrand, and Ian and Sue Jack (trans., p. 1676) of Barnawartha, all in Victoria. Various producer organisations also provided examples of such problems.

These submissions suggest that, at least in the cases concerned, these pressures reflected factors such as the significant impact the regulations have had on the viability of farms, a lack of flexibility in implementing the regulations, a loss of departmental personnel with knowledge of managing farms, the absence of clear environmental benefits from the restrictions and the sense that a previous right (to clear vegetation) had been taken without compensation.

FINDING 6.4

Those landholders most severely affected by the regulations have often suffered serious personal stress in the face of the resultant marginal viability, or even loss, of their property.

Impact of the Environment Protection and Biodiversity Conservation Act

The EPBC Act has been in operation since July 2000. The Department of the Environment and Heritage (DEH, sub. 190) considered that the overwhelming majority of agricultural activities will not trigger the Act, and even where they do, they will rarely meet the Act's 'significant impact' test. In the first three years of the Act's operation (to 31 July 2003), 27 actions involving the agriculture and forestry sectors have been referred and of these ten have required assessment.

A number of primary producer organisations and individual landholders expressed concern about the potential impact of the EPBC Act. The main effects to date have been the uncertainty created among some landholders, often already concerned about the impact of State and Territory regimes. For landholders potentially affected by the Act, it represents another layer of possible expense, delay and uncertainty. DEH has undertaken a number of initiatives in an attempt to improve landholders' understanding of the Act.

Chapter 4 and appendix B consider the impacts of the EPBC Act on landholders in more detail.

Positive impacts

The terms of reference direct the Commission to examine positive impacts on landholders and, in particular, the impact of the relevant regulations on sustainability.

Various participants suggested a number of positive impacts that native vegetation and biodiversity regulations may have on landholders. These benefits include providing shade and shelter for stock, providing windbreaks and facilitating a reduction in land and water degradation. For example, the Serpentine-Jarrahdale Land Conservation District Committee (sub. 66) observed a reduction in nutrient loads in waterways and a reduced spread of salinity and erosion as positive impacts for landholders in their district. The South Grafton Residents Progress Association (sub. 104) noted a greater awareness among canegrowers of environmental effects of their operations with resulting improvements in operating methods. D.M. McL. and J.A. Stewart (sub. 77) of Lake Grace in Western Australia considered that vegetation they were unable to clear on their property provided benefits of lower salinity and erosion for neighbouring properties.

The SA Government (sub. DR324) referred to surveys[15] that show that a majority of landholders view native vegetation as important for farm stability and production. It also noted that 'making productive use of the native vegetation is clearly the priority of landholders' (sub. DR324, p. 31).[16]

As noted above, for properties affected, the benefits from regionally-based programs for the prevention of erosion and salinity can be very significant. Where the benefits of retaining vegetation accrue largely on a regional basis rather than to an individual property, regulation is one means of achieving them. However, the across-the-board clearing controls operating in most jurisdictions are rather blunt instruments for dealing with these issues and, as discussed in chapter 5, sometimes have perverse environmental outcomes. The Australian Government Department of Agriculture, Fisheries and Forestry noted the complexity of dealing with salinity and the inter-relationship with other environmental problems. It argued:

> This suggests the level and type of actions undertaken should vary according to the biophysical characteristics of each region. A carefully designed scheme would ensure that trees were planted, or left uncleared, in areas where they would generate net salinity benefits. (sub. 218, pp. 7–8)

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15 Craig et al. (1983) and Marano (1999).

16 However, the SA Government also presented analysis of several projects in South Australia indicating that a majority of benefits from protection of remnant vegetation in these areas accrued to the wider community rather than landholders (sub. DR324).

The Pastoralists and Graziers' Association of Western Australia (PGA) commented it was seeking a more flexible approach to addressing land degradation issues:

> PGA has been negotiating with the State Department of Agriculture to take a more positive approach in addressing the needs of landowners in WA with land affected by development bans. In some cases, even Departmental hydrologists and other salinity specialists concede that there is little or no risk of salinity or of serious damage to the environment by the sensible development of remnant vegetation. (sub. 91, p. 5)

The Shire of Dandaragan in Western Australia argued that for its region:

> Certainly current and proposed regimes are effective in prevention of degradation, just as a sledge hammer is effective in cracking open peanuts. With close to 50 per cent of the Shire reserved from development, there is doubt as to the need for such all encompassing regulation. (sub. 191, p. 3)

Regionally targeted revegetation programs, not necessarily involving the type of vegetation currently present (or, indeed, not necessarily involving native vegetation at all) are more likely to deliver higher net benefits for landholders. Because of their focus on broader environmental benefits, regulations involving across-the-board restrictions of native vegetation clearance are unlikely to be effective vehicles for delivering benefits of reduced soil degradation to landholders. Rather, as discussed in chapter 10, regionally-focussed community-based processes would seem better placed to address these issues. The National Land and Water Resources Audit observed:

> Options for managing dryland salinity will vary across Australia in response to environmental conditions and social and economic aspirations for the catchment. These communities will need to identify the level of salinity management they wish to achieve in conjunction with their other objectives. (NLWRA 2002, p. 81)

To the extent that benefits of selected vegetation and biodiversity retention accrue to individual landholders, they would be expected to undertake these activities themselves if they were aware of the benefits involved. Generally speaking, landholders could be expected to assess the on-farm benefits and costs of retaining native vegetation adequately.

A number of submissions have argued that native vegetation and biodiversity regulations have positive impacts for some landholders by providing them with information about these benefits. Denise Ward of Nyngan in New South Wales considered:

> There has been an ever increasing understanding of the importance of sustainable land management. Serious land managers were already embracing these concepts prior to any regulation, and now there has been a very wide general acceptance of these principles. (sub. 196, p. 1)

While some information provision can also be a spin-off benefit of vegetation clearing regulations, if a significant lack of knowledge were the only factor leading to under provision of native vegetation by landholders, this would be best addressed by providing information directly through specific information dissemination programs (for example, as have occurred through the Landcare movement).

Achievement of such information benefits would require appropriate resources. The Commission has received numerous submissions from both landholders and environmental groups noting the generally poor resourcing of the implementation of the regulations. Nillumbik Shire Council from Victoria considered that:

> … the amount of practical onground advice and/or assistance to adopt farming practices to meet the requirements of the regimes under review is very minimal to landholders in the Shire of Nillumbik. (sub. 174, p. 3)

Dennis Toohey (trans., pp. 1307–8) of Albury in New South Wales — an agricultural consultant and previously a regional director in the NSW Department of Agriculture — considered that because of reductions in staff and a switch from the extension services approach to one of facilitating provision of private sector resources to landholders, state agencies did not have the capacity to deliver the educational programs that were needed to support native vegetation and biodiversity regulation.

Some participants considered that the implementation of the regulations had made landholders less likely to obtain environmental information. The Country Women's Association of New South Wales commented:

> Over the past years, the process that was adopted by government departments has created an agenda that put farmers against conservationists ... This conflict has had an extremely negative impact on farmers and discouraged them from seeking advice on land and vegetation management. (sub. 31, p. 2)

Paul McGowan of Barnawartha in Victoria submitted:

> A lot of the small bureaucrats have got an enormous amount of power and they like to exercise the power … My personal experience of that is just horrible, even though I would be an example of a really good conservationist. But the contempt with which you are treated when you want to do something is unbearable. (trans., p. 1335)

Many landholders considered that there had been a substantial decline in the quality of advice received from government departments — staff positions often being switched from offering advice that increased farm productivity, towards enforcement of environmental controls. These included Booth Associates (sub. 165) from Griffith, Russell Gillard (sub. 36) from Manildra and Jane Manchee (sub. 83) from Moree, all in New South Wales, Bruce Page (sub. 186) from Peachester and the Mulgrave Landcare Catchment Group (trans., p. 159), both of Queensland, Janet

and Kevin Blake (trans., p. 628) from Barunah Park in Victoria and SAFF (sub. 140). WAFF argued:

> Government funding cut backs to Agencies over many years have resulted in regional extension services being withdrawn. One outcome of this occurrence has been the loss of local knowledge and an influx of recent (environmental science) graduates with limited practical experience of farming practices. (sub. 94, p. 5)

FINDING 6.5

There are positive impacts for many landholders in retaining selected vegetation and biodiversity on their own and surrounding properties. These benefits will be greater in areas prone to soil and water degradation. However, this does not mean that landholders necessarily will benefit from all of the native vegetation required to be retained by current regulations, or that benefits to them will outweigh the costs.

6.2 Quantitative assessment of regional economic impacts

The Commission examined impacts at a shire level to shed light on the factors driving possible future economic impacts on landholders from broadscale clearing restrictions.

Two case studies were examined — the shires of Moree Plains in New South Wales and Murweh in south-west Queensland. Clearing in these areas is fairly typical of broadscale clearing in the New South Wales wheatbelt (Benson 1999) and central and western Queensland respectively (Swift and Skjemstad 2002). In Moree, clearing is being undertaken primarily to switch from grazing to cropping. In Murweh, clearing is undertaken (a) to facilitate the introduction of more productive perennial pasture species, which increase livestock carrying capacity and quality and (b) to offset the effects of vegetation thickening on areas currently grazed.

The Commission's estimates include the observed effects of clearing regulations introduced in 1995 in New South Wales and in 1999 in Queensland, together with potential long-term effects of recent announcements of stronger restrictions on broadscale clearing of remnant native vegetation in both States. While it is assumed that the restrictions affect clearing until 2030, impacts of the restrictions are assumed to flow though until 2040.

Potential impacts of restrictions on the removal of paddock trees have not been assessed. Administrative costs incurred by landholders have also been ignored, as

have any costs associated with maintaining protected native vegetation, such as fencing, pest and weed control and maintaining fire breaks.

The estimates do not take into account the possibility of illegal clearing. To the extent that illegal clearing occurs, this would reduce the economic impacts of the restrictions (and the environmental benefits). In addition, of course, to the extent that any compensation is paid, costs imposed on landholders would be reduced commensurately, although the economic costs in terms of production forgone would remain. Payment of compensation would simply shift these costs to taxpayers.

In February 2004, a workshop was held to discuss the preliminary estimates presented in the draft report (see appendix A for a list of attendees). Two commentators were asked to report on the Commission's preliminary analysis — Dr Geoff Slaughter (Queensland University) and Mr Sean Constable (Constable Consulting). Slaughter's PhD thesis (Slaughter 2003) was based on a survey of more than 40 landholders in the Murweh district. Sean Constable had assessed impacts of clearing restrictions for the Moree Regional Vegetation Management Committee (Constable 2003). Their reports are available from the Commission's website. Issues raised by participants at the workshop, and in submissions, are addressed in appendix K.

The following sections briefly outline the approach and results. A more detailed explanation is contained in appendix K. In undertaking its analysis, the Commission used a wide range of data from various sources, including ABARE, CSIRO Land & Water and Devine Agribusiness. Data, including all consultants' reports, are available from the Commission's website.

Approach

The Commission has attempted to isolate the impacts of native vegetation clearing restrictions by first estimating future returns if clearing restrictions did not apply. This scenario incorporates estimates of potential returns per hectare and future annual rates of clearing. Estimates of potential returns incorporate estimates of current and future returns to cleared and uncleared land based on assumptions about future productivity growth, costs and prices. Estimated future annual clearing rates reflect historical 'unconstrained' clearing rates. Impacts of clearing restrictions are then measured as the difference between estimated aggregate returns with and without clearing restrictions.

By using this approach, the Commission has sought to avoid some of the problems associated with approaches that consider observed changes in property values or

farm returns. Observed values may be affected by other policy and market events, not just native vegetation regulations.

All else given, the impacts on returns from clearing restrictions will be greater:

- the larger the number of hectares of land that would be cleared annually without clearing restrictions; and
- the greater the net returns from clearing a hectare of land (over and above returns from uncleared land and clearing costs).

It should be noted that the 'clearing without clearing restrictions' scenario attempts to capture the private benefits accruing to landholders from retaining some native vegetation on their properties. Thus it is assumed that landholders voluntarily set aside the following areas for conservation:

- vegetation on steep slopes;
- vegetation on land with a high risk of soil salinity;
- vegetation along watercourses and lakes; and
- wetlands.

These areas were estimated from data provided by CSIRO Land and Water. Moreover, because of the estimated annual clearing constraints, even without clearing restrictions, a significant amount of farmland would still be covered with remnant native vegetation at 2030 — 19 per cent and 33 per cent in Murweh and Moree respectively (compared with 63 per cent and 44 per cent remnant cover in 2003).

Results

The results are highly sensitive to the assumptions made. They should be interpreted as providing an indication of orders of magnitude and not precise measures of likely impacts.

Tables 6.1 and 6.2 present the results for Murweh and Moree respectively. Different scenarios are estimated for each Shire.

For Murweh, because future cattle prices are very uncertain, three scenarios are examined in which annual average real cattle prices decline by 1.5 per cent, by 1.1 per cent and by 0.7 per cent. These declines are equivalent to assuming that average prices over the period 2003–2040 equal, respectively, average prices over the last 20 years, average prices over the last 10 years, and prices mid-way between current prices and average prices over the last 10 years.

Under these scenarios, the present value of total impacts for Murweh for the period 1999–2040 from clearing restrictions is estimated to range between $42.3 million and $76.3 million (2003 dollars), depending on assumed future real cattle prices. This equates to between $2.4 million and $4.4 million per year (2003 dollars) over the period.

Potential additional impacts of restrictions in the presence of woodland thickening are also estimated. However, if cost-effective thinning of thickened remnant vegetation were permitted under the arrangements recently-introduced in Queensland, these additional costs would not be incurred.

Table 6.1 **Net present value of forgone future returns from clearing restrictions in Murweh Shire,[a] 1999–2040**

Assumed fall in average real beef prices, 2003–2040[b]	*Without thickening*	*With thickening*
1.5 per cent a year[c]	$42.3m	$81.3m
1.1 per cent a year[d]	$60.1m	$103.9m
0.7 per cent a year[e]	$76.3m	$124.4m

[a] All values in 2003 prices and are calculated using a constant real discount rate of 5 per cent. [b] Beef prices and terms of trade for beef are assumed to fall under all of these scenarios from 2003. [c] On average for 2003–2040, prices are equal to the 20-year average price (ABARE 2003). [d] On average for 2003–2040, prices are equal to the 10-year average price (ABARE 2003). [e] On average for 2003–2040, prices are half-way between current real prices and average real prices over the last 10 years.

In Moree, the present value of total impacts over the period 1995–2040 from clearing restrictions are estimated to range from $26.8 million to $83.9 million, depending on the yield and number of crops on newly-cleared land. This equates to between $1.5 million and $4.7 million per year over the period (2003 dollars). The different scenarios attempt to capture the possibility that land cleared in future (in the drier western part of the shire) may not be as productive as land that is already cleared.

Table 6.2 **Net present value of forgone future returns from clearing restrictions in Moree Plains Shire,[a] 1995–2040**

Yield and number of crops on newly cleared land[b]	
Per hectare yields are the same as previously cleared land	
8 crops in 10 years	$83.9m
6 crops in 10 years	$54.5m
Per hectare yields are 90 per cent of previously cleared land	
8 crops in 10 years	$47.0m
6 crops in 10 years	$26.8m

[a] All values in 2003 prices and are calculated using a constant real discount rate of 5 per cent. [b] For years where there are no crops, it is assumed that no inputs are added — the land is fallow.

Some participants argued that many of the draft remnant native vegetation management plans included vegetation to be set aside for biodiversity protection. In ABARE and BRS (2003) these areas were treated as land that would be voluntarily set aside by landholders without financial assistance to the landholder. However, draft vegetation management plans have not been approved and it is not clear whether protecting these areas is conditional on financial assistance. For example, in the draft Mulga Lands Regional Vegetation Management Plan, there is a request for the:

> … provision of financial assistance to landholders and other stakeholders (such as traditional owners) who are inequitably affected by legislation controls or recommendations from this plan. (Mulga Lands Regional Vegetation Management Committee 2003, p. 6)

Nonetheless, two scenarios have been estimated (table 6.3) in which it is assumed that landholders in Murweh clear at historical rates, but cease clearing once remnant vegetation comprises respectively 30 per cent and 40 per cent of farmland.[17]

Table 6.3 **Net present value of forgone future returns from clearing restrictions in Murweh Shire,[a] 1999–2040**

Alternative conservation scenarios

Key assumptions	*Share of private land covered in remnant native vegetation, without clearing restrictions*[b]		
	19 per cent[c]	30 per cent[d]	40 per cent[d]
Without thickening and cattle prices fall by 1.1 per cent a year, 2003–2040	$60.1m	$55.9m	$47.1m

a All values in 2003 prices and are calculated using a constant real discount rate of 5 per cent. **b** Landholders are assumed to clear at historical rates until they reach their conservation targets. **c** No prescribed conservation target (from table 6.1). **d** Prescribed conservation targets indicate the percentage of farmland set aside for conservation of remnant native vegetation.

The effects on estimated losses are relatively small because even without clearing restrictions, it is estimated that 19 per cent of farm land would remain covered by remnant native vegetation at 2030 (compared with around 63 per cent in 2003). In other words, and perhaps not surprisingly, it is the impact of the proposed clearing ban in Queensland over the next 10–20 years that will constrain landholder operations most significantly. The assumed conservation targets would not be reached for some time, when forgone returns are heavily discounted.

17 Proposals in the draft Mulga Lands Regional Vegetation Management Plan in Queensland included: increased protection of riparian forests and wildlife corridors, wetlands and springs and 'of concern' regional ecosystems; minimisation of salinity potential; and maintenance of 30 per cent remnant vegetation in all surface and groundwater catchments.

In the Moree case study, assuming continuation of historical annual clearing rates, more than 30 per cent of farmland would remain covered by native vegetation in 2030 (compared with around 44 per cent in 2003), in the absence of clearing restrictions.

Concluding remarks

The case studies are intended to shed some light on the reasons why landholders in those regions seek to clear land and, therefore, the fundamental drivers of the magnitudes of potential impacts. Results for these two shires suggest that the economic impact of broadscale clearing restrictions could be significant under a range of scenarios, mainly because they represent large areas in which there is considerable scope for profitable changes in land use. Because such opportunities may not be available elsewhere on the same scale, results from the case studies should not be applied to other regions in the two States concerned, or indeed, to other States and Territories.

Importantly, as noted above, the results are highly sensitive to the assumptions made. They should be interpreted as providing an indication of orders of magnitude and not precise measures of likely impacts.

6.3 Impacts on regional communities and other industries

Terms of reference 3(a) directs the Commission to report on the impact of native vegetation and biodiversity regulations on a range of non-agricultural activities and on the flow-on effects to regional communities.

Impacts on regional communities

While the relative importance of the agricultural sector in the Australian economy has been declining for many years, it has grown in absolute size and remains important for many regional centres. Agriculture, forestry or mining (all of which can be affected by regulation of native vegetation clearance and biodiversity conservation) can be critical for the survival of some small communities.

This inquiry has received many examples, covering most jurisdictions, of significant long-term negative impacts of native vegetation and biodiversity regulations on the assets and the income of individual landholders. The extent that these effects on individuals result in discernable impacts on particular regional areas

will depend on the number of individuals affected and their geographic concentration. The ACF considered that:

> … existing regulations will have had little impact even at the regional scale, with verifiable net impacts limited to individual properties with unusual or exceptional circumstances. (sub. 146, p. 17)

Negative regional impacts can be generated if a sufficient number of landholders suffer significant income losses, reductions in asset values or, in the extreme, if farms become unviable. In these cases, losses of farm income, employment and investment have flow-on effects on regional towns and services. SAFF noted the difficulty in quantifying regional impacts but argued:

> However, at the very least it should be considered to be rather more than the region's combined individual losses. The synergistic effects of such losses can only be measured in what has not occurred — secondary industries which have not sprung up as a result of regional prosperity. Perhaps the greatest indicator is the decline in a region's population — particularly of younger people. (sub. 140, p. 5)

Herbert River District Canegrowers (sub. DR273) also argued that the effect of clearing restrictions on farm development and expansion would especially discourage young farmers and hence would create flow-on social effects to regional communities.

In addition, the rate base is likely to decline as the value of agricultural land declines, leading to higher charges for other ratepayers and/or reduced services. Alternatively, the regulations may prevent expansion in agriculture that may have offset other factors which had been leading to regional decline.

Queensland and New South Wales are the jurisdictions where there appears most scope for negative regional impacts due to the higher demand for clearing by landholders and the potential for regulations to restrict both clearing and the control of vegetation expansion and thickening. There was also fairly substantial clearing (in excess of 25 000 hectares per year) in Western Australia in the 1980s which now appears to have been constrained by the regulations.

In other jurisdictions, the extent of past native vegetation clearance on private land means that there are fewer landholders wishing to undertake broadscale clearance. Nonetheless, in South Australia and Victoria, the clearing regulations are quite restrictive on landholders and hence can have substantial impacts in regions with concentrations of remnant and regrowth native vegetation.

In the Northern Territory and Tasmania the extent of the regulations and their implementation appear to have been less constraining on landholders than in other jurisdictions.

Agriculture is a very small part of the ACT economy, hence restrictions there will have little impact at the jurisdiction level.

While the Commission has received numerous examples of significant negative impacts on individual landholders, for these to have discernable regional impacts there will need to be a concentration of affected landholders. A number of regions appear potentially to have such a concentration, particularly where significant changes in technology and land use are underway or proposed. However, the extent of regional impacts remains unclear.

In Queensland some cane-growing areas are affected by restrictions on clearing vegetation. Some landholders need to clear vegetation to increase the size of their operations to a more viable scale. That said, regulation of the industry has also constrained the scale of operations. Canegrowers (sub. 101) considered that for the sugar industry regional impacts would be greatest in the Mackay area. Even so, it was considered that the impact would not be dramatic in the short term because the regional industry was not expanding at present. The Shire of Cardwell (sub. DR231) submitted that environmental and conservation issues were among a number of negative influences on the sugar industry which were having significant adverse impacts on that region's economy.

An AgForce (sub. 54) survey of Queensland shire councils indicated that regional impacts were often uncertain at present but respondents considered these would become clearer in the near future. The Inland Burnett Regional Vegetation Management Committee in Queensland noted that:

> Local governments in the Inland Burnett believe this Act [the Vegetation Management Act] is a threat to their sustainability and long-term economic and social viability. (sub. 139, p. 6)

Jeff Bucknell (sub. 25) of the Northern Desert Uplands region of Queensland considered that preventing the relatively small clearing planned for that highly vegetated region would severely affect rural communities in northern Queensland. Ben Rees (sub. 210) of Miles in Queensland considered that a blanket ban on clearing remnant vegetation would cause significant dislocation to rural communities, especially in areas dependent on traditional grazing industries and underdeveloped dryland farming enterprises.

The Northern Land Council expressed concern about the potential impacts on Indigenous communities of land-clearing regulations in the Northern Territory:

> Clumsy application of land clearing regulations may particularly disadvantage Indigenous people who have only recently re-acquired land. There is a risk that they may be denied the economic and social benefits enjoyed by other Australians, in part to redress damage done by those other land users. (sub. 221, p. 8)

Many Indigenous people in the Northern Territory live in small isolated communities where agricultural activities — including possible commercial development of native plants and animals — represent one of the few opportunities for employment. Hence, there is potential for native vegetation and biodiversity regulation to have negative impacts on the prospects for development in these regional communities that have only recently obtained title over their land.

The District Council of Elliston (sub. 120) noted that it was one of the few areas of South Australia with a significant share of remnant vegetation remaining (60 per cent of the original 60 per cent cover). Hence, significant areas have been set aside as conservation reserves or covered by Native Vegetation Heritage Agreements and are not rateable, increasing the burden on other ratepayers. Because of clearing restrictions, some farms in the area have become marginal and been sold to a neighbour, thus families are lost to the district. SAFF (sub. 140) noted that many landholders in the south-east of South Australia still had several thousand acres of native vegetation on their properties.

In some cases, clearing restrictions may have significant effects on small communities that rely heavily on agriculture. West Wimmera Shire Council (sub. 110) in Victoria considered there would be impacts on small communities in its area, while the Baradine Progress Association (sub. 130) and the NSW Forest Products Association (sub. DR243) in New South Wales indicated that several small communities in central New South Wales would be under severe threat if the local timber industry contracted.

Compensation to affected landholders, even if fully covering the negative impacts on their farm returns, is unlikely to remove impacts on regions. Payment of ongoing compensation for lost income, or as a lump sum to reflect the reduction in property values, should not alter the impacts of the regulations on output, investment and employment and on rating capacity for councils. However, if contracts are entered or financial assistance is provided for landholders to manage native vegetation, then employment and investment could be created in this alternative activity which may make up some or all of the losses in agricultural activities.

A number of submissions observed that increased tourism from retaining native vegetation and preserving biodiversity may benefit some regions. ACF (sub. 146) noted that north Queensland would benefit from restrictions on vegetation clearance which had positive impacts on the condition of the Great Barrier Reef. The Commission's study of the impacts on water quality in the Great Barrier Reef catchment (PC 2003a) concluded that blanket native vegetation controls would be

neither necessary nor cost effective in reducing the soil and nutrient loss that is reducing water quality and threatening the reef.[18]

The ACF (sub. 146) and the Environment Centre Northern Territory (sub. 147) considered that vegetation clearing in the Daly Basin of the Northern Territory would be detrimental to the tourism and recreation areas relying on the Daly River and estuary ecosystems. In November 2003, the NT Government halted further approvals for subdivision or vegetation clearing in the Daly region until a sustainable land-use plan is developed in 2004.

Regions close to capital cities may obtain greater tourism if environmental amenities are maintained. Gingin Shire just north of Perth commented:

> The unique natural attributes of the Shire, including the coastal environment, river environs and diverse and dynamic rural landscapes, are economic assets worthy of management. (sub. 37, p. 3)

The Shire of Dandaragan (sub. 191), 130 kilometres north of Perth, noted that the parks in the shire contained a world-class range of flora and fauna and that eco-tourism was already important and growing. The Nillumbik Shire Council (sub. 174), 25 kilometres north-east of Melbourne, indicated that its 'Green Wedge' status attracted a large number of visitors. The Pacific Palms Community Association (sub. 64) from New South Wales considered that clearing restrictions needed to be extended to non-agricultural land in order to preserve the region's passive recreation qualities.

While tourism benefits may provide little, if any, benefit for landholders facing clearing restrictions, the net impact on affected regions can be significant. However, in those areas affected, only some of the restrictions imposed by native vegetation and biodiversity regulations are likely to be needed to generate optimal net benefits from tourism. As with land and water degradation, any benefits of retaining native vegetation for tourism would usually accrue from only part of the vegetation in an area, and hence would require selective retention and revegetation rather than blanket restrictions on clearing. Such retention would be efficient only up to the point where the marginal benefits (from tourism and other sources) exceeded the marginal costs of retention.

Many regions will not receive significant offsetting tourism benefits of this kind. The Bush Users Group (sub. 155) of Castlemaine in Victoria, R. W. Sheaffe (sub. 30) of Booligal in New South Wales and the Pastoralists and Graziers' Association of Western Australia (sub. 91) were among those who did not consider

[18] Some participants to the current inquiry (for example, Bob Katter MP, trans., p. 118) questioned whether retaining woody vegetation was the best means of reducing runoffs.

that retaining native vegetation would provide worthwhile tourism benefits in their regions. A landholder in AgForce's member survey considered eco-tourism would not work for him:

> If I can't get it cleared before they declare it remnant vegetation I will have to look at ecotourism. However, I don't think anybody 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. (sub. 54, p. 29)

The District Council of Elliston in South Australia felt that achieving eco-tourism benefits required more than simply retaining vegetation:

> There is opportunity for some benefit to the community relating to tourism values of native vegetation areas. Regretfully the Government of SA has more 'conservation land' than it can effectively manage. Thus the land is unmanaged and without appropriate management plans the State Conservation areas are not promoted for and not conducive to tourism. (sub. 120, p. 3)

Some of the tourism benefits of native vegetation and biodiversity retention can be achieved by market mechanisms. Individuals can purchase properties for the establishment of nature parks and some landholders have combined agricultural production with tourism by promoting on-farm holidays.

Potential regional impacts: Moree and Murweh Shires

In the jurisdictions with the largest amounts of uncleared vegetation, the regulations, until recently, have not restricted significantly the amounts of vegetation that could be cleared. The proposed cessation of broadscale remnant vegetation clearance in New South Wales and Queensland would be likely to lead to more significant regional impacts as indicated in section 6.2.

In the case of Moree Shire, because a potential change of land use from grazing to higher value cropping is involved, the impact of such restrictions per hectare would be particularly severe. However, the existing land use is, for the moment, profitable, and hence the impact on the region is most likely to be somewhat slower growth rather than an absolute decline. In the longer term, the failure to take advantage of potentially more profitable land use, with greater potential for future productivity growth, may be more detrimental to the region.

In Murweh Shire, the progressive thickening of remnant vegetation, if unchecked, would result in ongoing declines in productivity and would threaten the viability of affected properties, leading to more immediate reductions in regional output and employment.

Impacts on other industries

Forest industries make significant use of native trees from both state-owned land and private properties. In most jurisdictions the area of state land made available for timber harvesting has declined, often reflecting concerns for protecting native vegetation and threatened fauna, and there has been greater reliance on older regrowth or plantation timber on private land. In some cases, this has led to additional costs (for example, greater transport costs to mills from private forests).

Even when timber is sourced from private properties there is often uncertainty concerning future access to this resource.[19] Timber Towns Victoria (the peak body for Victorian local government on forestry policy and development) considered:

> There is anxiety among landholders, investors and operators that current regulations in Victoria may prevent a landholder from harvesting his/her timber because, under the Native Vegetation Framework (2003), native vegetation in excess of 10 years old is considered to be remnant vegetation. Without clear guidelines for Victoria's Native Vegetation Framework this concern will persist. (sub. DR263, p. 6)

Gippsland Private Forestry (formerly Gippsland Farm Plantations) (sub. 92) noted that, based on developments over the past decade, landholders in Victoria were concerned that by the time plantations were ready to be harvested, the legislation or its implementation may have changed adversely for them.

Similarly, for New South Wales, Blue Chip Forestry Services argued:

> … landholders whose future timber harvest rights are uncertain have no incentive to invest in silviculture which conserves or improves the long-term productive condition of their forests. Regulation creates a perverse incentive to cut and get out. (sub. DR248, p. 1)

Even where access to forests is allowed, the costs of complying with native vegetation and biodiversity regulation can be significant for forest industries. The NSW Forest Products Association (sub. DR243) argued that surveys required under the *NSW Threatened Species Act 1995* before logging licences could be granted for state forests in the Brigalow Belt South Bioregion, meant that State Forests of New South Wales employed fewer resources in management of the forests. Blue Chip Forest Services (sub. DR248) considered that while changes to NSW legislation governing farm forestry may improve the certainty of harvesting rights, they would

[19] An example of such impacts of changes in native vegetation regulation on farm forestry was provided by Darren and Peter Hepburn (sub. 75) who borrowed $300 000 to purchase a property in New South Wales in 1993 after assurances from various government departments that they would be able to harvest the timber on the property. The introduction of SEPP 46 in 1995 resulted in refusal of permission to clear the timber leading to a significant ongoing interest burden on the debt and a substantial decline in the property's value.

increase operating and compliance costs and occupational health and safety risks. The NSW Forest Products Association (sub. DR276) also expressed concern that excessive compliance costs, particularly those associated with threatened species legislation, could provide a significant disincentive to farm forestry.

The Commission received few submissions from landholders or land users outside the farming, grazing and forestry industries. Nonetheless, native vegetation and biodiversity regulations do impose some costs on other industries. As with agricultural industries, these costs would need to be compared with the benefits of vegetation clearance and biodiversity regulations to assess the overall impact of the regulations. It is also desirable to minimise the costs imposed in achieving any desired level of environmental benefits.

Mining usually generates very high value added per hectare of land used. Hence requirements related to vegetation clearance, often imposed via offset and revegetation policies, although expensive, usually do not threaten the viability of large mining ventures. However, because miners usually do not commence exploration until they have examined the costs of land use restrictions, projects which have been deterred by vegetation clearing restrictions will often not be obvious as they will never commence.

Native vegetation aspects of mining activities have traditionally been regulated under State and Territory mining legislation administered by mines departments.[20] The operation and impacts of this system appear to have been largely accepted by mining companies. Nonetheless, the Queensland Resources Council noted that the costs of complying with biodiversity regulation could be high:

> Although it is likely that mining companies are better placed to work through the biodiversity legislative maze compared with individual landowners, it can still be a prolonged process with significant direct and holding costs. The frustration and confusion noted by primary producers is understood. (sub. DR311, p. 2)

The Commission has received no other submissions from large mining companies or their associations.

Smaller, more marginal deposits are often mined most efficiently by small operators with low overheads. The Prospectors and Miners Association of Victoria (sub. 117) considered that native vegetation regulation was a major contributor to the large decline in applications for small (five hectares or less) mining licences in Victoria over the past decade. For small exploration and mining operations, the costs of meeting various regulatory requirements, including the native vegetation and

[20] The WA Government (sub. DR290) noted that mineral exploration and production in that State required approvals under a range of environmental legislation, as well as the *Mining Act 1978*.

biodiversity regimes, are a greater proportion of costs and can potentially influence the viability of some projects.

In some jurisdictions, infrastructure industries may be given exemptions from vegetation clearing controls. The Commission has not received any submissions from infrastructure providers. Nonetheless, there will clearly be some impacts on them in complying with native vegetation and biodiversity regulations, particularly as roadside verges are often the cheapest and most convenient route for infrastructure. Ian and Sue Jack of Barnawartha in Victoria (sub. 141) noted that in their area, Telstra had to place lines through private land as the council would not allow any disturbance to wattle regrowth on the road reserve. As with large-scale mining, the high value added and relatively low land requirements of infrastructure industries usually will mean that the impact of vegetation clearance and biodiversity regulations is likely to be minor relative to the size of the enterprise. Nonetheless, the absolute size of the impacts can be substantial for the projects concerned.

Vegetation at the side of roads is often one of the few opportunities for vegetation corridors and hence can be highly prized for its environmental benefits. In South Australia this vegetation is protected, and Sally McKay (sub. 78) of One Tree Hill in South Australia noted the costs of poor drainage and the undermining of roads by tree roots. In Victoria vegetation clearance (including removal of branches) for road construction and maintenance is covered by the *Planning and Environment Act 1987* and if clearing is allowed, offsets are usually required from the constructing authority. VFF (sub. 149) noted that considerable expense was involved in moving the route of the Craigieburn bypass to protect rare species of flora and fauna. A number of submissions commented on the additional costs in clearing and maintaining roadside verges as a result of restrictions on clearing vegetation. Robin Weatherald (sub. DR271) of Strathbogie Shire in Victoria indicated that tree management was the largest item in the cost of road resealing in that shire.

North Grampians Shire Council in Victoria was concerned that safety of road users would be compromised by restrictions on clearing trees.

> A road's purpose is primarily for public traffic and for another level of government to put restrictions on public safety through environmental controls is not acceptable. Alternatively the roads' budget is funding net gain at the detriment to road safety. (sub. 150, p. 1)

Kloeden et al. (1999) estimated that 23 per cent of deaths and 17 per cent of serious injuries to car occupants in South Australia between 1985 and 1996 were the result of vehicles colliding with trees. They recommended roadside tree planting policies of road authorities and councils be reviewed to avoid plantings in hazardous

locations and rectify dangers posed by trees located within nine metres of rural roads and one metre of urban roads.

Trees on roadsides and median strips pre-date regulations restricting vegetation clearance. However, to the extent that road authorities or councils are constrained from appropriately clearing or managing roadside vegetation, the cost of maintaining road safety will be increased or safety will tend to be compromised.

The Wildflower Society of Western Australia (sub. 33) noted that salinity can cause damage to roads, rail lines and buildings. The WA Government (sub. 151) estimated that salinity increased repair and maintenance costs for the State's roads by $505 million per year and for railways by $11 million per year. In areas suffering from, or prone to, salinity in which targeted vegetation retention would reduce these problems, there could be benefits from the regulations for expenditure on infrastructure.[21] The WA Government (sub. DR290) also noted declines in the quality of public drinking water due to salinity caused by excessive vegetation clearing.

In certain regions, tourism based on environmental features will benefit from retention of some (but not necessarily all) environmental amenities in the region. This may involve direct protection of the amenity concerned or the control of processes that might endanger it. No submissions have been received from eco-tourism operators, but as discussed above, environmental organisations and several shire councils have pointed out benefits to tourism from native vegetation and biodiversity retention.

The apiculture industry benefits from retention of native vegetation (especially eucalypt woodlands) on agricultural properties.[22] Conversely, honeybee pollination of crops provides increased crop yields for landholders (Victorian Apiarists Association, sub. DR297). While regulations protecting native vegetation will provide some benefits to both the apiculture and agriculture industries, market mechanisms are available for apiarists and landholders to negotiate the levels of native vegetation provision on private land to efficiently attain these benefits.

[21] These benefits are not the current costs of salinity damage, but rather are the reduction in future costs due to native vegetation retained or added as a result of the regulations. Only some of this extra vegetation will contribute to salinity reduction. These costs savings will be long term in nature and hence need to be discounted back to current values.

[22] The apiculture industry also has a significant interest in access to native vegetation on crown land but these issues are beyond the terms of reference of this inquiry.

FINDING 6.6

Regional impacts of the regulations appear to have been limited to date, although impacts on some smaller communities may have been more serious. Controls on broadscale clearing are likely to have more significant impacts on regions with significant native vegetation cover.

The regulations may have imposed costs on forest industries in some jurisdictions, especially by creating uncertainty about future rights to harvest native timber planted on private land. The regulations also impose costs on some mining and infrastructure projects, although often these will be small relative to the size of the project. In some cases, native vegetation regulations have added substantially to the costs of road construction and maintenance.

6.4 Government measures to mitigate negative impacts

The Commission is required to report (terms of reference 3(a)(iv)) on the extent to which existing government measures are mitigating any negative impacts of the regulations. In some jurisdictions such measures are contained in parts of the regulatory framework being considered but, in most cases, they are part of broader environmental programs.

Direct measures

In the past, in most jurisdictions, there has been only limited government assistance to landholders directly related to regulations restricting native vegetation clearance or protecting biodiversity. This, at least partly, reflects the potentially significant cost of compensating landholders for the impact of these regulations. The ACF (2002 p. 5) noted:

> The payment of compensation for regulating land use or water access would be an unreasonable burden on the public purse. The high cost of compensation would leave governments in a position where they could no longer afford to enforce environmental laws or social responsibilities.

Where compensation is payable (for example, the Victorian *Flora and Fauna Guarantee Act 1988*), the regulations tend to be used sparingly.

Some of the reluctance to provide compensation may also reflect the fact that some benefits of retaining selected native vegetation will accrue to landholders

individually and/or as a group.[23] If such benefits are greater than the negative impacts on landholders of retaining the vegetation concerned, government assistance would normally not be appropriate and in many cases regulatory intervention would not be necessary.[24]

A number of jurisdictions provide some funds to landholders affected by land clearing and biodiversity regulations, especially under endangered flora and fauna legislation. Regulations protecting rare and endangered taxa affect far fewer landholders than vegetation clearance controls. Some jurisdictions provide assistance with maintenance of environmentally-sensitive areas. For example, Anthony O'Halloran (sub. 80) of Binnaway New South Wales, noted that he had received funds under the NSW Threatened Species Conservation Act to fence off creek lines on his property.

In some cases, compensation has involved purchasing all or part of a property regarded as being of particular environmental value to the community. Some participants claimed that the prices offered for their properties were well below market value.

Introduction of legislation controlling native vegetation clearance has often meant that these compensation arrangements do not need to be used by government because habitat protection is achieved by clearing restrictions. Potentially broader schemes such as the Western Australian Natural Resource Adjustment Scheme have been discontinued. More details of these schemes are provided in appendixes C–J.

Environment ACT (sub. 17) has a policy of facilitating a shift to 99-year leases on rural properties, incorporating land management agreements identifying special conservation areas and setting out management measures required to achieve agreed conservation outcomes. The ACT taxpayer effectively compensates leaseholders for these restrictions and requirements as the valuation for lease purposes reflects the land's reduced stock-carrying capacity and then a further discount is applied to that valuation to allow for the costs of ongoing management of the protected vegetation.

The WA Government (sub. DR290) indicated that it intended to identify those who had been worst affected by the introduction of clearing controls and determine ways to provide assistance to them.

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[23] To the extent that the benefits accruing to a landholder from retaining or restoring vegetation are greater than the costs of doing so, a landholder would be expected to voluntarily undertake such action, and neither regulation nor compensation would be necessary.

[24] Where the benefits from retaining or restoring vegetation accrue to a group of landholders but the costs of vegetation retention are spread unevenly between them, there may be a role for government to facilitate cooperation and to achieve an efficient sharing of the costs.

In Queensland and New South Wales, the two jurisdictions with the greatest rates of recent woody vegetation clearance, funding packages are now being developed that will be directly linked to at least some of the proposed tighter restrictions on vegetation clearance to be imposed on landholders. The New South Wales and Australian Governments have announced a joint $406 million package (from National Action Plan for Salinity and Water Quality (NAPSWQ) and Natural Heritage Trust (NHT) funds) to end broadscale vegetation clearing and promote good landcare practices. In May 2003, the Australian and Queensland Governments announced a planned adjustment assistance package of around $150 million as part of a proposal to eliminate broadscale clearing in Queensland by the end of 2006. The Queensland Government has since indicated that it will fund this package from its own resources (Queensland Legislative Assembly, 18 March 2004). Details of both the New South Wales and Queensland packages are currently being finalised.

Indirect measures

Most government measures that mitigate or offset the impacts of native vegetation and biodiversity regulation are part of broader environmental programs. These measures are not compensation for lost production, but rather provide assistance for additional maintenance and for management actions such as planting and fencing of revegetation areas or maintenance of riparian strips. They are not directly linked to mitigating the impacts on landholders of the regulations examined in this inquiry.

Natural Heritage Trust

The NHT was established in 1997 to help restore and conserve Australia's environment and natural resources. It incorporates the Landcare and Bushcare programs. NHT funds are provided for a wide range of environmental activities including vegetation management and reduction of land degradation. The NHT has now been extended to 2006-07 with additional funding of one billion dollars. For regional level programs, State and Territory Governments have agreed in principle to match Australian Government funding.

While funding and related voluntary community involvement under such programs can be of assistance to landholders, it will usually not cover landholders' costs (less any associated benefits) incurred in retaining and managing native vegetation.

Murray Irrigation Ltd from New South Wales noted:

> NHT incentives available to landholders ($1500/km for fencing) do not reflect a reasonable share of the true cost of the work to the landholder. Most incentives established eight to ten years ago are now out dated and do not reflect the time and

> money outlaid by the landholder to undertake vegetation works. Vegetation incentives do not even account for the cost of materials to erect the fence let alone labour and management costs for weeds and vermin control. The economic opportunity cost of lost production by setting aside land for vegetation activities is also not considered. (sub. 79, p. 2)

Similarly the Serpentine–Jarrahdale Land Conservation District Committee (sub. 66) from Western Australia noted that grants are available from various NHT programs to go towards some of the costs of retaining and managing native vegetation, but observed that these only met part of the cost. For example, while fencing costs around $3500 per kilometre, typically grants are $1000–$1500 per kilometre.

The Tasmanian Conservation Trust considered that much NHT money provided to Tasmania did not increase total government funding for land conservation:

> A significant proportion of what money has been contributed by the Commonwealth for NHT 1, and Landcare before it, has been shamelessly misappropriated by State agencies through cost-shifting. (sub. 84, p. 8)

In those cases where projects provide some production or amenity benefits to landholders, only partial funding may be sufficient to cover net costs to landholders. A number of environmental groups, including Wetland Care Australia (sub. 59), noted that small amounts of catalytic funding from such sources could promote significant community and landholder involvement in conservation activities.

National Action Plan for Salinity and Water Quality

The Council of Australian Governments endorsed the NAPSWQ in November 2000 and all jurisdictions have committed to a total funding package of $1.4 billion over 7 years. The aim of the NAPSWQ is to prevent, stabilise and reverse the most urgent of Australia's salinity and water quality problems. The NAPSWQ focuses on developing regional plans and objectives in close consultation with communities in all highly affected regions.

The types of projects funded by NAPSWQ include development of integrated catchment management plans, provision of technical and scientific support for communities and landholders and assistance for selected revegetation, and for rehabilitation and maintenance of existing vegetation.

Many NAPSWQ projects will provide benefits to landholders as a result of vegetation management on their own or other landholders' properties. However, only those projects that fund the management of vegetation retained because of

native vegetation or biodiversity conservation regulations will mitigate the effects of those regulations on landholders.

Local government

The limited revenue base of local government together with the often high cost of fencing and managing native vegetation, limits the extent of expenditure it can undertake on environmental programs. Janet and Kevin Blake from Shelford in Victoria noted the difficulties facing rural shires:

> As a [local government] Councillor in a small rural municipality I know that it is very difficult to adequately recompense people for their public good conservation particularly when it comes to the broad acre farms. This is compounded when the municipality has many properties with similar issues/ assets/ liabilities and a low rate base to provide rate relief whilst maintaining essential infrastructure such as roads. (sub. 188, p. 8)

However, in a number of cases, jurisdiction-wide rules for targeted rate rebates are applied. In addition, some local councils, particularly those with a significant non-agricultural rate base, provide assistance and encouragement in managing native vegetation or give rate rebates on rural land that is not cleared.

In New South Wales, councils are required under the *Local Government Act 1993* to provide rate rebates where landholders have entered into voluntary conservation agreements. Similarly, in South Australia, land on which Native Vegetation Heritage Agreements apply is valued at zero for rating purposes. In Western Australia land that cannot be cleared, or that is subject to other restriction, is subject to a rate reduction or exemption. However, the Western Australian Local Government Association (sub. DR260) noted that land located near metropolitan areas, if placed under a conservation covenant and hence no longer in agricultural use, can be valued at its urban potential, thereby, in some cases, attracting land taxes greater than the saving in rates.

A number of Victorian councils provide rate rebates or cash grants where land is set aside (sometimes under covenant) for environmental purposes. For example, Nillumbik Shire Council (sub. 174) provides 20 per cent rate rebates for undertaking specified works including protection of remnant vegetation and revegetation using indigenous species on agricultural properties over 30 hectares. Similarly, some Queensland local councils (for example, Mackay) provide rate rebates for covenanted land.

Government measures to mitigate negative impacts of the regulations on landholders have been limited and have not been available to all affected landholders. Any payments typically cover only a small portion of the negative impacts of the regulations.

6.5 Summary

The regulation of native vegetation clearance and biodiversity conservation has had a range of significant negative impacts on those landholders affected by them. At their most basic, these effects have involved a reduction in the area of land available for agricultural production. But often they also have imposed significant restrictions on the normal operations of agricultural enterprises, preventing many landholders from implementing innovation in technology and farming methods and increases in scale necessary to achieve the productivity improvements required to remain viable. In the longer term, the entry of new younger farmers is likely to be discouraged because of the significant restrictions on any development of new or existing properties which involves clearing native vegetation.

Restrictions on clearing vegetation that has regrown or on controlling existing vegetation by thinning or lopping branches appear to have been particularly onerous (for example, in restricting rotation and fallowing of land), often for little apparent environmental benefit and at times leading to environmental harm (chapter 5).

The Commission's analysis of the likely impacts of preventing broadscale clearing in the Moree and Murweh Shires, together with information obtained from submissions and visits to landholders, indicates that for landholders as a group, aggregate Australia-wide negative impacts of the regulations will be large although the distribution of costs among landholders is very uneven.

Reflecting reduced income-earning potential, the values of significantly affected properties have fallen substantially. The ability of landholders to obtain finance has also declined or the cost of finance has increased.

Landholders without significant areas of native vegetation, often neighbours of those adversely affected, have largely escaped these negative impacts. Somewhat perversely, the negative impacts tend to fall heaviest on those who have taken a greater interest in retaining native vegetation in the past.

There are positive impacts for many landholders in having native vegetation on their properties. However, much of this vegetation will be retained or planted

voluntarily for the net private benefits it provides. In the case of regional externalities (for example, salinity and erosion) landholders will benefit from some, but not all, of the native vegetation retained because of current regulations.

A variety of measures (some now discontinued) have been provided by all levels of government that partially mitigate some of the negative impacts on some landholders. However, in general, these measures offset only a small portion of landholders' costs, particularly for those severely affected by the regulations.

There are some negative impacts on non-agricultural industries, but generally these activities are much less land intensive and therefore impacts comprise a smaller share of costs. Small-scale mining appears an exception. In certain areas, tourism may have received positive benefits from the retention of additional native vegetation and biodiversity.

Broader regional impacts appear to have been limited to date, although smaller communities in heavily vegetated areas may be more affected.

7 Assessment of current regimes

The analysis presented in the preceding chapters, and the descriptions of the current regimes presented in appendixes B–J, are drawn together in this chapter to present an overall assessment of the operation of those regimes.

The preceding analysis suggests that there is a range of problems with the current regimes in many jurisdictions which have resulted in unnecessary costs being imposed on landholders and the community. It is unclear how effective the regimes have been in achieving their environmental objectives, — there is mixed evidence of some achievements, but also of perverse environmental outcomes.

In this chapter, characteristics of 'good' regulation are first outlined to provide a framework for assessing the operation of the current regimes. Particular emphasis is placed on identifying possible reforms to improve the current regimes in order to minimise their costs while increasing the probability of achieving their environmental objectives. Possible alternatives to the current regulatory arrangements are discussed in the next chapter.

7.1 A framework for assessing regulation

In order to achieve their objectives at minimum cost to the community, regulation must be well designed and implemented. The OECD suggests that in general:

> There is little doubt that most governments can substantially reduce regulatory costs, while increasing benefits, by making wiser regulatory decisions. A wide range of anecdotal and analytical evidence supports the conclusion that governments often regulate badly, with too little understanding of the consequences of their decisions, and with little or no assessment of any alternatives other than traditional forms of law and regulations. (quoted in Argy and Johnson 2003, p. 5)

The analysis in the preceding chapters suggests that there is significant scope for improvement in many of the current regimes.

Characteristics of 'good' regulation

The general characteristics of good regulation are summarised in box 7.1. They provide a reference point against which the current native vegetation and biodiversity regulations in the various jurisdictions can be assessed. The characteristics are similar (but not the same) to the regulation impact statement (RIS) process criteria discussed in chapter 1. Preparation of a RIS when formulating legislation will help ensure that the resulting legislation embodies many of these characteristics.

Importantly, the characteristics of good regulation should be considered not only when designing new regulations, but should also guide the assessment and reform of existing regulations. Argy and Johnson (2003, p. 7) argue that:

> The principles in the checklist need to be applied not only when designing new regulations, but also when reviewing existing regulation. Even well designed regulation must be reviewed and updated over time. With changing technology and social and economic conditions, regulation can become less relevant, ineffective or inefficient.

Box 7.1 **Characteristics of 'good' regulation**

The general characteristics of good regulation — regulation which is both effective in addressing an identified problem and efficient at minimising costs — are that it is:

- the minimum necessary to achieve its objectives — it should avoid unnecessary restrictions and be targeted to the problem it is trying to alleviate;
- not unduly prescriptive — it should, where possible, be outcome-focused and have some flexibility for agents to determine the best way to comply;
- assessable, transparent and accountable — the regulation should be reasonably easy to understand for those required to comply with it and should also be fairly and consistently enforced and be open to appeal;
- integrated and consistent with other laws — it should avoid unnecessary duplication or conflict with other legislation;
- communicated effectively — written in 'plain language' and be as clear and concise as possible;
- mindful of the compliance burden imposed — it should be proportionate to the problem it addresses and avoid the imposition of unnecessary costs; and
- enforceable — it should provide the minimum incentives to ensure reasonable compliance and be monitored and policed effectively.

Sources: Argy and Johnson (2003); Coghlan (2000).

7.2 Achieving environmental goals

A key characteristic of good regulation is that it is the minimum level of intervention necessary to achieve its objectives and that the regulatory instruments are well targeted to the objective. To determine whether the current regimes are the minimum necessary intervention to achieve environmental goals, feasible alternative instruments must be assessed. These are discussed in chapter 9. This section considers the effectiveness of current regulatory regimes in targeting their stated objectives.

Specification and clarity of objectives

The objectives of legislation regulating the clearing of native vegetation and promoting the conservation of biodiversity are diverse. In some cases, the legislation has no stated objective. In other instances, the objectives are very broad and not well defined, while some legislation has well-specified objectives (chapter 5). The Office of Regulation Review suggests that the objectives of government action:

> … should be clear, concise and as specific as possible. It should be specified broadly enough to allow consideration of all relevant alternative solutions, but should not be so broad or general that the range of alternatives becomes too large to assess, or the extent to which the objective has been met becomes too hard to establish. (ORR 1998, p. D3)

It is important that the objectives of the regimes be clearly stated so that landholders and the community understand what the regimes are intending to achieve. The performance of a particular regime, in terms of how well it is achieving its objectives, can also be assessed in a transparent manner.

Even when objectives are explicitly stated, if they are poorly specified, they may lead to the use of instruments that are not adequately targeted to dealing with the problem the regulation is intended to address (chapter 5). (Of course the problem is likely to be even greater if the objectives are not explicitly stated.) This may increase uncertainty, add to compliance costs (borne by both landholders and government agencies) and hinder the attainment of desired environmental outcomes.

FINDING 7.1

The effectiveness of regimes to protect native vegetation and conserve biodiversity would be enhanced if the objectives of the regimes were clearly specified.

Targeting objectives

Good regulation should be targeted to the underlying problem it is trying to alleviate, and not just treat symptoms of the problem. Many of the current regimes (even when objectives are stated) tend to regulate clearing of native vegetation as an end in itself rather than promote improved environmental outcomes (chapter 5).

Management of native vegetation and biodiversity

In general, regimes currently impose a permit system on those wishing to clear native vegetation. The relevant agency may refuse permission for the clearing to take place, or approve it with or without conditions. In some jurisdictions, the conditions may involve planting offsetting native vegetation, fencing-off remnant vegetation on the property or protecting existing native vegetation through a legal covenant (chapter 3).

This approach, while nominally protecting native vegetation and biodiversity, provides the landholder with no further incentive to manage the area for which permission to clear has been denied and which may have consequently been set aside (chapter 5).

It is possible that, although a condition of a permit is that other native vegetation be protected, the environmental value of this vegetation may decline over time, as it is progressively degraded through lack of management. There may be on-going problems of weed invasion and degradation of environmental values through feral animal infestation.

Fragmentation of native vegetation holdings

The existing arrangements may prevent the clearing of native vegetation and may require offsets in cases when clearing of an area is approved. However, this approach may lead to the fragmentation of native vegetation holdings with relatively small isolated areas of native vegetation being preserved in the midst of a largely cleared landscape.

Such fragmented pockets of native vegetation may be of relatively limited environmental value (especially if there are large areas of similar vegetation nearby, for example in a national park). The relatively lower value of creating these small areas of native vegetation could be considered as part of the assessment of offsets required when other areas are cleared.

Triggering the regimes

An additional disadvantage of the permit type system is that it is only activated if landholders apply to clear native vegetation.

An implication of this is that the regimes impose no pressure or generate no incentives for those landholders who have no desire to clear any further land on their farms to conserve native vegetation or plant more native vegetation. The costs of the preservation of native vegetation will be borne by those who have substantial areas of native vegetation left on their land.

The regimes therefore rely on affecting a relatively small number of landholders in order to achieve their environmental objectives. The opportunity to generate additional environmental values from the remaining landholders is lost (or relies on the use of other instruments).

FINDING 7.2

Permit systems to regulate clearing of native vegetation:

- *do not provide on-going incentives for the voluntary management of remnant native vegetation;*
- *may encourage the fragmentation of native vegetation holdings; and*
- *affect only those who apply to, or intend to, clear native vegetation.*

7.3 Prescription and flexibility

Good regulation should not be unduly prescriptive, especially not to the point where it constrains the choice of instruments that can be used to achieve its objectives. Good regulation should focus on specifying outcomes and allow flexibility in how those objectives are achieved, particularly to take account of regional and local factors when developing processes and policy instruments.

Definition of regrowth

The definition of regrowth is an issue in most, if not all, jurisdictions. In general, landholders are able to clear regrowth without applying for approval. However, once regrowth reaches a certain age or height (depending upon the jurisdiction) it is defined as remnant and permission must be sought to clear it (chapter 3). The definition adopted in most jurisdictions is arbitrary and allows for little flexibility in its application.

The current arrangements provide an unintended incentive for landholders to clear regrowth before there is a requirement to apply for a clearing permit. In some cases, this has led to pre-emptive clearing and reduced the period of time (consistent with past agricultural practice) that landholders leave land fallow. Other examples of the perverse outcomes resulting from current definitions of regrowth are discussed in chapter 5.

The definition of regrowth must balance the need for administrative simplicity and ease of understanding with the need to minimise undesired adverse impacts on landholders and, indeed, the environment.

Simplicity and ease of understanding appear to have been the overriding criteria for most jurisdictions. Simplicity may help reduce the administrative costs imposed on government agencies, but a simple rule, such as age or height, ignores the diversity of situations that may occur within a jurisdiction (chapter 3).

One approach is to permit the clearing of regrowth without restriction. While administratively simple, this removes the option to regulate the clearing of regrowth in areas where it is of high environmental value. Another option is to permit the clearing of regrowth (without the need to seek approval) where the proposed clearing is consistent with past agricultural practices. This approach, while avoiding the need to strictly define regrowth, would still require determination of what is consistent with past practices, and may not enable the protection of high conservation value regrowth.

Another option is to provide for flexibility in the definition of regrowth. By avoiding a strict definition of regrowth, and providing the opportunity for regional bodies to provide input, a flexible definition can reflect the differing environmental value of regrowth across regions and different agricultural practices and requirements.

New South Wales has adopted a more flexible definition of regrowth in the *Native Vegetation Act 2003*. Regrowth is defined as all native vegetation that has grown since 1990 (or since 1983 in the Western Division). In addition, native vegetation may also be considered regrowth in instances when it has grown after a date specified in a Property Vegetation Plan — the date being based on existing rotational farming practices. Under the Act, approval is not required to clear regrowth native vegetation.

FINDING 7.3

A flexible definition of regrowth — for example, reflecting regional differences and objectives — would reduce the disruption to established patterns of agricultural production and facilitate improved environmental outcomes.

Regional committees

In a number of jurisdictions, regional committees have been established to prepare management plans for their area and to provide advice on clearing and biodiversity issues. These committees provide an opportunity for local knowledge and experience to be considered in the operation of native vegetation and biodiversity conservation regimes.

Overall, the success of these committees has varied. In some cases, the committees have taken a long time to develop regional vegetation management plans and in other cases plans have not yet been finalised (for example in New South Wales). In some cases, when plans have been established they have been overridden by jurisdiction-wide policies (such as the moratorium on further clearing in Queensland) (chapter 3).

There is significant regional variation throughout each of the jurisdictions within Australia, and regional committees or bodies are likely to be well-placed to take account of specific local factors when formulating management plans.

FINDING 7.4

Flexible regimes able to accommodate the contribution of regional committees and to take account of regional differences are likely to promote better environmental outcomes.

7.4 Accessibility, transparency and accountability

Efficient and effective administration and implementation can reduce the costs borne by landholders and facilitate the attainment of a regime's environmental objectives.

Accessibility

The effective operation of the regimes requires that landholders understand what is required of them by the regulations. The Commission has received evidence that some landholders are unsure of their obligations and where to seek information about them. This problem is exacerbated by the often poorly-specified objectives of the regimes (section 7.2), the multiplicity of legislation (section 7.5) and occasional conflicting advice from government agencies (chapter 3).

As part of the program to inform landholders about their obligations under the Australian Government's *Environment Protection and Biodiversity Conservation*

Act 1999 (EPBC Act), an information officer from the Department of the Environment and Heritage has been seconded full-time to the National Farmers' Federation (NFF) to assist landholders and others to understand the operation of the Act (sub. 190).

Extension officers located in rural areas can also assist in explaining the obligations of landholders and can provide information on how to manage native vegetation. Extension officers can also provide a conduit through which information and ideas from landholders can flow to government and be incorporated into the policy-making process. However, there appears to have been a reduction in extension services to rural landholders and a change in the focus of their work (chapters 5 and 6).

FINDING 7.5

Appropriately-trained extension officers and the placement of departmental staff with representative organisations would facilitate landholder understanding of their obligations and facilitate the operation of the regimes.

Transparency and accountability

Transparency is important in ensuring the accountability of those responsible for administering the regime and making decisions. Accountability and transparency also require that decisions are made in a timely manner and that there are avenues for appeal if there is concern that due processes have not been followed.

A number of participants have commented on the lack of transparency in the assessment process (chapter 3). The apparent lack of transparency has contributed to a perception in some cases that the regulations are being applied inconsistently, and that individual departmental officers are given too much discretion in the decision making process (chapter 3).

Some jurisdictions have attempted to facilitate transparency by publishing guidelines that provide information on how applications will be assessed. This is an important step in ensuring transparency and accountability of the decision-making process.

However, the publication of guidelines alone is not sufficient to ensure full transparency and accountability. The decision-making process must be seen to be consistent with the guidelines. It is the lack of transparency at this stage that is of particular concern to landholders. They feel unable to reconcile the decision with the guidelines (in those jurisdictions that have them) and are not given enough information as to why a particular decision has been made.

FINDING 7.6

Transparency and accountability of the assessment process would be enhanced if the agency making the decision is required to make its reasons available. This would include a statement of any conditions attached to the clearing permit and the reasons why these conditions have been imposed.

Timeliness of decisions

Applications to clear native vegetation should be assessed and a decision made in a timely manner (while not adversely impacting on the quality of the assessment process). A range of factors can affect the timeliness of decisions, such as the complexity of the issue, the efficiency of the regulatory agency and whether the applicant has supplied all necessary supporting information.

However, excessive delays in making decisions impose direct financial costs on government agencies and landholders and also generate uncertainty and disrupt landholders' commercial plans.

In some cases, decisions appear to have been made within their statutory timeframes, for example under the EPBC Act (chapter 4). In contrast, the Audit Office of New South Wales (AONSW 2002) found that the time taken to assess clearing applications was often considerably longer than the 40-day period recommended in the administering agency's service guarantee (chapter 3).

FINDING 7.7

The inclusion of statutory time-frames within legislation would provide an objective standard against which the performance of the regulatory agencies can be assessed.

Assessment of costs and benefits

The Commission received evidence that, in most jurisdictions, the costs and benefits of the proposed land clearing were not taken into account in the decision to allow or refuse clearing (chapter 3). In fact, it appears that, while the benefits of retaining native vegetation are assumed to always be positive, there is often no account taken of the costs imposed on landholders (or the wider community).

In cases where a permit application is refused on environmental grounds, a reassessment of the application could take into account the economic and social costs of the decision on the landholder and the community.

FINDING 7.8

Transparency and accountability of the assessment process would be improved if the economic and social cost to landholders and the community of rejected clearing applications were explicitly considered.

Dispute-resolution arrangements

In most jurisdictions, appeals against decisions relating to clearing of native vegetation are heard in courts or tribunals that hear general planning disputes. In some jurisdictions, such as Western Australia and the Northern Territory (in relation to clearing on freehold land), there are currently limited opportunities to appeal decisions (chapter 3). However, recent amendments to the *Environmental Protection Act 1986* in Western Australia will introduce an independent appeals process (appendix G).

A number of participants noted that the costs (both financial and time) may dissuade landholders from appealing clearing decisions (chapter 3). Participants were also concerned about limited opportunities for appeal in cases where they believed that government officials had exceeded their prescribed powers (chapter 3).

FINDING 7.9

Access to fair and impartial dispute-resolution processes is important for promoting the transparency and accountability of the assessment process.

7.5 Integration and consistency with other regulations

In all jurisdictions, there are numerous pieces of legislation that have an impact on the protection of native vegetation and the conservation of biodiversity. This is a problem because different legislation may have differing or conflicting objectives (chapter 5).

In some jurisdictions, there is overlapping legislation with different environmental or planning objectives that affects the clearing of native vegetation and biodiversity conservation. There may be issues regarding the appropriate operation of each piece of legislation but, taken together, the result is confusing for landholders (chapters 3 and 5).

The multiplicity of legislation and agencies involved adds to uncertainty and compliance costs. The NFF stated that, with regulation at the State, local and national level:

> There is a mass or a myriad of complex levels of regulations that result, in a lot of cases, in an unacceptable uncertainty in terms of development potential for farmers across the country. (trans., p. 253)

Uncertainty can disrupt and delay investment plans and farm development. This imposes costs on landholders, because the returns from investment are delayed, and the community also bears costs in the form of forgone production.

The WA Government has indicated that recent changes to its regime will 'streamline the approval process' and will 'allow landowners to seek most environmental approvals from a single Department' (sub. DR290, p. 14).

FINDING 7.10

A reduction in the number of legislative instruments in some jurisdictions may improve the integration and the consistency of various elements of the jurisdiction's environmental protection regimes.

7.6 Effective communication

Good regulation is characterised by being written in 'plain language', and by being as clear and concise as possible. The preparation of a RIS prior to legislation being passed by parliament can provide an opportunity for government agencies and other interested parties to comment on the proposed legislation. Regulatory best practice requires that the RIS be prepared for the relevant decision maker (for example, Cabinet or the relevant Minister) as well as being tabled in parliament.

A well prepared RIS is an essential element of the policy-making process. It is at this stage that the language used in the legislation, the requirements imposed on landholders and other elements of the regime can be examined closely. In particular, it provides an opportunity to assess whether regulation is the best response to the problem being addressed.

In most jurisdictions, legislation creating native vegetation or biodiversity conservation regimes was enacted without a formal RIS being undertaken (chapter 3).[1] A RIS was prepared prior to the introduction of the Australian Government's EPBC Act but the costs for industry from the potential restrictions the Act might place on their activities were not considered as part of the process (chapter 4).

[1] Native vegetation and biodiversity legislation was first enacted before all jurisdictions undertook RIS processes. All jurisdictions, except Western Australia, now have RIS requirements for new legislation.

FINDING 7.11

Preparation of a comprehensive regulation impact statement can improve the quality and effectiveness of the regulation.

7.7 Compliance burden

Regulation can impose significant compliance costs on those involved. However, in the case of good regulation, the compliance costs imposed should be proportionate to the size of the problem addressed and avoid imposing unnecessary costs.

Participants argued that the current regimes in a number of jurisdictions can impose very significant compliance costs on landholders (chapter 3). These costs were largely due to the requirement in a number of jurisdictions to commission (at the landholder's expense) independent assessments of the impact of clearing.

Some participants expressed concern that these reports were not necessary and were simply a 'fishing trip' by government agencies hoping to find a reason to refuse the clearing permit.

FINDING 7.12

Governments should be mindful of the compliance costs imposed on landholders by requirements for them to provide information in support of permit applications.

7.8 Monitoring and enforcement

Effective monitoring and enforcement of regulations are essential if regulatory regimes are to achieve their objectives.

Ongoing consultation

Each government and agency administering the regimes should be receptive to feedback from landholders — landholders are well placed to provide information on the performance and effectiveness of the regime. The Institute of Public Affairs argued that a purely scientific approach to policy formulation, while providing some factual basis for the policy:

> … has less to offer on the questions of practical management of the environment at the farm and regional level than the advice of the farmer and forester. Scientists and bureaucrats have no experience in managing the land or in handling the risks that are involved. Much more practical input to policy is required. (sub. 135, p. 13)

Individual landholders often have an intimate knowledge of their land and local area, and good regulation should provide an avenue for this information and experience to be considered in the on-going refinement of the regime.

In some cases, individuals (and their representative organisations) have been able to provide input on legislative regimes. However, there is a widespread dissatisfaction among landholders that there has been a lack of consultation (chapter 3). The NFF argued that the lack of consultation with landholders over the operation of the regimes has:

> … reduced the 'on-ground' effectiveness of the native vegetation management regimes through failing to engage and utilise the local land management knowledge and experience of farmers. (sub. 128, p. 27)

FINDING 7.13

Many of the current regimes intended to protect native vegetation and conserve biodiversity appear not to utilise the knowledge and experiences of individual landholders.

Information and mapping

The Commission received evidence from landholders in several jurisdictions indicating that the maps and information used by the authorities to assess the extent of native vegetation coverage and clearing were inaccurate. Accurate maps and information on native vegetation coverage are essential for informed decision making and if there is to be effective monitoring and enforcement of clearing controls and biodiversity conservation. The extent of the problem is exacerbated by the difficulty in revising maps and rectifying known errors (chapter 3).

It may be unavoidable that errors will appear given the need to map large areas based on aerial photographs or satellite imagery. However, given the crucial role that this information plays in the management of native vegetation and biodiversity, it is important that the data be as accurate as possible.

FINDING 7.14

It is important that there are mechanisms that enable mapping errors to be corrected when better information is available. Landholders themselves can be a key source of information.

Performance monitoring and review

Effective and efficient regulatory regimes should ensure that there is on-going monitoring to make certain that the regime remains relevant in changing situations. The regimes can be 'fine-tuned' during their operation to deal with any unexpected problems or issues that may arise once they have been in operation for some time.

In addition, the regimes should be reviewed periodically to ensure that they are still the most appropriate method for achieving the jurisdiction's environmental objectives. The EPBC Act contains a requirement for review 10 years after its introduction. In Western Australia, the recently passed *Environment Protection Amendment Act 2003* requires that the Act be reviewed every five years (WA Government, sub. DR290). In New South Wales, the *Native Vegetation Act 2003* also has a provision requiring the Act to be reviewed after 5 years and for the review to be tabled in both houses of Parliament. Accurate data and good monitoring will be critical to inform these reviews.

FINDING 7.15

A legislative requirement to monitor the performance of the regimes and to subject them to periodic review can help ensure that the best instruments are being used to address the underlying problem and provide transparency and accountability.

7.9 Overall assessment and reform of current arrangements

This inquiry was not asked, nor has it attempted to determine, whether the benefits of the current regimes regulating the clearing of native vegetation and conservation of biodiversity outweigh the costs imposed on landholders and the community. However, the analysis presented in the preceding chapters and drawn together in this chapter, shows that there is significant scope for improvement in the current regimes. While all regimes have, or will have, some characteristics of good regulation, none are entirely satisfactory in this respect. Reforming the regimes so that they embody more of the characteristics of good regulation would reduce the costs imposed by the regimes, while improving environmental outcomes.

Some recent amendments to existing regimes in Western Australia and New South Wales appear to have made progress in the right direction. However, much of the detail is yet to be announced, and it is too early to assess how the new regimes will operate in practice.

However, even if the regimes were significantly reformed, it is not clear that they would provide the minimum (and least cost) level of intervention necessary to achieve the community's environmental objectives. Other policy instruments must be considered before this assessment is made. The advantages and disadvantages of these instruments are discussed in chapter 9, and the Commission's overall assessment is presented in chapter 10.

8 Criteria for policy selection

The terms of reference for this inquiry (3(g)) ask the Commission to make recommendations of a regulatory or non-regulatory nature that governments could consider to achieve desired environmental outcomes, while minimising the adverse impacts of the regulatory regimes. The first part of this report focused on the regulatory arrangements in place across Australia for native vegetation and biodiversity conservation. In this, and the next chapter, some other options for promoting native vegetation and biodiversity outcomes are discussed.

Choosing the best policy option for native vegetation and biodiversity conservation depends on the nature of the problem being addressed (section 8.1). It also requires a clear understanding of the objective or ultimate outcome sought and the context in which the policy will be applied (sections 8.2 and 8.3). Criteria for assessing policy options, such as efficiency, are also discussed in this chapter (section 8.4). The potential advantages and disadvantages of various regulatory and non-regulatory options for native vegetation and biodiversity conservation are discussed in the next chapter.

8.1 Characteristics of the policy problem

The underlying 'problem' that has prompted the regulatory regimes that are the focus of this inquiry is a perception that landholders provide too little native vegetation and biodiversity conservation on their land. That is, current agricultural and other land uses have failed to satisfy demand for environmental conservation. Several possible reasons for this have been canvassed (chapter 2):

- some landholders, for various reasons, may not take full advantage of the private benefits of retaining native vegetation, thus affecting environmental outcomes on individual properties;
- local externalities (which reduce incentives for landholders to take into account the full costs of environmental harm, or the full benefits of providing environmental services) may lead to insufficient retention of native vegetation with implications for the environment at a regional level; and

- conservation of native vegetation for biodiversity or greenhouse purposes displays characteristics of a pure public good, resulting in under-provision of native vegetation from a community-wide perspective.

Regulation, and some other policy options, have been implemented by governments Australia-wide to address the perceived problem of insufficient native vegetation and biodiversity conservation on private land. However, several factors complicate the decision on whether, and how, governments should act to address this.

First, while it may be possible to discern a general increase in awareness of environmental issues, and increased demand for conservation, it is difficult to gauge more precisely the level of that demand. Specifically, it is difficult to determine how much society would be willing to pay (through lost agricultural production or through funds diverted from health and education programs for example) to satisfy demands for environmental conservation. Information about demand is usually revealed through market transactions, but as markets for public goods such as biodiversity do not operate well, a key difficulty for policy design is valuing demand for native vegetation and biodiversity conservation.

Secondly, the reasons for conserving or re-establishing native vegetation on private land will depend on issues such as how much native vegetation exists, what habitat or other services it provides, and what key objectives are being pursued (for example, salinity, climate change or biodiversity objectives). This implies that the benefits of native vegetation conservation vary by region or location, as do the costs, for example, in terms of forgone agricultural production.

Thirdly, the lack of information and understanding of biodiversity processes is substantial — for example, new discoveries of species are still being made. Therefore, there is considerable uncertainty about how actions taken to promote biodiversity conservation will affect environmental outcomes (Gunningham and Young 1997). As the causes of biodiversity loss can be diffuse, it may also be difficult to attribute biodiversity loss to particular individuals.

Lastly, unless a government (the principal) acquires and manages private properties, it has to rely on landholders (as its agents) to promote biodiversity conservation outcomes on their properties, raising potential principal-agent and information-asymmetry issues.

These factors imply that, even though there may be a shortfall between the level and/or quality of native vegetation provided on private land and the socially-optimal level, the costs of policy action may outweigh environmental benefits in some cases. At a minimum, these factors indicate that policy action should be based on careful analysis of the problem, and of the expected benefits and costs of addressing it. They also indicate a need to monitor and review actual costs and benefits post-

implementation so that policies can be adapted or refined over time in response to new information and understanding of environmental issues.

A judgement on the likely effectiveness and efficiency of one policy option for native vegetation and biodiversity conservation over another depends on the problem to be addressed. For example, if little conservation occurs on private land because landholders are not taking advantage of the private benefits of native vegetation, an information and education approach to demonstrate these benefits may be sufficient to bring about a significant increase in conservation.

The task of increasing biodiversity conservation on private land involves protecting remnant native vegetation from a range of threats including (Bowers 1999):

- intentional acts by the landholder;
- neglect by the landholder; or
- actions (or omissions) on adjacent land that are outside the landholder's control.

Policy options vary in their effectiveness in protecting remnant vegetation against these different risks. For instance, regulation may result in the protection of remnant vegetation against intentional damage, such as broadscale clearing, but is less likely to be effective for protecting it against neglect by landholders (Bowers 1999). Bowers (1999) contends that the risk of neglect is the more important factor in policy design because neglect is difficult to control, and because the likelihood of neglect increases as the cost of managing remnant vegetation increases, unless the vegetation provides private benefits. If this is the case, policy options that give landholders an incentive to protect native vegetation from destruction through neglect may deliver better environmental outcomes than policies that merely prohibit intentional acts, such as removal of native vegetation. As outlined in chapter 5, a comprehensive policy on native vegetation and biodiversity conservation would also embrace management of native vegetation which is not targeted for clearance, and rehabilitation/restoration of degraded lands, rather than focusing solely on removal of native vegetation by those aspiring to change their land use.

8.2 Objectives

Before choosing among policy options, it is necessary to demonstrate the need for policy action by clearly defining the problem at hand and the ultimate objectives. Importantly, these objectives are likely to differ by region because environmental problems differ by region.

The Northern Land Council (Northern Territory) considered that:

> … regulatory provisions and practices are often poorly matched to putative objectives. This has led to approaches to conservation that are demonstrably ineffective, expensive, and often counterproductive … (sub. 221, p. 7)

A lack of clear and measurable objectives was identified as a shortcoming of many of the regulatory regimes examined in this report (chapter 5).

Key questions to be answered, even tentatively, include how much, what type of, and where is native vegetation required to achieve desired environmental outcomes. This relies on satisfactory maps and information about the existing state of the environment. The exercise of setting clear and measurable objectives will help policy makers identify conservation priorities, which can reduce the likelihood of pursuing policy actions in situations where the expected benefits do not justify the costs of action. Some participants noted the importance of setting conservation priorities to guide the investment of funds and resources to areas where the environmental benefits or pay-offs are expected to be the highest. For example, the Australian Government Department of Agriculture, Fisheries and Forestry said:

> Given the large cost involved with fixing all of the resource degradation, it may not be in society's best interests to repair all of the degradation. Instead, it will be important to determine a framework for prioritising and focusing efforts in areas where the benefits of repairing damage exceed the costs. This will ensure that the benefits from the public investments being undertaken are maximised. (sub. 218, pp. 1–2)

And Dennis Toohey (New South Wales) observed:

> … we can't achieve biodiversity outcomes of equal standing across the whole of the Australian landscape … There have to be choices made about where we will achieve high-quality outcomes, and in others we recognise that we'll get very little environmental outcome off it, because we're going to try and optimise the productive capacity … I don't think the outcomes that we are trying to achieve are well enough understood … (trans., p. 1314)

Clarification of policy objectives also has a bearing on which policy option or options will be most effective for promoting conservation — a policy option well-suited to achieving one objective may be ill-suited to achieving a different objective. For example, a policy suited to Queensland, where objectives may focus on addressing broadscale clearing, may not be effective or efficient in South Australia, where the objective may be to protect isolated trees or small clumps of trees. Without clear objectives, it is also practically impossible to assess whether policies are effective, or how they can be improved.

8.3 Context

Once clear and specific policy objectives have been set, the task is to identify which options to use 'when and where'. In making this decision, the context in which the option will operate is important.

'Context' refers to factors such as the state of the environment in a given region, landholder characteristics and socio-economic issues that can affect the benefits and costs of the policy options available (and their distribution). Environmental benefits can vary because different areas have different environmental sensitivities and because demands for the environment differ across areas (Latacz-Lohmann 2001). Thus, it cannot be assumed that a practice that produces environmental benefits in one location will produce the same benefits in other locations. For example, as observed by Timber Towns Victoria (sub. DR263), in some areas, revegetation using indigenous grasses or shrubs may be more appropriate than revegetation using trees. Costs can vary due to differences in land productivity and the income that can be produced through other land uses, such as agriculture. The net benefits of native vegetation and biodiversity conservation are not homogeneous, yet policy choices such as regulation, often implicitly assume that this is the case.

Variations in benefits and costs suggest that targeting conservation requirements could potentially increase the net benefits of conservation actions. However, there is a trade-off between increased administrative costs incurred by governments in identifying and setting priorities and reductions in costs incurred by landholders from targeting requirements (see below).

FINDING 8.1

Careful identification of the policy problem, the objectives sought, and consideration of the context in which a policy option will be applied, are important for choosing the best policy options to promote native vegetation and biodiversity conservation on private land.

8.4 Criteria for evaluating policy options

The following criteria provide a basis for comparing and evaluating the suitability of different policy options for promoting native vegetation and biodiversity conservation objectives (Latacz-Lohmann 2001):

- economic efficiency and cost effectiveness;
- incentives for innovation;
- enforceability;

- equity or fairness; and
- compatibility with other policies.

Efficiency and cost effectiveness

Policy action should only be undertaken if the resulting benefits exceed the costs. As discussed in chapter 2 (box 2.4), the anticipated extra benefits of implementing a given environmental policy should be compared to the anticipated costs. For example, regulating land clearing on highly-productive agricultural areas is likely to impose high costs on landholders which would need to be justified by the environmental benefits generated. Similarly, if governments are paying landholders for providing environmental services, it is efficient to provide higher incentives to landholders providing higher benefits and lower payments to those providing fewer benefits (Latacz-Lohmann 2001). Where the additional costs of supplying native vegetation and biodiversity conservation equal the additional benefits generated, this is the 'optimal' or ideal level of native vegetation and biodiversity conservation (chapter 2).

Less information about benefits is required to use the cost effectiveness criterion to guide environmental policy decisions (Latacz-Lohmann 2001). This criterion requires environmental benefits to be achieved for the lowest-possible cost. Costs include the opportunity costs of forgone production and transaction costs (including the costs of developing, administering and enforcing the program).

There is often a trade-off between the costs incurred by landholders and the costs incurred by governments. For example, a policy that applies uniformly across all landholders may impose fewer administrative costs than a tailored and targeted policy. However, a uniform approach is likely to be associated with higher overall economic costs as the costs of complying with policy requirements differ across landholders (Latacz-Lohmann 2001). Moreover, a uniform policy that imposes high costs on some landholders may encourage non-compliance, thus necessitating greater monitoring and enforcement.

The requirement for efficiency implies that policy options that can adapt to variations in costs and benefits across different locations would be preferred.

While a quantity regulation (such as a ban on all land clearing) does not allow individuals to respond flexibly to achieve a given environmental objective in the most cost-effective way, some mechanisms automatically vary their application of the policy 'dose' (Latacz-Lohmann 2001) according to location or individual. For example, market-based mechanisms or government payments to landholders for conservation, can vary according to location or individual.

Ideally, policy makers should aim to design policies that encourage conservation by landholders where expected net environmental benefits are maximised (Latacz-Lohmann 2001).

Incentives for innovation

Policy options that provide incentives for landholders to search for new and lower-cost ways to achieve environmental objectives would help reduce the costs of achieving those objectives over time.

Policies that prescribe how each individual is to achieve a given objective, such as bans on land clearing, do not provide incentives for innovation. Market-based policies provide incentives for landholders to search for low-cost means of delivering environmental benefits, just as landholders have an incentive to deliver other market products at the lowest cost to increase their profits. Depending on contract design, government payments to landholders for environmental services could also provide incentives for landholders to seek out low-cost means of promoting environmental objectives.

Enforceability

Most policy approaches require monitoring and enforcement to ensure they promote their environmental objectives, but monitoring and enforcement increase the transaction costs of the agency. Therefore issues surrounding enforceability can affect the choice of environmental policy option.

While the effects of some policy options are less costly to monitor and enforce than others, there can be a trade-off between the costs of enforcing policy and the costs incurred by landholders. For example, it may be easier to monitor and enforce landholder compliance with a complete ban on native vegetation clearance than it is to enforce compliance with a ban that applies only to certain types (species, age or size) of native vegetation. However, a complete ban would increase costs for landholders. For a policy that provides payments to landholders on the basis of the environmental outcomes delivered, there is more incentive and scope for landholders to innovate and find low-cost means of delivering environmental outcomes. However the agency's costs of monitoring outcomes (to determine payment) are likely to be higher than the costs of monitoring production processes or inputs (Latacz-Lohmann 2001).

Some policy options, such as education and information approaches, may reduce enforcement costs if they increase landholder acceptance and understanding of the

need for native vegetation and biodiversity conservation. Policies that are widely accepted are less likely to be ignored than policies that are considered unnecessary or excessive. Paul McGowan (Victoria) said:

> … we should be giving far more attention to education than regulation — far more attention … In Victoria we've got a very very good Landcare movement … There's been no regulation with that. There's been education and encouragement, and it is absolutely amazing, the number of native trees that have been planted in our area, just by encouraging them to do it, and with a tiny bit of incentive … (trans., p. 1341)

Fairness

The fairness of the distribution of benefits and costs that result from environmental policies will be perceived differently by different individuals. However, policy approaches that are broadly considered unfair or unreasonable by those directly affected, and by the community more generally, would be expected to result in higher enforcement costs. Hence, perceived fairness can be another factor in choosing between policy options for native vegetation and biodiversity conservation. Several participants considered that the current regulatory approach to native vegetation and biodiversity conservation imposed an unfair burden on landholders who have retained and managed native vegetation.

Perceptions of fairness in relation to implementation processes (Latacz-Lohmann 2001), such as the processes followed in assessing individual applications to clear land, can also be important. If individuals lack faith in the fairness of the processes adopted, compliance levels and achievement of ultimate environmental objectives may be adversely affected.

Transparency in setting and communicating objectives in processes used to implement the policy, and in evaluating or reviewing a policy approach, can also help promote its acceptance (Latacz-Lohmann 2001).

Compatibility with other policies

A final issue that affects policy choice and design is the extent to which the policy option is compatible with other existing or proposed policies. Where policies are compatible, or where there are synergies between them, there is scope for policies to be mutually reinforcing (Latacz-Lohmann 2001). In other cases, policies may conflict and therefore undermine each other. For example, subsidies to maintain agricultural production in areas where it is not economically feasible may undermine, or increase the costs of, policies designed to conserve native vegetation and biodiversity.

9 Policy options for native vegetation and biodiversity conservation

As discussed in chapter 8, the best policy options for promoting native vegetation and biodiversity conservation depend on the specific nature of the problem being addressed and the objectives sought. In this chapter, some potential advantages and disadvantages of regulatory and non-regulatory options for promoting native vegetation and biodiversity objectives are discussed.

The policy options available to enhance native vegetation and biodiversity conservation can be categorised in several ways. Options for promoting conservation range from those that rely solely on the private sector (such as altruistic conservation by individuals or groups) to options that can be implemented only by governments (such as taxes or regulation). In between are options that may (or may not) involve governments (for example, direct payments to landholders for environmental services). In this chapter, options are discussed under three broad headings — non-market; market; and government approaches (table 9.1).

Table 9.1 **Mechanisms for promoting conservation goals**

Non-market approaches	*Market approaches*	*Government approaches*
Altruistic conservation by individuals or groups	Consumer and investor preferences for environmentally certified goods	Removal of existing regulatory impediments to conservation
	Information provision and education	Information provision and education
	Existing markets (eg eco-tourism, 'bush blocks', native seed products)	Taxes and subsidies
	Creation of new markets for native vegetation and biodiversity conservation (eg biodiversity credits)	Creation of new markets for native vegetation and biodiversity conservation
	Direct payments to landholders for conservation services	Direct payments to landholders for conservation services
	Acquisition of all or part of a property	Acquisition of all or part of a property
	Industry self-regulation	Duty of care
		Regulation — prohibitions and rules

9.1 Non-market approaches

Landholders help promote biodiversity conservation outcomes through voluntary activities on their own properties and through group initiatives.

Altruistic conservation

Many individuals, interested in native vegetation and biodiversity conservation for various reasons, undertake conservation for no monetary reward, and in the absence of compulsion. The Australian Conservation Foundation (ACF, sub. DR302, p. 13) considered that 'when viewed broadly, this is a surprisingly large market'. Individuals, companies, non-government organisations and community or landholder groups have discretion to choose whether or not, and how, they will participate in conservation activities. Several participants in this inquiry described voluntary conservation efforts (box 9.1).

Box 9.1 **Voluntary conservation by landholders**

The Victorian Farmers Federation provided an example of voluntary conservation:

> Tripod farmers have been leading participants in voluntary conservation and sustainable land management practices … they have voluntarily removed boxthorn, willows and other noxious weeds that were choking rivers adjoining their property at a cost of 4 full time people for 2 weeks. Tripod farmers have provided the local council with a further $3,000.00 to continue this management program.
>
> These conservation … programs … have been achieved without either direction or support from DNRE [Department of Natural Resources and Environment]. (sub. 149, p. 25)

Janet and Kevin Blake, also from Victoria, submitted that:

> Through our own efforts and with minimal assistance we have developed wetlands, protected grasslands, planted some 40,000 trees and woodlots, been the custodians of brolgas, dunnarts, dolma impa, agrosti adamsoni as well as hunting the rabbits, hares and foxes … We have recognized the most significant areas and have made a conscious effort to maintain and enhance them where ever it remains viable but at an equally significant $ cost. (sub. 188, pp. 2–3)

While Gary Orr from New South Wales said:

> The grazing leases were taken on by us, at a cost, in order to prevent grazing on the land that we recognised as high conservation value. (sub. 136, p. 1)

Apart from independent efforts by individuals and groups, several schemes such as Land for Wildlife and Trust for Nature (box 9.2) help landholders voluntarily maintain native vegetation on their properties.

Box 9.2 **Land for Wildlife and Trust for Nature (Victoria)**

For over 20 years, Land for Wildlife has supported landholders providing wildlife habitat on their properties. The scheme offers help with property assessments but does not provide financial incentives to encourage conservation. The scheme establishes voluntary, non-binding agreements with landholders to manage land for biodiversity conservation. In Victoria over 4900 properties, covering more than 125 000 hectares of habitat, are involved. The scheme also provides extension and education services, emphasising the practical benefits of nature conservation to landholders.

Trust for Nature runs a conservation covenant program. Landholders place permanent covenants on parts of their land to protect it from clearing or other activities. Covenants are entered into voluntarily, but are legally binding on current and future owners of the land. Trust for Nature does not offer financial incentives to landholders for adopting a covenant, other than covering the legal costs of registering the covenant (around $3500 per property). Legal costs are covered by a Stewardship Fund, which is partially community funded. Once a covenant is registered, a Trust for Nature representative meets with the landholder to discuss future management actions and periodically visits the landholder to assess the condition of the environment on the covenanted land, the potential threats to species on the land, and to review the landholder's management actions in order to recommend future management guidelines.

Currently 500 covenants are registered, protecting over 20 000 hectares of largely threatened habitat on working farms, lifestyle 'bush blocks' and on rural/urban fringe properties. A further 300 covenants, representing another 15 000 hectares, have been approved by the Board of Trust for Nature and are awaiting final registration. Trust for Nature estimates that covenanters provide approximately $1 million of in-kind management of habitat across Victoria per year; approximately $150 million worth of property that would otherwise have to be purchased on the open market; and advice to other landholders on the need for nature conservation on private land.

Sources: Stoneham et al. (2000); Trust for Nature (sub. 129); Trust for Nature (2003); Victorian Catchment Management Council and Department of Sustainability and Environment (2003).

Advantages and disadvantages

A key advantage of voluntary approaches is that they involve individuals and organisations committed to conservation. Hence, these mechanisms have relatively high levels of community acceptance and raise fewer enforcement and equity concerns than approaches that compel landholders to undertake activities that may not interest them (Gunningham and Young 1997).

Voluntary conservation efforts can make a significant contribution to biodiversity conservation. Maria Weeding and Helen Geard from Tasmania considered that:

> Far more is achieved through raising awareness, consultation and voluntary management. This is demonstrated through the landcare movement that has continued to grow in popularity every year since its inception. (sub. 162, p. 4)

However, the scope of voluntary conservation is likely to be limited. When there is a substantial gap between private and public conservation benefits, reliance on voluntary actions is unlikely to deliver governments' biodiversity conservation goals, particularly where landholders are economically marginal (unless external assistance is available (Gunningham and Young 1997)).

From a public policy perspective, a disadvantage of relying on voluntary conservation is that it is difficult to predict conservation outcomes and, hence, whether biodiversity conservation objectives will be met. However, if the objectives of native vegetation conservation were clarified and priorities set, voluntary efforts may be sufficient in some areas to solve local problems where groups of landholders can jointly determine solutions.

Moreover, government involvement in biodiversity conservation, whether through regulation or payments for conservation, may 'crowd out' voluntary activities so that, overall, there is little change in conservation. Some participants said that the methods chosen by governments to promote conservation have discouraged existing conservation efforts. For example, Dennis Toohey (trans., p. 1308) and Bryan Ward (trans., p. 1354), both from New South Wales, observed that the enthusiasm for conservation activities wanes in response to increased bureaucracy. The Victorian Farmers Federation said:

> The adversarial process has meant that many landowners now feel a disincentive to protect native vegetation. Farmers such as Murray Davis & John Croft … probably wonder why they bothered fencing out their creeks and maintaining the quality of native vegetation on their farms when Councils and the Department won't recognise the voluntary environmental management activities they have done or attempt to strike a balance that recognises both retention of environmental values and the maximisation of economic potential of the land. (sub. 149, pp. 8–9)

The NSW Farmers' Association (NSWFA) stated that:

> … the regulation itself didn't provide an opportunity to build on that natural inherent goodwill that's in most people about their surrounds. It went against that. I think that's one of the prime failings of the native vegetation legislation and, to a lesser extent, the threatened species legislation. (trans., p. 875)

Many individuals and organisations voluntarily provide conservation services. An advantage of relying on these efforts is that they have relatively high levels of community acceptance and raise fewer enforcement and equity concerns than approaches that compel landholders to undertake conservation. However, while the altruistic conservation efforts of individuals and groups can contribute to achieving community conservation objectives, they are unlikely to be sufficient on their own to achieve significant increases in conservation on a broad scale.

9.2 Market approaches

Market approaches deliver financial reward to landholders for providing native vegetation and biodiversity conservation. In essence, native vegetation and biodiversity conservation 'services' are supplied and bought like any other service or commodity. Market-based approaches can encourage conservation by a broader spectrum of landholders, and can promote achievement of biodiversity cost-effectively (Victorian Government, sub. 185).

However, because of market failures and existing policy impediments, there may be a role for governments to encourage or facilitate the creation and development of markets that could promote native vegetation retention or conservation of aspects of biodiversity (chapter 2).

This section discusses:

- how markets can reflect consumer demand for environmentally-certified production;
- how existing markets can promote conservation outcomes; and
- the creation of new markets for biodiversity.

Consumer preferences for environmentally-certified goods

Consumer preferences, expressed through purchasing decisions, can provide signals of the value that consumers place on the environment, which can alter the financial incentives faced by landholders making production decisions. This option could involve the use of marketing campaigns emphasising environmental credentials (box 9.3), or product labelling and accreditation schemes for products produced using 'sustainable' practices, endorsed by governments or reputable accreditation organisations. Apart from labelling or certification of consumption items, such as food, environmental labelling of investment vehicles, such as managed investment

funds, also allows individuals to express their preferences for environmentally-sustainable production.

Box 9.3 **Banrock Station wines**

Banrock Station is a winery in South Australia's Riverland region. A large part of the property comprises native bushland and wetlands. In its marketing, Banrock Station emphasises environmental issues, stating that it donates a part of its proceeds from wine sales to environmental schemes around Australia. Banrock Station is also involved in international wetland restoration projects in nine countries.

Sources: Banrock Station (2003); Sharley (2002).

Suppliers might use initiatives such as product labelling to gain access to niche or emerging markets (box 9.4), to compete in existing markets by differentiating themselves from other suppliers, or to charge a premium. For example, in Denmark a study of producers participating in the government certified Nordic Swan environmental labelling program, indicated that they were able to charge a premium of up to 17% for their products (Bjorner et al. 2002). These initiatives might also be developed by an individual supplier, a group of suppliers (or an industry peak body), or a non-government body which, for example, allows its label to be used under licence. Alternatively, governments might impose a requirement on producers to supply consumers with information about environmental aspects of their product.

Box 9.4 **Tesco's Nature's Choice Quality Assurance Scheme**

Tesco is a large British supermarket chain. It operates an international quality assurance program, the 'Nature's Choice Quality Assurance Scheme', to guide purchases of fresh produce from its suppliers. Under this scheme, Tesco accredits producers on the basis of the ecological sustainability of farm practices through the 'wildlife and landscape conservation component' of the quality assurance scheme.

To supply Tesco's and, therefore, to access this export market, Field Fresh onion farmers in Tasmania had to satisfy the requirements of the quality assurance scheme. Greening Australia helped farmers implement conservation management plans to meet the scheme's environmental requirements.

Sources: DNRE (2001); Greening Australia (2001).

Industry self-regulation

Prompted by factors such as consumer demand for 'green' products, rising community expectations with respect to the environment and the scope for cost

savings, various industries have developed mechanisms (such as codes of conduct) to improve their environmental practices and outcomes. For example, the Ricegrowers' Association of Australia (sub. 113, p. 6) considered that there are many potential benefits to growers from participating in the Environmental Champions program it has recently developed (box 9.5) such as:

- more efficient practices, leading to cost savings on-farm;
- access to natural resources in the future;
- recognition as a leading commodity industry; and
- improvements in industry standing in the eyes of the public and in the international market place.

Box 9.5 **Ricegrowers' Association Environmental Champions Program**

Development of the voluntary Environmental Champions Program was driven by rice growers. The program aims to reward growers for environmental stewardship at property and regional levels and to demonstrate the link between environmental stewardship and improved business productivity. The program contains five levels of environmental stewardship requiring different actions for credit for each level — level 1 (minimum compliance) through to level 5 (regional sustainability). Level 5 involves farmers working together to achieve environmental outcomes for the whole region, not just on-farm. Activities may include considering land-use options on a regional scale, engaging in carbon and salinity trades and addressing landscape and river issues.

The Environmental Champions Program was developed over the last two years and is ready for a trial of the first three levels. The aim is for 50 per cent of growers to have achieved level 1 of the program by the end of 2004.

Source: Ricegrowers' Association of Australia (sub. 113, pp. 6–7).

The Australian Cotton Industry has a Best Management Practices (BMP) manual to help landholders comply with their legal environmental responsibilities and to help them identify environmentally-friendly ways of improving their operations. The BMP process includes certification of landholders, underpinned by auditing of landholders' compliance with BMP requirements. Participation in the scheme is voluntary but encouraged by the Australian Cotton Industry as it believes compliance will result in private benefits, such as more efficient farm operations, better relationships with the community and government and, ultimately, premium prices for BMP cotton (Cotton Australia 2003).

Some individuals and industries are trialling the use of Environmental Management Systems (EMS) as a means to meet environmental standards in agricultural

practices (AFFA, sub. 204, p. 5). For example, Canegrowers (Queensland) is planning development of an EMS:

> … although we have developed a code of practice and a training package called Compass, we need to go further. We're in the process now of planning the development of an EMS framework for the industry, and I'm relatively confident that in a couple of years time we will have that up and running and approved, and our target will be, over the next five years, to get something like 80 per cent of our growers involved in that sort of program … of evaluation and improvement in key areas, of sustainability, both environmentally and economic. (trans., p. 94)

An EMS provides a management framework for continuous environmental improvement through a 'plan, do, check, act' cycle (AFFA 2003). The Australian Government has established a National Environment Management Systems pilot program that provides funding to industries for developing EMS. For example, the Rice Champions Program has received some funding under the pilot program and funding will also be used to expand the Cotton Industry's BMP program (Troeth 2003a, 2003b).

Existing markets

The use of market mechanisms to promote native vegetation and biodiversity conservation can include taking advantage of existing markets for goods and services such as:

- recreation, eco-tourism or private sanctuaries;
- native seed production, for example, for re-vegetation projects;
- native timber products and cut flower production from native plants;
- 'bush foods';
- Indigenous arts and crafts that use native plant and animal materials for media; and
- 'bush blocks' or lifestyle properties.

Some participants commented on the potential role of existing markets. For example, Gippsland Private Forestry Inc (sub. 92) considered that private forestry could improve native vegetation outcomes through a commercial incentive for the private sector to re-vegetate on a significant scale. The ACF (sub. DR302) noted the example of Earth Sanctuaries (a publicly listed company that operates sanctuaries for conservation and tourism purposes) as well as several other existing markets, such as those listed above, that might contribute to promoting native vegetation and biodiversity conservation outcomes.

Rochelle van Santen (sub. 26) said that allowing landholders to excise a portion of vegetated land for sale as a 'bush block' delivers benefits because the land is transferred to those interested in managing the vegetation while the farmer no longer has to maintain land of limited use. Bush Brokers (WA), a joint venture of the World Wildlife Fund, the Real Estate Institute of Western Australia and the Soil and Land Conservation Council, aims to match buyers and sellers of bush to facilitate conservation. Landholders can advertise 'bush blocks' on the Bush Brokers website and obtain a free manual outlining guidelines for purchasing bush properties, the benefits of owning bush land, the legal responsibilities of the landholder, and suggested management practices. Bush Brokers recently launched a campaign to increase awareness of the website (Clow 2004).

Some participants commented on the trading of native flora and fauna as a way to increase incentives for conservation by the private sector. Various views were presented. For example, Gilbert Tippett thought that:

> No plant, animal, bird or reptile will ever become extinct if it has or acquires a commercial value and is farmed. (sub. 52, p. 1)

Similarly, the Western Australian Farmers Federation submitted that:

> … owners of private land should be encouraged to commercialise local biodiversity and while subject to licence and regulation these should not be onerous. Commercialisation will put an 'economic' value on local biodiversity and therefore assist its propagation and protection. A shift in land use from production of exotic species to species that have adapted to our local environment and landscape would have a positive impact on sustaining our land resource. (sub. 94, p. 14)

The Northern Land Council (NLC) (Northern Territory) said that for Indigenous communities to pursue their interest in developing businesses based on sustainable use of native flora and fauna would require:

> … abandonment of the apparent 'default' position: that direct uses of native species, despite comprehensive safeguards, are too hazardous to be seriously contemplated, while the unintended consequences for those same species from use of land for other purposes are treated, unjustifiably, as routinely manageable. (sub. 221, p. 2)

The NLC (sub. 221) also provided information about a draft management plan (prepared by the NT Parks and Wildlife Service) for Australian species of cycads that allows trial harvests.

Mr Fern Pty Ltd (sub. 46, p. 2) described resistance to sustainable use of native flora and fauna as a 'cultural blockage'. And the NLC observed:

> … there has been no direct Federal Government support for a large-scale trial of the potential to substitute use of native species for other more orthodox and frequently damaging land use options.

> An especially important objective for Aboriginal landholders is to develop novel forms of resource use in areas that are clearly marginal for orthodox production. In the absence of opportunities to use native species commercially, Indigenous landowners will be left with few options but to leave their lands or to turn them over to more intensive forms of land use. History shows that both responses will create conservation problems. (sub. 221, p. 14)

However, in contrast, the ACF opposed trading in wildlife because it 'has been known to cause severe declines in biodiversity' (sub. 146, p. 23). In addition, Tambourine Mountain Landcare (sub. DR240, p. 2) observed that sustainable commercial uses of native vegetation nonetheless 'involve ecosystem interference and often degradation' and that some of these industries are 'minor'.

Commercial use of native flora and fauna has been explored in several inquiries (for example, Environment and Natural Resources Committee 2000; Senate Rural and Regional Affairs and Transport References Committee 1998). Careful use of flora and fauna could potentially contribute to promoting biodiversity conservation objectives by providing incentives for landholders to sustainably manage native vegetation as an asset, rather than a liability. These industries may also involve less environmental disturbance than some alternative land uses. However, the requirements for sustainable use are complex, and it is likely that such markets would be regulated, for example, to prevent harvesting of plants and animals from public lands. Nonetheless, rejecting this option out of hand removes potential opportunities to seek complementarity between earning an income from private land and achieving conservation goals. As observed by the NLC:

> Very few of Australia's many conservation and environmental management problems can be attributed to direct use of native animals, whether for commerce, recreation or subsistence. (sub. 221, p. 9)

One option may be to establish trials of sustainable use of some species. For example, the Australian Government's Rural Industries Research and Development Corporation is proposing trials of sustainable wildlife enterprises to diversify landholder businesses, while also increasing restoration and conservation of the environment (RIRDC 2004).

Creating new markets in native vegetation and biodiversity

In addition to using existing markets, another option for encouraging native vegetation and biodiversity conservation is to 'create' new markets for environmental services. 'Ecosystem services' such as amenity values, clean air and water, and absorption and breakdown of wastes are currently largely considered 'free' because these services are not priced in markets. Thus landholders have little

incentive to produce such services in place of using environmental resources to produce marketable products, such as food and fibre. The concept of creating new markets for biodiversity is similar to proposals for markets in carbon credits to address climate change.

The task of creating a new market for biodiversity credits is more complex than using or further developing existing markets for environmental goods and services. Markets for native vegetation and biodiversity are largely untested, although some pilot schemes are underway (AFFA, sub. 203). Various design issues need to be addressed, including: how to create a well-defined and enforceable property right for biodiversity — what exactly will the owner of a biodiversity credit have? — that will enable voluntary exchange on the basis of continually changing information about supply and demand.

Other issues to be resolved are how, and to whom, to allocate initial rights or units of biodiversity. It is also not clear whether there would be sufficient buyers (the most obvious being governments and some conservation groups) to sustain a market in biodiversity units.

Pannell (2001) and Murtough et al. (2002) have observed that the potential to develop new markets to solve environmental problems has been overstated at times, unduly inflating expectations as to their role. Moreover, the purchase of environmental services, for example, conservation or re-vegetation of catchments to protect water storages, does not necessarily require the government to create new 'units' of biodiversity for exchange in a 'new' market for biodiversity. Individuals or companies requiring specific environmental services are not necessarily precluded from negotiating directly with potential suppliers for the supply of these services now.

A more feasible variation on a market for biodiversity credits may be a market in transferable clearing rights, because it focuses on controlling only one variable that can affect biodiversity outcomes — land clearing. The ACF opposed this option:

> … because of a range of difficulties surrounding the definition, transferability and irreplaceability of biodiversity values inherent in native vegetation ... In any case, transferable clearing rights imply substantial continued land clearing, and this is not acceptable to ACF. (sub. 146, p. 24)

The Australian Network of Environmental Defender's Offices (sub. 131) and Mitchell Environment Group (sub. 65) also opposed markets in transferable clearing rights.

Transferable clearing rights can operate in a similar manner to offset requirements that have been made transferable. Offset requirements currently apply in New South

Wales, Victoria and South Australia. They allow a landholder to clear native vegetation provided it is 'replaced' with other native vegetation so that 'no net loss' (or a 'net gain' in Victoria) in native vegetation results overall. Offset arrangements could involve trading — a landholder wishing to clear could purchase an offset from another landholder, or an 'offset bank', instead of undertaking the re-vegetation themselves at the time of clearing. Alternatively, the landholder could 'bank' credits for vegetation planted before the need to remove native vegetation (Ron Hawkins, Victoria, sub. 111).

Offset arrangements have been used for some time in the United States to manage wetlands through the Wetland Mitigation Banking program. This program allows landholders undertaking development in a wetland area to offset adverse environmental impacts of their actions by purchasing credits in existing wetland banks. More than 100 wetland banks currently operate in the US. However, the offsets for wetlands or biodiversity have been criticised due to difficulties of offsetting 'like with like' (Godden and Vernon 2003, Whitten et al. 2003).

An alternative to creating a market for biodiversity credits or transferable clearing rights is to use a market mechanism, such as an auction, to reveal information about the supply and demand characteristics of conservation. This approach has been used in the United States and Victoria and is discussed in section 9.4.

Advantages and disadvantages of market-based approaches

The key advantage of using market-based approaches is that they reflect individuals' voluntary decisions and cost-benefit trade-offs. Thus markets promote achievement of native vegetation and biodiversity conservation at least cost and promote innovative solutions over time as individuals have an incentive to identify cost-effective solutions. In this way, markets also deal with site-specific environmental problems and with variations in the benefits and costs of supplying conservation services across the country. In addition, as new information about supply and demand is continually revealed through prices, individuals can respond quickly to changing circumstances and to new understanding of native vegetation benefits or of the costs of supplying it.

Voluntary decisions made through markets also provide some information about the level of demand for the environment, that is, how much the community is willing to pay to achieve native vegetation and biodiversity conservation outcomes. Obtaining information about how much the community values biodiversity conservation, relative to other goods and services such as health and education, is a key difficulty of designing many other policy options (such as government payments to landholders for conservation).

Another advantage of market approaches is that they could reward those who have not cleared native vegetation in the past. Landholders could 'profit from the retention of biodiversity, rather than from its destruction' (ACF, sub. DR302, p. 7) Payments could arise for both those repairing the landscape, through activities such as re-vegetation, and those maintaining landscapes by not initially clearing native vegetation. Some participants considered that current regulatory arrangements unfairly penalise those who have not cleared, while those who have cleared face no regulatory burden:

> For the lucky farmers who have cleared their land, the regulations are at worst a nuisance. For the majority, they're a many-headed hydra. There's a clear inequity here. If you're cleared, you're home free. (Institute of Public Affairs, trans., p. 816)

Market-based approaches can also reduce reliance on governments managing the environment, thereby increasing the role of individuals, businesses (including those engaged in land-uses other than traditional agriculture or those adopting environmentally sustainable farming) and non-government organisations. Dennis Toohey from New South Wales observed:

> While ever the government commands-controls the environment debate then the private sector will be at the margins. We have to bring the private sector in centre stage into conservation and biodiversity and we have to keep them there. (trans., p. 1309)

A potential disadvantage of relying solely on market-based approaches to protect native vegetation and biodiversity is that 'gaps' in conservation may arise. For example, eco-tourism may result in protection of only the most charismatic species and areas (as their aesthetic appeal would be easier to market to visitors) (Gunningham and Young 1997). Others are critical of activities such as harvesting of native forest products because over-harvesting, or the cultivation of particular plants at the expense of broader biodiversity, may occur (Ferraro and Simpson 2001).

A gap can also arise because consumers may believe that others will continue to purchase environmentally harmful goods so that their efforts (including perhaps paying higher prices), of purchasing 'environmentally-friendly' alternatives are pointless (Doremus 2003). In addition, consumers may rely on others to purchase the environmental product. This 'free riding' could result in insufficient conservation (chapter 2).

Another characteristic of any market-based approach is that it may be difficult to predict conservation outcomes as they would depend on consumer preferences and market conditions. For instance, conservation may be considered 'too low' or adoption rates 'too slow'. Some may perceive the inability to foresee outcomes (sometimes described as a lack of 'dependability') as a disadvantage.

FINDING 9.2

Market-based policy approaches to encourage native vegetation and biodiversity conservation offer several advantages, such as flexibility, the ability to deliver outcomes at least cost and incentives for innovation. There is scope for existing markets in native vegetation and biodiversity products to contribute to promoting conservation objectives.

9.3 Government approaches

There is a broad range of options available to governments to promote native vegetation and biodiversity conservation — from no specific action in some situations at one extreme, to options that are compulsory for all landholders, such as regulation, at the other. In between are options that allow landholders to choose how they will be involved (for example, education programs).

Removing impediments

An option often overlooked is that of governments not implementing any new policy option to change native vegetation or biodiversity conservation outcomes in certain areas. Even if governments take no action to increase native vegetation and biodiversity conservation on private land, a range of other market mechanisms (as discussed above) will bring about some level of conservation. While this option is unlikely to be adopted by governments as an overall approach to biodiversity conservation, it may be the most appropriate option for some issues in some locations, such as cases where:

- there is insufficient information (at this point in time) to know what action is required to solve or address a specific problem;
- there is no viable action that would address the problem; or
- the costs of taking action outweigh the benefits of doing so, for example, where environmental assets of relatively low value occur in areas of high agricultural productivity (Pannell 2001).

In some situations, the most appropriate government response can be considering whether existing policy settings are having perverse or unintended effects that create or add to environmental problems, and whether these policy settings can be changed or removed. For example, existing regulatory arrangements to protect the environment may stifle emerging new uses of native plants and animals that may be more environmentally sustainable than existing uses (NLC, sub. 221) and policy

settings for leasehold land and taxation may inadvertently deter conservation efforts by the private sector.

In Australia, most private land is held under pastoral leases that offer limited scope to alter the primary purpose of the lease from pastoralism to other activities, such as conservation (PC 2001a). In some cases, lease conditions may actually encourage native vegetation clearing (for example, some arrangements in the Northern Territory (ACF, sub. 146; Environment Centre Northern Territory, sub. 147)).

Potential impediments to conservation by the private sector may also arise through tax anomalies. For example, the *Income Tax Assessment Act 1997* (ITA Act) provides special tax concessions for entities that carry out a primary production business (Divs. 385, 387). These include deductions for expenditure on water facilities, provisions allowing spreading or deferral of taxable income and greater depreciation rates on capital. A primary producer converting to managing the land for conservation may lose these concessions (PC 2001a). The SA Government (sub. DR324) argued that current income tax arrangements effectively penalised landholders in jurisdictions where clearing controls applied because they were unable to claim income losses, compared with landholders who conserved vegetation voluntarily.

In some States, concessions that apply to land tax payable by primary producers may be lost if conservation is pursued. For example, the Serpentine-Jarrahdale Land Conservation District Committee of Western Australia (sub. 66) described a landholder who lost primary producer benefits when land was de-stocked to re-zone it as a conservation zone (this aspect of land tax legislation is now under review (Western Australian Government, sub. 151)).

Different tax treatment of donations for conservation and donations for other purposes may also deter conservation (PC 2001a). While the ITA Act allows income tax deductions for gifts of cash, property and (in some cases) land to eligible organisations (Div. 30), donations to those who value environmental services (in the form of landholders entering conservation covenants) did not give rise to a deduction until recently. However, the deduction is only available to landholders who have received no financial consideration for signing a covenant agreement, and not to landholders who have received a token payment for the covenant.

In its study of the Great Barrier Reef Catchment (PC 2003a), the Commission found that exceptional circumstances assistance may also affect environmental outcomes by encouraging higher stocking rates during drought years, and by impeding farm rationalisation. Prices for water or other inputs that do not fully reflect social opportunity costs and which consequently distort production decisions may also have adverse impacts on the private provision of conservation services.

FINDING 9.3

Government policies in areas other than the environment may be inadvertently compromising government objectives with respect to native vegetation and biodiversity conservation.

Information provision, education and motivational approaches

Information and education provision should underpin the design and implementation of all policy options. For example, information is necessary to establish regulatory targets. However, information and education provision can be pursued as a native vegetation and biodiversity conservation strategy itself. By encouraging the diffusion of ideas, these measures can accelerate adoption of practices that complement native vegetation and biodiversity objectives. They can also produce benefits by helping landholders understand the private benefits of biodiversity conservation (Gunningham and Young 1997).

This approach encompasses a broad range of activities for exchanging and sharing information among landholders, consumers, governments and others. Examples include provision of practical and technical advice through publications, forums, field days, extension networks and officers, newsletters and the media. Governments can act as, or provide funding to other providers to act as, information brokers or as 'one-stop-shops' to provide landholders with quick and low-cost access to the information and know-how required to undertake native vegetation and biodiversity conservation. Non-government organisations can also play an important role in delivering education or information, as can individuals:

> … our Landcare efforts, right through the Ovens Valley, have made a big difference in the last 10 years and that is communities learning from communities and working with communities … our state and national governments can help us learn as communities and improve the way we manage the land. (Jack Jones, Victoria, trans., pp. 1364–5)

Information and education mechanisms can also involve (non-monetary) motivational tools, such as awards or prizes for 'best land management', to encourage adoption of environmentally-sustainable land management practices. Recognition from the local community through designations such as 'landholder of the year' can motivate those landholders who may be relatively less interested in monetary rewards (Doremus 2003). The use of awards and prizes does not have to rely on governments; non-government organisations or communities may initiate and deliver these awards.

Information and education programs could be directed at potential suppliers of biodiversity conservation, such as landholders, or at consumers to inform their

spending habits, which can change environmental outcomes through the expression of consumer preferences. Continuing education of all stakeholders in the conservation debate may also ease conflict between those with opposing views by improving understanding of others' perspectives and priorities on these issues (Tambourine Mountain Landcare, sub. DR240).

Information and education programs may be delivered by different levels of government or by non-government bodies (box 9.6). Where information is specific to a particular area, a local group or local government may have advantages in targeting the audience because of local knowledge and credibility (Gunningham and Young 1997). For example, WWF Australia said:

> The differentiating factor was that we had far greater trust in the community than a central government agency, and consequently we were able to be far more effective in working with land-holders to set aside voluntary areas for conservation. I think it's a question of, at an institutional level, which organisations you invest resources into to work in partnership with land-holders and others. (trans., p. 850)

Credibility, trust and goodwill can also promote two-way information flow between landholders and governments. This is important because landholders may possess better information than governments about environmental features on their own properties, and about the methods and costs of protecting them. In addition, mechanisms that reveal and improve information flow about the benefits and costs of biodiversity conservation will enhance any biodiversity conservation policy.

Box 9.6 **Education initiatives of Wetland Care Australia**

Wetland Care Australia (WCA) is a not-for-profit organisation involved in on-ground action to repair wetlands. WCA operates a network of regional wetland specialists to provide extension support, and organises field days and conferences to educate landholders about wetland conservation practices. WCA recognises conservation achievements of individual landholders by publishing the names of 'Wetland Guardians' and 'Landholder Champions'. WCA provides a forum for landholders to share their experiences and practices with the rest of the community, which WCA believes is effective for influencing landholder adoption of more sustainable practices:

> The community will follow the lead of a local champion by demonstration much more effectively than responding to direction and restriction through regulations. (sub. 59, p. 2).

Sources: Wetland Care Australia (2003; sub. 59).

Information or education programs can include general or very specific content. General education is primarily directed at changing attitudes towards the environment, whereas specific education targets issues such as how to implement a certain practice that will improve conservation outcomes (Cary et al. 2002). Specific

education could include assisting farmers with farm business planning or providing them with information on their land capability and specific environmental concerns in the region and on their individual farms. Paul McGarva from Victoria suggested that:

> … people could be made aware of the environmental status of their properties with their rate notices and the various avenues they have to access government information etc. (sub. 76, pp. 1–2)

Several participants said that more information about ways to address environmental problems is needed. For example, the Mitchell Environment Group (sub. 65) said that constant education and information is required, including disseminating information on the economic benefits of conservation more broadly in the community. It also considered that more extension officers and coordinators are required.

Advantages and disadvantages

A key advantage of information and education approaches is that they are amongst the 'least intrusive' policy options for biodiversity conservation (Doremus 2003). Also, these approaches can increase conservation at relatively low cost. Apart from helping landholders understand why policies are being introduced, the provision of (scientific) information to landholders about biodiversity helps them contribute to identifying solutions (AFFA, sub. 204).

Information and education approaches are well-suited to encouraging landholders to take advantage of the private benefits of conservation. These approaches can more directly and cost-effectively address shortfalls in conservation on private land caused by an absence of information than can using other approaches such as regulation. Furthermore, information provision, education or training on the causes of land degradation and biodiversity loss may prevent future problems, reducing the need to repair degradation after it has occurred (AFFA, sub. 204).

However, relying on education and information to deliver (public good) conservation on a broad scale is unlikely to achieve government objectives. Conservation outcomes would rely on the 'pro-environmental' values of landholders which may have a weak effect on decisions in the presence of other strong incentives, or disincentives, for conservation, such as high costs relative to private benefits (Cary et al. 2002).

A further potential disadvantage of these approaches is their 'dependability', that is, the extent to which biodiversity outcomes are guaranteed. Possession of information or understanding of a problem is not always sufficient to induce action to address it.

These factors suggest that education and information approaches would play an important, but largely supportive, role in promoting conservation on private land. In some situations these approaches may be sufficient to bring about increases, especially where conservation would be in the landholder's own interests and an information shortcoming is addressed. But where there is a significant gap between private and public benefits, these approaches alone are unlikely to significantly change outcomes (Gunningham and Young 1997). Nonetheless, in all situations, education and information approaches provide important 'back up' to other policy approaches.

FINDING 9.4

Accurate and up-to-date information and education are critical for the success of any policy option to promote native vegetation and biodiversity conservation objectives. Information and education approaches can also be pursued in their own right to promote these objectives. In particular, when poor conservation outcomes are due to a lack of information about the benefits and costs of conservation, specific information and education, tailored to an individual's or a region's problems, are likely to be most beneficial for achieving change 'on the ground'.

Taxes and subsidies

By increasing the cost of certain practices, taxes levied on landholders who clear (or who undertake other activities deemed to harm the environment) could be used to alter landholder behaviour thus controlling threats to native vegetation and biodiversity. Alternatively, subsidies could be paid to encourage certain practices.

However, designing jurisdiction-wide production taxes or subsidies that directly target conservation of native vegetation and biodiversity production would be problematic. To reduce environmental services to measurable, comparable units, they would have to apply to observable actions, such as tree clearing (or retention), rather than environmental outcomes. (In this regard, broad-based taxes or subsidies are similar to regulation which also necessarily focuses on proxy targets rather than environmental outcomes). The 'correct' rate of tax or subsidy that encourages the desired level of the targeted activity would also have to be determined.

That said, production taxes and subsidies (or tax rebates) may be effective in promoting specific, observable actions that indirectly promote ultimate environmental objectives. For example, Belgium, Finland, Norway and Sweden employ taxes on agricultural inputs, such as fertilisers or pesticides, to reduce the environmental effects of intensive agriculture (OECD 2003).

The Victorian Government noted that subsidies on inputs could be cost-effective:

> The advantage of flat-rate subsidies on inputs is that they are generally administratively simple and can be successful at assisting key sectors of the private landholder audience deliver biodiversity outcomes.
>
> Their relative cost-effectiveness depends on the program's ability to identify and address priority biodiversity and native vegetation protection and management issues across the spectrum of private landholders. (sub. 185, p. 20)

For example, flat-rate subsidies to cover the costs of fencing protected areas or rebates on local government rates for conservation actions (for example, for setting aside land) may be cost-effective.

FINDING 9.5

Taxes or subsidies that target specific, assessable actions by landholders may be efficient instruments for promoting some specific environmental objectives. However, because they necessarily focus on inputs rather than environmental outcomes, taxes and subsidies are unlikely to be efficient instruments for promoting complex objectives such as biodiversity.

Direct payments to landholders for conservation services

Governments may pursue conservation objectives by purchasing entire properties (or parts of properties) from landholders (discussed below) but this can involve more financial outlay and can be less flexible than paying individuals, or groups of landholders, to provide conservation on their own properties. For example, the NLC (sub. 221) observed that in the sparsely populated Northern Territory, environmental management cannot be pursued effectively from distant administrative centres without the support of people present on the land to detect and deal with problems.

Contracts with landholders for the provision of conservation services represent the dominant policy instrument in most OECD countries with contract coverage reaching 20 per cent of European Union farmland (OECD 2003). However, this option remains relatively unexplored in Australia. The ACF considered that:

> … stewardship payments can have a role to play … where (for example) very high cost management is necessary, entailing little if any private return, to retain the presence of very high conservation values. (sub. DR302, p. 8)

Several participants argued that landholder provision of conservation services is cost effective because landholders require only marginal incentives, reflecting the scope for joint production of private and public benefits.

Wetland Care Australia noted that:

> For the outlay of very minor funding to encourage good land stewardship, landholders and community groups could bring value-adding factors of more than ten times the investment for sustainable land management on the local scale. Incentives schemes and small devolved grants are much more effective than penalties, which are expensive to enforce effectively. (sub. 59, p. 2)

Similarly, the NSWFA noted:

> … by putting just sufficient — just marginal incentives in front of people so that it gets them to the point of saying, 'Yes, this makes sense for me', you'll get a turnaround in some of these more intractable environmental problems, much more cheaply than you can ever do it by regulation … (trans., p. 893)

Landholder provision of conservation services can also be preferable if landholders possess local expert knowledge. The South Australian Farmers' Federation (trans., p. 493) argued that '… many of the landholders … would fight tooth and nail against losing that management right, because they believe they do a better job'.

There are several ways that governments could deliver payments to landholders for conservation services. These include fixed cash payments for a standard service, auctions of conservation contracts to landholders or individually-negotiated payment rates (box 9.7). Payment can be delivered as a once-off up-front payment for an activity, such as fencing, or may involve a stream of regular payments under a contract (management agreement or conservation covenant) between the landholder (or group of landholders) and the government.

Payments to landholders for conservation services can also be delivered through market mechanisms (discussed above) or by bodies other than governments. For example, WWF Australia said that it was 'heavily involved in testing some of the market instruments' and that it was willing to bring in money to pay for environmental outcomes in a trial conservation auction in the Liverpool Plains (New South Wales) (trans., p. 841).

In the past, government payments for conservation have often been provided on the basis of inputs (such as weed control and fencing of remnant vegetation) which act as proxies for environmental outcomes. This approach is not ideal, but is often the most cost-effective way to approximate actual landholder performance (Stoneham et al. 2002, pp. 9–10). Ideally, payments would be made conditional on landholders' performance, which would give landholders the incentive and flexibility to achieve conservation outcomes more efficiently. However, the trade-off is increased transaction costs as performance-related payments would be more complicated and costly to administer. In fact, scientific uncertainty and random external factors often make accurate assessment of landholder performance impossible.

Box 9.7 **Conservation agreements — basis for payment**

Fixed-rate payments for a standard service

The government (or other entity) pays landholders a fixed amount for a standard service. The payment, and the service, are determined by government independently of the landholder. This approach is used often in agri-environmental schemes in the EU (eg Environmentally Sensitive Areas in the UK). It is transparent, offers landholders certainty of payment rate, and administration costs are relatively low. However, it is inflexible as key aspects of the transaction are centrally determined and fixed.

Individually-negotiated agreements

The government negotiates individual agreements with landholders (eg Private Forest Reserve Program, Tasmania). This approach is flexible as agreements are site-specific but there is a trade-off between flexibility and transparency and contracting costs. Administrative costs of assessing, negotiating and preparing agreements as well as monitoring and dispute resolution can be high for governments. This approach may be suitable for remote locations, or for land with unique features, where subjecting landholders to competition for provision of the conservation service is not feasible.

Auctions

Auctioning contracts for conservation services introduces a market mechanism that requires landholders to compete directly for funds. Through their bids, landholders reveal some of their information about the value of the service, and the costs of providing it. For a given budget, a well-designed auction can generate more conservation than fixed-rate payments for standard services.

Conservation auctions are used extensively in the United States where the Conservation Reserve Program (CRP) has been operating since 1985. The BushTender trial in Victoria is another example of a conservation auction scheme.

Since environmental services are heterogeneous, a common index is required to compare bids. The CRP uses an Environmental Benefits Index (EBI) to measure variables like wildlife and erosion benefits enduring beyond the contract period. Bids are compared on the basis of EBI score per dollar of payment. BushTender uses a Biodiversity Benefits Index, a composite of the conservation value of the site and the value of services offered by the landholder per dollar of payment.

Auctions are best suited to widescale purchase of conservation. If there were only few bidders, this would increase the risk of bidder collusion, which may undermine competitive benefits, while retaining the high administrative costs of running an auction.

Source: Latacz-Lohmann and van der Hamsvoort (1997).

Agreements with landholders can be either for a fixed term (for example, BushTender) or in perpetuity (for example, the Tasmanian Private Forestry Reserve Program) so there can be some targeting of requirements when using this option. A fixed-term management agreement requires fewer incentives to attract landholders,

and would be attractive to those reluctant to make a long-term commitment (Binning and Young 1997). At the end of the term, there is also an opportunity to refine (and, if desirable, re-enter) the contract in response to new information about conservation needs and demands. On the other hand, perpetual agreements may provide greater long-term security that a conservation outcome will be sustained.

As noted by Greening Australia (Tasmania), a range of agreement terms should be available to attract a wide range of participants:

> These should range from low entry such as Land for Wildlife, to protection of ecological assets for an extended period of time i.e. 10 years progressing up to full covenanting. There must be good networking and information support to the various programs that need to be tailored to suit the participating landowners. (sub. 134, p. 2)

A key aspect of any contract is also follow-up action in scrutinising and monitoring conservation outcomes and contract performance.

Advantages and disadvantages

By providing a reward for conservation effort, payments can provide closer alignment between landholders' incentives and governments' objectives for native vegetation and biodiversity conservation. Payments can be tailored or targeted to different situations and, depending on the design of the scheme, payments can allow for landholder flexibility and innovation in identifying low-cost means to deliver biodiversity outcomes sought by governments. In addition, as the decision to enter into a conservation contract is usually voluntary, and as a payment is provided, this option may be perceived as fairer than some other options, such as regulation. If this enhances compliance levels, it could improve the overall effectiveness of biodiversity conservation efforts.

An auction approach can be particularly effective for revealing some of the information held by landholders on biodiversity assets and on the costs of managing them. Moreover, to select bids, governments are required to set explicit objectives and priorities for native vegetation and biodiversity conservation. Thus, auctions allow governments to potentially acquire more, or better, conservation outcomes for a given budget.

Another advantage of direct payments to landholders for conservation is that the costs of conservation are made more transparent to the community. The Institute of Public Affairs observed:

> … [it] would force the government to consider the cost of its actions and trade them off against all its spending priorities'. (sub. 135, p. 17)

Neil Kerr noted:

> So as it [regulation] costs the taxpayer nothing, more excuses will be made to lock up more and more land. However, if private land owners received fair compensation for the use of their land, only that land with important habitat or species would be involved. (sub. 154, p. 1)

Conservation contracts also may provide additional conservation through an educative effect. For example, studies of the UK Countryside Stewardship Scheme indicate that landholders changed their practices on non-agreement land as they learnt more about environmental benefits (Cary et al. 2000; Wilson and Hart 2002).

However, several potential disadvantages of conservation contracts have been identified. For instance, there is a risk that these programs may be used as income support. Some programs have been criticised as subsidising basic environmental maintenance practices that should have been carried out at landholders' expense (OECD 2003). To address this, the UK and Germany have employed agricultural codes of practice which set the benchmark against which payments to landholders are defined. Payments are made for practices extending beyond the requirements of the code of practice (Latacz-Lohmann and Hodge 2003; Osterburg 2001).

A key potential disadvantage of environmental contracts can be their administrative costs. A study of these costs in eight European states showed that administrative costs may significantly constrain the total level of landholder payments — costs were 87% of total payments to landholders in one case (Falconer and Whitby 1999).

A key criticism of European programs has been their inability to formulate specific objectives. Most of the schemes pursue multiple and often vague objectives such as general conservation of biodiversity. The European Court of Auditors (2000) argued that this led to a failure to develop quantifiable indicators for monitoring and evaluating and, ultimately, the inefficient operation of the programs.

Program targeting may also pose difficulties, particularly for programs offering standardised contracts to a wide range of landholders. There is a risk that payments may poorly match environmental benefits generated (OECD 2003). Targeting can be improved by introducing selection criteria to assess the environmental benefit generated by each landholder, as occurs in the CRP and BushTender programs. However, this increases complexity and administrative costs.

Another potential disadvantage concerns the temporary nature of many conservation contracts and, hence, the 'reversibility' of benefits after the contract expires. For example, an evaluation of the Environmentally Sensitive Areas program in Denmark found that 10 per cent of lapsed ESA land had undergone negative environmental changes after the contract expired (Heritage Council 1999).

However, society gains even if protection of something it values is of limited duration. There is also the option of renewing environmental contracts if that is advantageous to society and to the provider of the environmental services. Indeed, in the presence of uncertainty about future demands for, and supply of, environmental services it may be preferable for contracts to cover a limited period than to be in perpetuity.

Many of the difficulties associated with environmental contracts arise from information differences or 'asymmetries' between the government and the participating landholder. For example, some schemes provide payments based on landholder effort, which is not readily observable by government. These information difficulties are common to other approaches for conserving native vegetation and biodiversity such as regulation. Information asymmetries create scope for what are known as 'moral hazard' and 'adverse selection' (box 9.8).

Box 9.8 **Information problems — contract design for environmental services**

In this case, moral hazard refers to landholders modifying their behaviour to exploit their information advantage over the government agency. Landholder non-compliance with their obligations, where their actions are not observable by the government, is an example of moral hazard. One study found that about 24 per cent of the farmers participating in the Countryside Stewardship Scheme (UK) were not meeting all of their obligations (Land Use Consultants 1995). Another study reported that about a third of farmers participating in a German nature conservation scheme were not fulfilling their obligations (Latacz-Lohmann 2000). Latacz-Lohmann (2000) suggests that non-compliance could be significantly reduced by self-policing among landholders. This could be promoted by familiarising all landholders within the region with the contracts.

Another example of moral hazard is landholders' incentive to overstate the payment required to provide a conservation service. Auctions, if collusion can be ruled out, can reduce this problem. A further example, observed under the US Conservation Reserve Program, involves landholders ceasing their existing conservation practices temporarily in order to qualify for program payments (Babcock et al. 2001).

Adverse selection refers to the risk of systematic bias in the landholders chosen by the government for contracts. For example, as their costs may be lower, lower environmental value-adding landholders may have a greater incentive to sign a conservation contract than landholders who could deliver greater benefits. A study of the uptake of environmental schemes in Germany showed that participation was highest in less favoured areas – regions with poor soils and lower intensity of land-use (Osterburg and Nieberg 1999).

The risk of adverse selection can be reduced if the government has information allowing it to distinguish between the attractiveness of different potential contractees.

FINDING 9.6

Government purchase of environmental services from landholders, on a voluntary basis, offers several potential advantages, including:

- *flexibility and scope for innovation in identifying ways of promoting environmental objectives;*
- *a requirement for specification and prioritisation of environmental objectives;*
- *closer alignment between landholders' incentives and governments' objectives for native vegetation and biodiversity conservation;*
- *greater certainty for, and acceptability amongst, landholders than compulsory policy instruments; and*
- *increased transparency of the costs of conservation, relative to some other approaches, which can impose some discipline on government and community demands for conservation.*

However, different approaches must be developed for particular circumstances and, consequently, the approach can be resource-intensive in terms of program design and contract monitoring.

Duty of care

'Duty of care' is a concept that means different things to different people (box 9.9). For some, a duty of care might require a landholder to refrain from undertaking certain activities, or may impose obligations to undertake certain actions. It can sometimes be used to define a level of environmental performance that all landholders are expected to reach at their expense (Tasmanian Conservation Trust, sub. 84). Although a duty of care typically does not specify in detail what is required of the duty holder, the Victorian Government (sub. 185) considered that native vegetation regulations operating in that State prescribe landholders' environmental duty.

Duty of care in this section essentially refers to a situation where landholders are held liable for environmental damage they may cause, unless they can demonstrate that they have exercised a reasonable duty of care. This is not the same as a mandatory minimum standard, although the term is often used in this sense. Landholders are free to choose whether or not they take any action to prevent damage and the nature of any such action.

A duty of care may exist in common law or in statute law. At common law, a duty of care may be owed to people but not to the environment *per se* (Bates 2001). It has been suggested that an environmental duty of care requiring all landholders to

take ‘reasonable’ action to protect the environment should be reflected in legislation. Court judgements would play an important role in determining what is ‘reasonable’; moreover, interpretation could evolve through time.

Box 9.9 **Participants’ views on ‘duty of care’**

Murray Irrigation Ltd from New South Wales submitted that:

> Landholders do have a duty of care to maintain and protect their natural resources. To go beyond this requires significant resources – capital, knowledge and financial. If the broader community is after benefits that go beyond this ‘duty of care’, then the broader community needs to actively contribute. (sub. 79, p. 2)

Maria Weeding and Helen Geard from Tasmania commented:

> In regard to the ‘duty of care’, there must be an upper limit …
>
> … [there may be] significant restraints through existing/future legislation that impact and would go well beyond the reasonable ‘duty of care’ factor. (sub. 162, pp. 3–4)

According to the Tasmanian Conservation Trust:

> Duty of Care should be used as a concept to reflect the ‘bottom line’ of performance that every landholder is expected to reach and should be underwritten by regulation. In other words, there must be penalties for non-compliance with one’s duty of care — and a reasonable expectation of enforcement. (sub. 84, p. 5)

The Victorian Government expressed a stronger view:

> In Victoria’s case, the legislative and regulatory framework for native vegetation defines, in effect, a landholder’s 'duty of care' for biodiversity on their land. For example, the initiation of native vegetation retention controls in Victoria, under Planning Schemes, weakened landholders’ property rights to native vegetation in some instances, transferring power from landholders to the community. (sub. 185, pp. 18–19)

In contrast to prescriptive approaches often taken in legislation, a statutory duty of care is usually described as a requirement for duty holders to take all reasonable and practical steps to prevent the prescribed harm arising from their activities. Codes of practice (see above) are another way of expressing the duty. To the extent that duty holders would be able to choose how they comply, the focus on outcomes, rather than prescribing means of achieving outcomes, could reduce the costs of compliance with a duty of care relative to the costs of complying with command and control regulation (IC 1998).

A duty of care usually is applied in situations where the parties to which the duty applies are in the best position to control and ascertain the impacts of their actions (and identify all affected parties) and to deliver desirable outcomes at least cost. For example, professional service providers have a duty of care to their clients, and employers have a duty to provide a safe working environment for their employees. Thus, while a potential advantage of a duty of care is the flexibility it gives those

responsible to meet their duty, it would be expecting too much of individual landholders to determine whether or not they were meeting a duty of care to the environment where that duty included delivery of public goods such as biodiversity. They simply do not have the requisite information. For example, how could landholders determine whether the removal of some trees on their property would significantly affect regional biodiversity outcomes? Would it be reasonable or efficient to expect landholders to know or to ascertain this? Is it reasonable to expect them to bear the costs?

Making individual landholders responsible for biodiversity and other public-good outcomes is unlikely to be efficient when delivery of desired outcomes requires knowledge of scientific data as well as whole-of-community preferences. In other words, governments are likely to have a better understanding of the environmental services required in the public interest than individual landholders, which suggests that those demands and requirements would need to be more clearly specified than a simple requirement for landholders to prevent environmental harm.

FINDING 9.7

Imposition of a duty of care may be efficient where actions by individual landholders have a direct, observable impact that is well understood by them and where there is broad acceptance of the level of responsibility implied by the duty. However, imposition of a statutory duty of care on landholders, beyond their ability and knowledge to deliver the required duty efficiently, as in the case of provision of public-good native vegetation and biodiversity services, is unlikely to be an efficient policy instrument.

Regulation — prohibitions and rules

Many policy options comprise a regulatory or legislative component, for example, to provide an institutional framework to facilitate private sector conservation. However, this section deals specifically with regulation that restricts certain activities, such as land clearing, or that requires certain activities to occur, such as weed and pest management. The performance and impacts of current regulatory regimes for native vegetation and biodiversity conservation are assessed in chapters 3–7; this section explores arguments for and against regulation as a policy instrument.

Advantages and disadvantages

Some participants argued that regulation is essential for native vegetation and biodiversity management because it provides a ‘safety net’ or minimum standard

that supports other policy mechanisms. It was argued that any other 'positive' incentives (for example, payments for conservation services) should be 'nested' in regulation. It was also argued that regulatory prohibitions should be used where native vegetation and biodiversity are particularly at risk. WWF Australia commented that regulation:

> … can provide the safe minimum standard to ensure that those who are recalcitrant to other incentive types can be persuaded to ensure that there's no irreversible loss of biodiversity. On top of that, you can build a whole range of other incentives — instruments that are market based, voluntary or motivational. (trans., p. 841)

The ACF noted that they:

> … are not aware of anywhere in Australia or overseas where native vegetation clearing particularly has been reversed or halted without a regulatory approach. (trans., p. 560)

Although, in principle, regulation could be used to set a minimum standard, its effectiveness and efficiency in practice will depend on:

- how efficiently it targets environmental objectives; and
- how well it is accepted, particularly amongst landholders who have knowledge of the 'protected' native vegetation and who retain ownership of the land on which it is located.

While regulation may play a role as 'the stick in the cupboard' (Dennis Toohey, New South Wales, trans., p. 1310) to be used as required against recalcitrant landholders, a heavy focus on negative incentives to increase conservation may prove counterproductive if it alienates those who are already conserving native vegetation, or who are trying to do so. For example, Wally Peart from Queensland observed:

> When the Landcare movement started there was enormous good will and determination to farm sustainably and leave enough habitat areas for wild life to thrive. Hundreds of branches were formed throughout Australia and great progress was made. We felt that through education and understanding and demonstration we could achieve 90% of what needed to be done and perhaps some regulation would eventually be required to bring the remaining 10% into line. With the latest 'jack boot' approach by government with many regulations that only impact on the people who have done the correct thing and left some trees, etc., we feel deceived and betrayed. The good will we nurtured has disappeared … (sub. DR304, p. 1)

A key disadvantage of regulation is that it often reflects an assumption that there will be standard benefits arising from policy action across all those regulated (Chaudhri 2003) and that the costs of promoting biodiversity will be the same across regions and individual properties. However, both benefits and costs of conservation can vary markedly across properties and regions. For example, LeFroy and Stone (sub. 193) observed that the threshold rules often used for vegetation

planning, such as 30 per cent vegetation cover, do not necessarily transfer from one place to another, or from one species to another. The NLC said:

> Slavish application of conservation principles and practice designed for highly modified and densely populated parts of the world, generate perverse outcomes when applied uncritically to sparsely populated, remote northern Australia. (sub. 221, p. 1)

As regulations typically specify actions that must, or must not, be undertaken (that is, they control inputs) rather than outcomes that must be delivered, they often allow little flexibility or adaptability from landholders in terms of their response. This can stifle innovative solutions to problems and thus increase the costs of achieving biodiversity objectives (although costs may be reduced for some landholders if offsets, rather than a complete ban for example, are allowed). This implies that command and control regulation may not be particularly suitable for addressing complex problems such as biodiversity conservation as the inputs targeted by regulation may or may not be good proxies for achieving the ultimate environmental outcomes sought. In addition, broad regulation cannot be specified in a way that requires a particular person to manage remnant native vegetation appropriately or to restore a degraded remnant.

Greening Australia (Tasmania) considered that:

> Regulation on its own will not achieve long-term, constructive environmental outcomes. Voluntary conservation on private land provides by far the best long-term outcome. The reasons for this are that it ensures landowner ownership and personal knowledge of the assets being protected. (sub. 134, p. 1)

AFFA (sub. 204) stated that, in addition to high administrative and monitoring costs, the possibility of changes in regulations contributes to investment risk faced by landholders. There is also a risk that landholders will disengage from the process:

> One of the by-products of that command-control approach that has been applied is that we have now got substantial areas of the countryside where farmers are suspicious, concerned, wary, about actions and motives of government … from a person who grew up in an area where government was seen as supportive … helping facilitate change … provid[ing] educational and suasive sort of actions — we have now got suspicion and wariness. (Dennis Toohey, trans., pp. 1306–7).

A potential advantage of regulation, according to Gunningham and Young (1997), is that it is less likely to be ignored than other measures as penalties for non-compliance are 'far more compelling' than compliance measures available to other instruments. However, the extent of compliance with regulations depends on factors such as community acceptance of the regulation, as well as severity of penalties, and the likelihood that breaches will be detected and successfully prosecuted. For example, Victor Eddy of Victoria observed that:

> It appears to be assumed [by regulators] that if the law says a tree must not be removed, that tree is safe. In fact if the landholder sees that tree as a liability, there is a probability that tree will disappear with little or no risk of the landholder being prosecuted. (sub. DR255, p. 2)

Further, there does not appear to be any in-principle reason why a financial disincentive would generate greater compliance than a financial incentive of equivalent absolute value.

In the case of native vegetation and biodiversity conservation, the assets protected by regulations are widely dispersed and difficult to monitor. Consequently, regulations may fail to achieve their objectives if agencies' enforcement budgets are under-resourced, or if there is a lack of political will to enforce them. In addition, several participants indicated that in some areas, landholders consider the regulations neither reasonable nor sensible for pursuing conservation objectives (chapter 5). Resistance and lack of support from those required to implement native vegetation and biodiversity conservation 'on the ground' are likely to compromise achievement of regulatory objectives or, at the very least, increase the costs of enforcing regulations.

Stoneham et al. (2003) suggest that current regulatory approaches to native vegetation and biodiversity conservation may be efficient because governments, in assuming 'ownership' of the native vegetation resource, are relieved of the task of seeking information from landholders about native vegetation on their properties. The onus instead is placed on landholders to demonstrate why they should be permitted to 'use' native vegetation. Importantly, however, current regulations also prescribe how that vegetation can and cannot be used, apparently with little regard for the (implicit) cost-benefit trade-off. If the change in ownership of the resource promoted bargains between landholders and governments which, in turn, promoted efficient retention and use of native vegetation, regulation could be efficient. In addition, as acknowledged by Stoneham et al. (2003) the assertion of government ownership of a formerly private resource, without public debate or without payment of compensation, raises the prospect of non-compliance.

The issues of fairness and compensation were raised by many participants. Some observed that the burden for meeting native vegetation and biodiversity conservation objectives falls most heavily on those who have retained native vegetation. It was also argued that regulation is inequitable because it forces landholders to bear the costs of native vegetation and biodiversity conservation on behalf of the wider community. The NLC argued that a one-size-fits-all approach to regulation of clearing:

> … may particularly disadvantage Indigenous people who have only recently re-acquired land. There is a risk that they may be denied the economic and social benefits

> enjoyed by other Australians, in part to redress damage done by those other land users. It is difficult to imagine a more perverse outcome than requiring economically-disadvantaged Indigenous landowners to bear the costs of environmental detriment caused by those who reaped the benefits. (sub. 221, p. 7)

Using regulation as a means of 'taking' private property may prove counter-productive if landholders defy or undermine the regulation by clearing illegally or by allowing native vegetation to degrade over time. Strong penalties and monitoring may reduce illegal clearing to some extent (albeit at cost to governments). Compensating landholders for the impacts of native vegetation regulations could improve compliance and make the costs of regulation more transparent. However, assessing compensation is a difficult exercise at the aggregate, let alone at the property level (box 9.10). Nor would compensation for the impact of clearing restrictions encourage appropriate management of remnant vegetation — in this sense, it mirrors the limitations of regulation in bringing about good environmental outcomes over time.

Box 9.10 **Compensating for the impacts of regulation**

A rule of thumb for estimating losses per hectare for purposes of compensation, all else equal, would be the fall in the value of uncleared land relative to the value of cleared land in the same region following the introduction of restrictions. For land with similar productive potential, the difference between the value of a cleared block and an uncleared block, in the absence of clearing restrictions, would be the cost of initial clearing. The price of uncleared land would capture its development potential. With the introduction of clearing restrictions, the price of uncleared land would be expected to fall towards its value in its uncleared state (for example, for grazing on native pasture). This change in the price gap would roughly capture the expected impact of clearing restrictions (including any positive impacts accruing to landholders).

Issues arise if a property has been sold since the introduction of restrictions. In this case, the new owner should have factored in the impact of the restrictions and paid a commensurately lower purchase price. On the other hand, if a compensation package had been announced, this expectation may have inflated the purchase price.

In addition to losses in land values which roughly capture forgone profits, landholders and others employed in agriculture could also incur adjustment costs if alternative employment is not readily available.

In particular, given that effective native vegetation and biodiversity conservation relies on the discovery of information about factors such as the location and status of species, the adversarial nature of regulation is likely to hinder achievement of biodiversity outcomes, particularly in the long term. Revelation and sharing of information is more likely to occur under cooperative and voluntary approaches where governments' and landholders' incentives are more closely matched.

FINDING 9.8

Regulations can be efficient where the environmental objective is targeted directly and the regulations are broadly accepted and complied with.

The effectiveness and efficiency of regulation in promoting public-good native vegetation and biodiversity conservation goals appears limited because:

- *the problem is too complex, dynamic and geographically heterogeneous for jurisdiction-wide rules that necessarily focus on achievement of proxy targets;*
- *potentially lower-cost, innovative solutions to environmental problems are precluded; and*
- *achievement of environmental goals may be undermined if landholders regard regulations as imposing an unfair burden on them and governments neither compensate for regulatory takings, nor assume responsibility for effective management of protected remnants on private land.*

Acquisition of all or part of the property

Governments can pursue their conservation objectives through outright purchase of private land from landholders. Properties could be acquired on a voluntary basis, through donations or through purchase at a mutually agreed price, or the government may force the sale at a 'fair price' (Doremus 2003). Alternatively, governments may engage in 'land swaps' where government land of low conservation value is swapped for private land of high conservation value.

Outright purchases of properties by government would effectively result in the creation of, or addition to, conservation reserves. Some participants suggested that governments should purchase private properties on which they wished conservation objectives to be pursued (for example, Shire of Dandaragan, sub. 191). Tambourine Mountain Landcare (sub. DR240) suggested that this option could be used for properties that cannot sustain farming.

However, while purchase of an entire property may remove land clearing threats, it raises other issues, namely how will the property be managed against other threats to biodiversity, such as pests and weeds, and by whom? In addition, it is not clear that government purchase and management of properties for conservation is more cost effective than contracting and paying the current landholder to provide a stewardship service on the property. As noted in chapter 2, conservation can be provided more efficiently on private land than in public reserves, if the private land can continue to be used for private and commercial purposes as well as public good conservation, and/or if the landholder can provide required management services at lower cost.

The purchase of whole properties may also represent a less flexible solution than some other policy options. The property will only contribute to government conservation objectives to the extent that it will serve the needs of the targeted flora or fauna at the time that it is acquired as well as into the future (Doremus 2003), although the land could always be re-sold.

Apart from purchases by government, others such as conservation groups (for example, Australian Bush Heritage Fund and Birds Australia (box 9.11)) may purchase entire properties from landholders to protect environmental assets. Similarly, the Trust for Nature (Victoria) operates a 'revolving fund' for the purchase and resale of properties for conservation, in addition to the properties it purchases and retains under its own management.

A revolving fund scheme involves an organisation purchasing land to place a perpetual conservation covenant on the land for re-sale to a new landholder. When used by governments, revolving funds require less government outlay than permanent acquisition of land to achieve a change in activities that occur on the land. Re-sale of covenanted properties can also be effective for matching land targeted for conservation with sympathetic landholders, as it is more likely that a landholder committed to conservation will purchase land encumbered with a conservation covenant. However, the environmental effectiveness of revolving funds depends on the ability to purchase the parcels of land necessary to achieve environmental objectives and to subsequently sell them to new landholders.

Box 9.11 **Purchase of land by private conservation groups**

Australian Bush Heritage Fund

The Australian Bush Heritage Fund is a private non-profit conservation group that protects highly threatened and ecologically significant examples of Australia's wildlife habitats by purchasing properties and by receiving bequests of private land. It is funded mainly through public donations. In 2003, the Fund purchased the Charles Darwin Reserve, a 68 600 hectare property in Western Australia, to help protect seven significant ecological communities and five species at risk.

Birds Australia

Birds Australia is a private non-profit conservation group which aims to contribute to the conservation, study and enjoyment of Australia's native birds and their habitats. It is funded mainly through public donations, but has also received funding through the Natural Heritage Trust. Birds Australia holds lessee rights to two pastoral leases — Gluepot Station, a 54 390 hectare property in South Australia, and Newhaven Station, a 262 200 hectare property in the Northern Territory — and manages both properties as conservation reserves.

Sources: Australian Bush Heritage Fund (2003); Birds Australia (2001a; 2001b).

FINDING 9.9

Where environmental values of land are high relative to alternative uses, and public management of the land would be more cost-effective than private stewardship, government purchase of entire properties (or part thereof) may be efficient. However, it is likely that, for a majority of agricultural land, it will be more efficient to leave land in private ownership and encourage joint production of environmental services and commercial outputs.

9.4 Conclusions

Governments have placed strong emphasis on regulation (although other policy options are also used) to achieve native vegetation and biodiversity conservation objectives. However, a heavy emphasis on regulation is unlikely to be the most effective way to pursue conservation objectives in all cases, and into the long term. Regulation often applies broad-brush prescriptive solutions that are inflexible and, therefore, can impose high costs. Regulation also does not align landholders' incentives with government objectives. Under a regulatory approach, landholders have an incentive to remove native vegetation, to reduce its quality through neglect or intentional acts, or to hide information about special biodiversity features in order to deflect regulatory attention which generally implies prohibitions, or at minimum, interference and additional cost in land management decisions.

While no policy instrument will completely align landholder and government objectives, some mechanisms are more effective at increasing incentives for conservation by turning native vegetation and biodiversity into assets for the landholder. If conservation can be increasingly turned into an activity that is in the landholder's interest, it would be expected to contribute to conservation outcomes with reduced costs for monitoring and enforcing conservation requirements.

The shortcomings of regulation as a dominant approach for promoting conservation imply that other policy options should be explored more thoroughly by governments before they turn to regulation. As discussed in this chapter, each option possesses strengths and weaknesses, making each more or less suitable for addressing specific problems and objectives.

10 Conclusions and recommendations

Drawing on the evidence and analysis in previous chapters, the Commission's conclusions and recommendations are presented in this chapter. Specifically, the Commission is asked to make:

> … recommendations (of a regulatory or non-regulatory nature) that governments could consider to minimise the adverse impacts of the above regimes, while achieving the desired environmental outcomes, including measures to clarify the responsibilities and rights of resource users. (Terms of Reference, para. 3(g))

The recommendations therefore focus on ways of reducing adverse impacts of the regimes, and policy approaches for efficiently, effectively and equitably promoting desired environmental objectives. Because of the breadth of regulatory arrangements reviewed in this inquiry, the recommendations are deliberately broad so that, to a greater or lesser degree, they are applicable to all jurisdictions.

The recommendations are silent on the question of how much conservation effort, where and of what type, should be pursued. Nonetheless, a major aim of the recommendations is to make the cost-benefit trade-offs involved in achieving various environmental objectives more transparent, so that optimal policy choices are made.

The recommendations are presented in three parts: the first sets out general principles of good policy process and ways that existing regulatory regimes could be improved; the second focuses on ways of encouraging greater private conservation effort; the third sets out more fundamental reforms of native vegetation and biodiversity policy which the Commission considers necessary for the achievement of desired environmental outcomes in the long term.

Step 1: Implement regulatory best practice

While there are many differences across State, Territory and Commonwealth levels of government, in the Commission's view, current regulatory approaches in most jurisdictions have been imposed with insufficient consideration of all or some of the following:

- the nature and causes of the problem being addressed;

- desired environmental outcomes; and
- the social costs and benefits of regulation relative to other policy options.

A major focus of the recommendations therefore is to promote greater exposure of the costs and benefits of conservation effort, to clarify environmental objectives and to establish a process for determining agreed landholder and community responsibilities for achieving those objectives.

Whether or not the Commission's other recommendations are accepted, all jurisdictions should follow transparent and thorough processes when developing environmental policy, processes (such as regulation impact assessments) that seem to be well accepted and frequently applied in other areas of policy development.

RECOMMENDATION 10.1

Before introducing new or amending existing native vegetation and biodiversity policy, a comprehensive regulation impact statement or its equivalent should be prepared that includes an assessment of the problem being targeted, expected costs and benefits of the proposed policy, and an assessment of alternative instruments. This assessment should be made public.

RECOMMENDATION 10.2

All native vegetation and biodiversity policies should be subject to ongoing monitoring and regular independent reviews of all costs and benefits in the light of articulated objectives. Reviews of performance should be published.

There is also a fundamental requirement to ensure that policy intervention is based on accurate, verifiable and up-to-date data and information. The accuracy of native vegetation mapping based on satellite imagery was criticised by many participants. The environmental benefits of some restrictions were also questioned.

RECOMMENDATION 10.3

Ongoing efforts are required to improve the quality of data and science on which native vegetation and biodiversity policy decisions are based, particularly 'on-the-ground' assessments to test the accuracy of vegetation mapping based on satellite imagery.

Improve existing regulatory regimes

As discussed in chapter 7, there are several ways to improve current regulatory regimes in line with principles of good regulation.

Although the Commission considers that more fundamental change is warranted over time (see below), existing regulatory approaches should be amended and refined to meet best-practice regulatory standards as soon as possible. While there is significant variation across regimes, with some regimes performing better than others, and several States introducing potentially beneficial legislative reforms during this inquiry, no regime at the State or Territory level as far as the Commission has been able to ascertain, meets all criteria for good regulation.

In particular, in most jurisdictions there is a pressing need to enhance the transparency, consistency and accountability of decision making.

RECOMMENDATION 10.4

Current regulatory approaches should comply with good regulatory practice, including:

- ***clear specification of objectives of the legislation so that guidelines and decisions clearly link back to these objectives, and performance of the regimes can be monitored and assessed;***
- ***minimisation of duplication and inconsistency by amalgamating and simplifying regulations and permit requirements, for example, by rationalising legislation and regulation within each State and Territory and/or by coordination between agencies;***
- ***assistance to, and education of, landholders to meet and to understand their responsibilities by providing accessible information about those responsibilities, and how they relate to sustainable land-management practices and environmental problems;***
- ***statutory time-frames for assessing permit applications;***
- ***consideration of economic and social factors where applications to clear otherwise would be rejected on environmental grounds (a 'triple bottom line' approach), with reasons for decisions to be given and reported; and***
- ***provision of accessible, timely and impartial appeals and dispute-resolution mechanisms.***

In addition, the Commission considers that the negative impacts of regimes would be reduced significantly, and environmental outcomes enhanced, if regional bodies which already exist in most States were allowed greater flexibility to determine appropriate guidelines and practices reflecting regional circumstances, particularly guidelines and practices applying to native vegetation regrowth.

RECOMMENDATION 10.5

Greater flexibility should be introduced within existing regulatory regimes to allow variation in requirements at a regional level. To this end:

- ***greater use should be made of the extensive knowledge of landholders and local communities;***
- ***regional committees and bodies should be given greater autonomy (and support) to develop appropriate requirements; and***
- ***some across-the-board rules, particularly those currently applying to native vegetation regrowth, could be relaxed and replaced with requirements that meet environmental objectives but which reflect regional environmental characteristics and agricultural practices.***

If implemented, these changes could significantly reduce compliance costs of regulation to landholders and the community overall, while not detracting from, and most probably enhancing, environmental outcomes. However, landholders would still bear the costs of supplying many community-wide benefits, and State-wide regulation of native vegetation clearing would remain the principal instrument for bringing about desired environmental services.

Limits of regulation

The Commission considers that even if current regulatory approaches were improved as recommended above, there are several key underlying factors limiting their efficiency and effectiveness in promoting the delivery of the community's native vegetation and biodiversity goals on private land.

1. Regulation of native vegetation clearing *prescribes* the means of achieving a range of environmental goals across different regions. However:
   (a) there are likely to be other means of achieving at least some desired environmental outcomes at less cost (for example, well-managed pastures may also reduce soil erosion). Moreover, because the costs of regulation are largely borne by landholders, the cost-benefit trade-off is obscured.
   (b) environmental problems are complex, dynamic and geographically heterogeneous and will require innovative and adaptive solutions drawing on local as well as scientific knowledge. Across-the-board requirements for retention of native vegetation are rigid and preclude innovation. Indeed, retention of native vegetation in some areas perversely appears to be exacerbating some environmental problems; and

(c) ongoing management of native vegetation is essential to ensure its health and regeneration, but regulation of clearing focuses only on preventing its deliberate removal.

2. Regulation of native vegetation clearing on private property effectively asserts public ownership of remnant native vegetation while leaving its ongoing day-to-day management in the hands of the (uncompensated) landholder. From the landholder's perspective, native vegetation loses much of its private value and becomes a liability. Incentives for landholders to care for, conserve or regenerate native vegetation voluntarily are undermined. When regulation reduces the private value to landholders of native vegetation, incentives to care for it are reduced. The prospective private loss also creates an incentive to circumvent the regulations (after taking into account the risks of being caught and penalised), or to bring forward clearing as insurance against possible strengthening of regulations in future. This prompts the introduction of ever stronger regulations and stricter enforcement provisions.

These conclusions reflect the Commission's observations and its analysis of the incentive structure provided by current regulation, as well as evidence presented to this inquiry. They also are consistent with a large body of economic literature (see chapters 8 and 9) and findings of previous Commission studies. For example, in its research report into pollution threats to the Great Barrier Reef Catchment, the Commission concluded that:

> Prescription is not the answer. Because of the complexity, heterogeneity and dispersion of the diffuse sources, and the inability to monitor them, governments cannot prescribe land management practices that are both viable and cost-effective. (PC 2003a, p. xxii)

Poor incentives for landholders to comply with current regulatory arrangements could be addressed to some extent by compensating landholders for their losses. Payment of compensation would also make the costs of regulation more transparent to the community, facilitating comparison with environmental benefits. However, the Commission does not recommend simply compensating landholders for the impacts of *existing* compulsory regulatory regimes. This is not only because of the numerous difficulties in assessing appropriate farm-level compensation (chapter 9), but because continued reliance on regulation to achieve a range of broadly-defined environmental goals appears unlikely to be the most effective, least-cost option from a whole-of-community perspective. In this case, compensation would merely shift an unnecessarily large cost burden from landholders to taxpayers.

Step 2: Encourage private conservation effort

Effective policy intervention requires an understanding of the underlying causes, and not simply the symptoms, of a problem. Commenting on current regulatory arrangements, Gippsland Private Forestry Inc (Victoria) observed:

> There is insufficient focus on the fundamental drivers that will influence the behaviour of private landowners in order to achieve sustainable improved outcomes with respect to native vegetation management. (sub. 92, p. 2)

In particular, underlying the current approach to conservation of native vegetation seems to be a view that private landholders cannot be trusted to care for the land. This may be an understandable (if misconceived) reaction to past practices that have resulted in the loss of species, as well as salinity and soil and water quality problems in some regions.

Although mistakes have been and will continue to be made — partly due to the limited knowledge and understanding of landholders, governments and other parties — landholders generally have an interest in identifying and rectifying mistakes where the productivity of their own land and, hence, its market value, can be increased. Landholders will seek to increase their profits by adopting cost-saving technologies or by finding higher-valued uses of their land. If conservation of native vegetation can be made compatible with increasing landholder benefits, then more conservation will be provided voluntarily.

As discussed in chapters 2 and 9, there is ample evidence that many landholders increasingly are implementing more sustainable agricultural practices. This occurs not only where these practices improve the productivity of their land now and over time, but also because landholders derive some private benefits such as visual and recreational amenity from native vegetation. Many regard themselves as stewards of the land. In addition, as discussed in chapter 9, there are numerous market and non-market private mechanisms that by increasing potential returns, could encourage individual landholders to provide more environmental services. These include:

- consumer demand for environmentally-sustainable products (for example, ‘green labelling’), eco-tourism, or ‘green’ investments;
- individuals, corporations, or organisations with an interest in the environment (such as the Australian Bush Heritage Fund, the Australian Wildlife Conservancy and the Trust for Nature) either buying land or contracting with landholders to deliver environmental services; and
- groups of local landholders engaging voluntarily in cooperative efforts to address local environmental problems (for example, Landcare and the NSW

Tilbuster Commons Project), possibly assisted by environmental organisations such as Greening Australia.

A major advantage of private or voluntary mechanisms is that the outcome generally will enhance community welfare because the transaction or activity will occur only if the benefits to those paying for services exceed the costs. In addition, suppliers of the environmental services, landholders, will seek out efficient and innovative ways of delivering services in order to maximise profits or, in the case of community actions, net community gains.

Private incentives to provide conservation services may be constrained for many reasons (chapters 2 and 9), including a lack of information, regulatory distortions and constraints and the absence of markets for 'public-good' environmental services. The variety of causes of under-provision of environmental services on private land suggests that targeting responses at particular constraints is likely to be more effective and efficient than 'one-shoe-fits-all' regulation.

In many cases, the most effective role for government will be to remove regulatory or other policy distortions (for example, to remove impediments to efficient farm rationalisation and, hence, viability, or to price irrigation water efficiently). Indeed, removal of regulatory or policy distortions that discourage voluntary conservation or that encourage poor land-management practices should be addressed as a matter of priority, before intervening to promote or impose increased conservation effort.

Governments could also take a more active role facilitating increased private effort, for example, by promoting dissemination of information and research into the benefits of native vegetation, and by exploring potential sustainable commercial uses of native vegetation and biodiversity.

RECOMMENDATION 10.6

As a matter of priority, governments should seek to remove impediments to, and facilitate, increased private provision of environmental services. Actions could include:

- ***removal of tax distortions or lease conditions that discourage conservation activity relative to other activities;***
- ***removal of impediments to efficient farm rationalisation and/or management and operation;***
- ***research into, and facilitation of, sustainable commercial uses of native vegetation and biodiversity; and***
- ***enhanced provision of education and extension services to demonstrate to landholders the private benefits of sustainable practices.***

Externalities and public goods

Where private under-provision of conservation occurs because benefits principally accrue 'off-site', governments potentially have a more direct role to play. Nonetheless, where negative 'spill-over' effects and their solutions are contained within defined areas, voluntary solutions may still be feasible. Government may have a role facilitating community solutions to community problems, for example, by providing resources and information and, in some cases, by facilitating or enforcing appropriate practices where free-riding would otherwise undermine achievement of objectives (as has occurred for many years in the case of pest and weed control).

Even in the case of environmental public goods, such as biodiversity or carbon sequestration, private provision of native vegetation for personal benefit will often simultaneously generate these public benefits, which the rest of the community can enjoy free of charge. Direct or indirect purchase of conservation effort by individuals or non-government organisations may also provide these wider public benefits.

However, precisely because the benefits of public goods are available to everybody (whether they want them or not) and cannot be charged for, landholders are unlikely to provide sufficient native vegetation and biodiversity from a whole-of-community perspective. At some point, the private provision of native vegetation and the production of goods for profit (or utility) will stop being complementary and will begin to compete. Beyond this point, native vegetation conserved for public-good purposes means that the landholder is losing income because the land could be put to more privately-profitable uses. Two issues then arise — which policy instruments are likely to be efficient in achieving this additional conservation, and who should pay for it.

Step 3: Clarify landholder and community responsibilities

The view that costs of native vegetation and biodiversity conservation need to be shared seems to be widely supported in principle (box 10.1). In practice, there are divergent views as to which actions constitute public-good conservation and which constitute the landholder's responsibility (referred to by some as landholders' 'duty of care'[1]). According to the Tasmanian Farmers' and Graziers' Association:

1 As discussed in chapter 9, the term 'duty of care' means different things to different people. In the Commission's view, in the context of native vegetation, the term is not especially illuminating in clarifying responsibilities of landholders.

There is a marked tendency for Government to put as many conservation measures as it can into the 'duty of care' category, because it effectively secures conservation benefits at no cost to itself. (sub. 160, p. 9)

Under current regulatory arrangements, landholders are made responsible for providing virtually all services associated with retaining native vegetation on their properties, more often than not at their own expense.

Box 10.1 **Participants' views on cost-sharing**

The costs of retaining native vegetation [should] be shared amongst the beneficiaries in proportion to the level of the benefit that they receive (eg landholder, local community and/or wider community) and that these proportions [should] be determined through the application of an agreed cost sharing formula. (SA Government, DR324, p. 41)

[The] Public good must be supported by appropriate support from the public purse. (ACT Sustainable Rural Lands Group, sub. 125, p. 1)

As a taxpayer I would expect and no doubt do, pay for *public good* actions wherever they happen, in areas other than the environment but do not see that we [landholders] should bear almost all the cost of this [environmental] *public good.* (T.J. Price (Western Australia), sub. 38, p. 2)

The entire community should help bear the cost of public good activities. (Greening Australia (Tasmania), sub. 134, p. 2)

There is also a greater requirement to identify the 'public versus private good' of protection of native vegetation and the biodiversity it supports. Landholders do have a duty of care to maintain and protect their natural resources. To go beyond this requires significant resources — capital, knowledge and financial. If the broader community is after benefits that go beyond this 'duty of care', then the broader community needs to actively contribute. (Murray Irrigation Ltd (New South Wales), sub. 79, p. 2)

Best Practice … should reflect the wider community's aspirations for natural resource management outcomes. Ensuring landholders contribute appropriately to achieving such outcomes, however, should be a matter for 'incentivation' not regulation … (Tasmanian Conservation Trust, sub. 84, p. 5)

… legitimate equity concerns demand a 'cost-sharing' solution … the cost of which should be funded on the following principles:

- Application of the 'polluter' or 'impactor' pays principle, reflecting the sustainability responsibilities of landholders to manage both on-farm and off-farm impacts.
- Contributions of public funds from both Commonwealth and state governments … where regulations impact beyond private sustainability obligations to benefit the wider national interest. (Australian Conservation Foundation, sub. 146, attachment 1, p. 2)

This allocation of costs often has sometimes been justified on the grounds that these landholders are major beneficiaries of the regulations. As discussed in chapter 6, in the Commission's assessment, this argument is not robust because landholders generally will have an incentive to devise least-cost solutions to environmental problems that affect their own operations. Given sufficient knowledge, they will

voluntarily retain at least that level of native vegetation and biodiversity that is good for them. Native vegetation regulations that prescribe how these environmental services will be produced, and at what levels, by restricting landholders' options for achieving such benefits, will tend to impose net costs on them rather than bring them net benefits (even if there are benefits to the wider community).

Some participants expressed the view that although some financial incentives for landholders may be justified, governments should only 'buy' environmental services above the existing *regulated* minimum. For example, the Victorian Government (sub. 185) considered that current regulations in that State prescribed landholders' 'duty of care'. The implication is that landholders should not be 'rewarded' for *not* clearing vegetation, but payments for 'positive' actions such as managing or regenerating vegetation for the public good may be warranted. Similar views were expressed by the WA Government (sub. DR290) and the Australian Conservation Foundation (ACF, sub. DR302).

However, in both cases, landholders would incur opportunity costs (in the case of not removing a tree, the net value of production forgone; in the case of planting a tree, the net value of production forgone plus the cost of planting the tree). In both cases, an environmental service demanded and valued by the community would be produced. It is not obvious on efficiency or equity grounds why the first action would not warrant payment (or, put another way, compensation for costs incurred) but the other could. Indeed, it is those landholders who have native vegetation on their properties who will forfeit profits, not their neighbours whose properties have been cleared in the past. From the Commission's perspective, it would be more useful to define landholder responsibilities in terms of the environmental services provided and who benefits, and not in terms of a particular action (or whether that action is inherently 'good' or 'bad').

A way forward?

Existing jurisdiction-wide regulation muddies the issue of landholder and community responsibility. The challenge lies in establishing an agreed process for clarifying environmental responsibilities.

Landholders' responsibilities

In the Commission's view, it is reasonable to expect landholders, in the aggregate, to bear the costs of actions that directly contribute to sustainable resource use and, hence, the long-term viability of agricultural and other land-based productive operations.

Thus actions and mechanisms, including native vegetation retention and management, to 'internalise' what could be broadly described as externalities occurring within and between regions — vegetation clearing affecting soil and water quality, for example — would constitute the responsibility of landholders individually and/or as a group. This approach does not mean that individual landholders should only be expected to undertake what is in their private interests — it implies a broader responsibility to their neighbours and communities and, indeed, where actions have broader impacts, surrounding communities. As discussed below, there is a range of mechanisms that could be used to address such externalities. How the costs (and benefits) of actions are distributed among landholders will depend on the particular mechanism used.

Society's responsibilities

In the Commission's assessment, the wider public should bear the costs of retaining and managing native vegetation to promote 'public-good' environmental services — such as biodiversity, habitat preservation and greenhouse gas abatement — that it apparently demands, and which are likely to impinge significantly on the capacity of landholders to utilise their land for production. A similar conclusion was reached by the Industry Commission in an inquiry into ecologically-sustainable land management:

> The 'in principle' role for government is in determining and organising demand for the public good. That is, in identifying who benefits from the public good and raising, through taxation or similar compulsory charges, the cost of the provision of that good from those who benefit. (IC 1998, p. 78)

Importantly, the Commission's assessment is not simply based on some notion of fairness (although perceived fairness is not irrelevant when landholders are being relied upon to provide the environmental services demanded by the wider community). It is based on the reality that achieving the environmental outcomes on private land that society demands as efficiently and effectively as possible will require:

- clear enunciation and specification of the environmental outcomes demanded; and
- the knowledge and ongoing cooperation and effort of landholders who ultimately must deliver those outcomes on their land.

As noted above, several participants put the view that landholders should not be 'rewarded' for *not* clearing native vegetation. But 'impacter pays' is not inherently more efficient or equitable than other parties buying the services they value. A major efficiency problem in making landholders bear *all* the costs of not clearing

native vegetation on their properties, including the costs of providing public good conservation, is that this virtually necessitates compulsory regulation. Yet prescriptive regulation is unlikely to promote the focus on environmental outcomes and the landholder cooperation required to achieve those outcomes. Nor is making a subset of landholders bear the costs of providing services that benefit the rest of society particularly fair, especially as many other landholders, often at the behest of governments, have been responsible for large-scale clearing in the past.

Having governments act on behalf of the wider community as a buyer of public-good environmental services (even, in some cases, buying up parts of or entire properties) would mimic private, voluntary transactions driven by the prospect of gains from trade accruing to both parties. This has several advantages over regulation for promoting additional conservation on private land:

- a process of buying services will require clear specification of the environmental outcomes demanded;
- agreements can be flexible, taking account of local variations, utilising local knowledge and encouraging innovative and cost-effective solutions. Therefore, a given level of environmental services is more likely to be provided at minimum cost;
- a requirement to pay will place some discipline on the community's demand for environmental services and compel prioritisation of environmental demands. It is more likely (though certainly not guaranteed) that the community's willingness to pay will be tested and the cost–benefit trade-off revealed in the aggregate and for individual projects. With uncompensated regulation, retention of native vegetation on private land essentially is a 'free good' for most in the community;
- contract terms and conditions can be designed to provide certainty to landholders and provide positive incentives for them to retain and manage native vegetation appropriately in the long term. For those who have retained native vegetation, that vegetation would become an asset rather than a liability.

Such an approach has been trialled in Victoria and used extensively in Tasmania and overseas with promising results.[2] It is not without costs or potential problems. Criteria have to be developed for prioritising society's environmental objectives and for assessing environmental outcomes. Methods of eliciting 'competitive' contract prices (such as auctions) for desired environmental outcomes need to be developed. Contracts need to be designed, monitored and enforced. Because it requires case-by-case assessment, the approach can be resource-intensive.

[2] This option encompasses the situation in the Australian Capital Territory where leaseholders factor in the cost of environmental requirements in the amount they bid for leases. The budgetary impact is reflected in lower lease revenue.

Importantly, however, prioritisation and clear specification of environmental objectives, the discovery of least-cost solutions and monitoring of outcomes so that performance of the intervention can be assessed and improved over time, *should* be undertaken for *any* policy intervention, including regulation.

In some cases, it is feasible that regulation to promote some public-good objectives may be efficient — for example, where a simple rule is more efficient than negotiations or auctions at property or regional levels. Importantly, however, if a transfer of rights implied by a regulatory rule is considered to be efficient, this does not preclude the payment of compensation to the landholders affected. The efficacy of regulation should not rest on the uncompensated transfer of long-accepted — and bought — rights.

The cost-sharing approach outlined would shift some, though not all, costs of native vegetation clearing restrictions currently incurred by landholders to taxpayers. Although some may regard the potential budgetary impact as a major disadvantage, possibly limiting conservation effort, the appropriate objective of policy should be maximising net community benefits, not minimising budgetary outlays. Stewardship or other payments for providing public good conservation would not have to be paid in lump-sum form. Indeed, there are strong arguments for them to be paid periodically in line with the level and quality of services delivered.

Institutional framework

To the extent that landholders and local communities are expected to bear the costs of addressing resource degradation problems (such as containing dryland salinity and soil and water quality problems) themselves, there is a strong case for allowing them greater flexibility and authority to devise effective and efficient ways of doing so — and not simply imposing solutions from above, ostensibly for the landholders' benefit.

Importantly, efficient solutions to regional environmental issues may or may not involve retention of native vegetation, at least not to the level demanded by the public at large. For example, in Western Australian the principal stated reason for imposing clearing restrictions has been the need to contain salinity. While salinity undoubtedly is a major problem in that State, some have suggested other approaches such as deep-rooted, perennial commercial crops. It is not within the Commission's expertise to say what the precise solutions will be, but the current regulatory approach effectively precludes exploration of and experimentation with potentially lower-cost options that would still achieve environmental objectives. Of course, to the extent that native vegetation is retained in order to solve environmental

externalities, the rest of the community can 'free-ride' on any biodiversity or other services delivered.

Several jurisdictions have established regional processes that have led, in some cases, to the successful development of environmental management strategies. However, the implementation of these strategies typically has been overridden by jurisdiction-wide regulations (for example, no net loss or net gain or vegetation targets), in order to meet the demands of the wider community for environmental services.

The Commission is proposing that regional bodies be given greater autonomy to devise integrated solutions to environmental problems, including primary responsibility for determining what, if any, intervention is required to achieve those solutions as efficiently as possible and how the costs should be distributed amongst landholders and others. Possible mechanisms include commercial or market-based instruments, voluntary efforts, codes of practice, education or even regulations stipulating certain practices. (Where the environmental benefits to landholders are direct and clear, regulations and rules may be appropriate and more likely to be accepted and complied with.)

Property-based levies (which have been used in South Australia to fund landholders' contribution to salinity programs) or other redistributive mechanisms may be appropriate in some instances to share costs among landholders. For example, in Western Australia, currently only those landholders with remnant native vegetation on their properties bear the costs of clearing regulations which, among other things, are aimed at controlling salinity caused largely by past clearing on other properties.

As outlined in box 10.2, there are several design aspects of regional bodies that must be addressed. The Commission is not recommending a particular regional institutional structure. Regional vegetation committees, catchment or other bodies may be appropriate forums for promoting regional environmental objectives, depending on the nature and extent of the latter. That said, geographic boundaries probably should not exceed the catchment level.

In the Commission's view, the most important design features are that institutions provide for genuine regional consultation and decision making and that they are delegated sufficient flexibility, authority and resources to implement their decisions. Representation should reflect the regional population and a range of viewpoints and interests, with the scope for input and guidance from government departments. Building trust and a sense of 'ownership' appear critical for success.

As Marshall observes:

> The benefit stream … arises if and when communities come to comply more voluntarily with their cost-sharing commitments … so that transaction (including political) costs of enforcing these commitments are avoided in some degree. (2002, p. 111)

Box 10.2 **Designing regional institutions**

- *Geographic boundaries* — boundaries should broadly match geographic boundaries of the major environmental externalities being targeted. Thus, ideally regions would encompass an area within which costs and benefits of externalities, and the actions to address them, accrue.
- *Representation* — should be representative of the population of the region. A major question is whether government agencies should be voting members or only available to provide guidance and support.
- *Resourcing* — should be adequate for building 'community capacity' and access to technical support. If bodies are responsible for policy-making and delivery (especially of wider community objectives), they will need resources to perform these functions.
- *Responsibilities and authority* — in order to determine and implement policy measures, regional bodies will require legislative authority as well as clear specification of their environmental responsibilities.
- *Accountability and governance* — transparent processes to ensure responsible use of public monies, including audits and reviews and monitoring of outcomes.
- *Relationship with other levels of government* — issues include: how to link regional, State and Commonwealth objectives in order to avoid inconsistency and overlap and to promote cost-effective 'joint' production of environmental services; channelling of funding where appropriate; access to technical support; links to local government.

However, because there are few precedents for how responsibility might be devolved under regional approaches, there may need to be a process of 'cultural change, experimentation and adaptation' (Musgrave 2002, p. 158), building on the many promising, albeit embryonic, examples of landholders coming together to identify and solve environmental problem in their regions (box 10.3).

The Commission notes that the NSW Government (DIPNR 2003a) has announced new regional institutional arrangements based on catchment areas that seek to address perceived deficiencies — such as a lack of funding and external representation — in regional vegetation management committees established under the previous regime in that State.

Over and above designated landholder responsibilities, the public-good conservation desired by the wider community (for example, to meet biodiversity, threatened species and greenhouse objectives), should be purchased from individual or groups of landholders. These objectives, developed and agreed at national and State and Territory levels, ideally should be fed through regional institutions to promote coordination and consistency of approaches and, ultimately, least-cost 'joint' solutions.

Box 10.3 **Examples of regional approaches to environmental problems**

There are many examples of landholders developing vegetation management plans to address a range of environmental problems through regional vegetation management processes and through catchment management authorities. Typically, these plans identify both actions that landholders would undertake voluntarily and those that they regard as public-good actions requiring some external funding.

- Through the Condamine Alliance (supported by the Queensland and Australian Governments), landholders in the Darling Downs have developed a draft management plan with a range of short- and long-term environmental targets including containing salinity, achieving at least 30 per cent native vegetation forest and grassland cover in most districts by 2018, and protecting endangered and 'of concern' ecosystems. Some funding would be required to increase vegetation cover in some districts.
- The draft Mulga Lands Regional Vegetation Management Plan in Queensland proposed: increased protection of riparian forests and wildlife corridors, wetlands and springs and 'of concern' regional ecosystems; minimisation of salinity potential; and maintenance of 30 per cent remnant vegetation in all surface and groundwater catchments. The plan also called for incentives and adjustment assistance for landholders disproportionately affected.

Sources: Condamine Alliance (2004); Gearing (2004); Mulga Lands Regional Vegetation Management Committee (2003).

Thus there would be a 'nested' hierarchy of planning and outcome-focussed objectives, with responsibility for devising ways of delivering objectives in an efficient manner devolved to regional bodies (figure 1 in the overview provides a stylised diagrammatic illustration). An illustration of how proposed cost-sharing arrangements might work in practice is outlined in box 10.4. Another example of cost-sharing among landholders, local communities and the wider community is the Upper South East Dryland Salinity and Flood Management Project in South Australia (SA Government, sub. DR324). As noted by the SA Government 'the amount and ratio of public and private benefits varies within any given catchment depending on the management option selected' (sub. DR324, p. 23).

Box 10.4 **Illustrative example of cost-sharing arrangements**

At the regional level, prevention of salinity and soil and water degradation may require all landholders (private and public) in a region to adopt certain practices including:

- retention and/or regeneration and management (for example, fencing off) of native vegetation on slopes and in riparian areas and in areas prone to salinity;
- appropriate control of pest species; and
- adoption of appropriate farm management practices (such as appropriate stocking rates, minimum tillage, timing of use of fertilisers) to minimise salinity, soil erosion and acidity, leaching etc.

It may be efficient to require all landholders in the region to meet certain obligations — for example, they may be required to submit for approval farm management plans specifying how they propose to meet their obligations. Where requirements fall more heavily on some landholders than others (for example, retention of native vegetation for salinity prevention purposes), redistributive mechanisms may be desirable (such as a property-based levy). If a region adopted a native vegetation target of, say, 20 per cent, a system of tradeable credits could spread the burden amongst landholders in the region, reward the contribution of those who have retained native vegetation, while allowing higher-valued agriculture to proceed.

If society demanded additional native vegetation conservation — say minimum levels of 30 per cent native vegetation to promote biodiversity objectives — then payments would be made to landholders for the incremental costs of achieving these higher targets. If many landholders potentially could provide the desired vegetation, a competitive auction is likely to be the most effective means of eliciting the least-cost provision.

Alternatively, if a tradeable credit scheme operated in the region, governments could buy conservation credits and, by forcing up the price, landholders would have incentives to retain or regenerate native vegetation. If desired environmental outcomes (for example, protection of habitat of an endangered species, or wetlands) are linked to a particular area or property, the vegetation on that land and the management services of the landholder, or the land itself, may need to be bought, unless the area of vegetation delivers regional benefits and is already protected under the regional plan.

Where society's objective is to stop all further clearing and development (for example, to promote greenhouse commitments), the same principles should apply. If land is not bought outright, then annual payments could be made to landholders, reflecting the opportunity costs of not using the land for production as well as the costs of managing native vegetation. Annual payments have the advantage that they can be made conditional on appropriate management of the vegetation.

Several participants (including, AgForce, trans., p. 1127 and ACF, sub. DR302) suggested a COAG or National Competition Policy (NCP) approach, with Australian Government funding dependent on States and Territories meeting agreed

obligations. Kingma and Musgrave (2001) propose a National Natural Resources Investment Strategy building on the COAG and NCP models. The SA Government recommended that:

> The Commonwealth Government, in partnership with landholders, the community and Local, State and Territory Governments, negotiate cost-sharing frameworks that cover the wider community benefits and costs associated with the conservation and management of native vegetation and biodiversity resources on private land. (sub. DR324, p. iv)

The Commission sees some value in developing an agreed set of broad principles and objectives (along the lines of the recommendations in this chapter) to guide development of consistent approaches to native vegetation management at the national, state and regional levels.

Concluding remarks

Over the past twenty years or so, legislation to prevent clearing of native vegetation on private land has been relied upon heavily to achieve biodiversity and other environmental objectives. The current evaluation suggests that this approach has serious design and implementation deficiencies, in many cases leading to inefficient, ineffective and inequitable outcomes.

Progressive implementation of the reforms outlined, by building on private effort and landholder knowledge and goodwill, could reduce the need for government intervention over time, would better clarify landholder and community responsibilities, provide better incentives for landholders to retain and manage native vegetation, and introduce greater policy variety and flexibility, accountability and transparency.

A crucial thrust of the Commission's recommendations is that policies that fail to engage the cooperation of landholders will themselves ultimately fail. In addition, greater transparency about the cost–benefit trade-offs involved in providing desired environmental services would facilitate better policy choices.

RECOMMENDATION 10.7

Landholders individually, or as a group, should bear the cost of actions that directly contribute to sustainable resource use (including, for example, land and water quality) and, hence, the long-term viability of agriculture and other land-based operations. Redistributive mechanisms may be appropriate in some instances to share costs among landholders and regional communities.

RECOMMENDATION 10.8

Regional institutions should be further developed and charged with addressing regional and inter-regional resource sustainability issues within broad parameters determined at national, State and Territory levels. Regional bodies should provide for genuine regional consultation, representation and decision making and be granted sufficient flexibility, authority and resources to implement their decisions.

RECOMMENDATION 10.9

Over and above agreed landholder responsibilities, additional conservation apparently demanded by society (for example, to achieve biodiversity, threatened species and greenhouse objectives), should be purchased from landholders where intervention is deemed cost-effective.

RECOMMENDATION 10.10

Public-good native vegetation and biodiversity objectives ideally should be fed through regional institutions to promote coordination and consistency of approaches and, therefore, least-cost 'joint' solutions.

APPENDIXES

A Public consultation

A.1 List of submissions

Participant	*Submission no.*
ACT Sustainable Rural Lands Group Inc.	125, DR258
AgForce Queensland	54, DR272
Anderson, G. & C.	20
Anderson, Gary	194, DR291
Australian Conservation Foundation	146, DR302
Australian Fisheries Management Authority (Australian Government)	198
Australian Honey Bee Industry Council	DR310
Australian Network of Environmental Defender's Offices	131, DR235
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Chapman, Eric	DR309
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Corangamite Shire Council	DR236
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Galeano, Joe	35, DR244
Gallagher, P.A. & E.G.	70
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Overmars, Frances	18
Pacers, Peter	93
Pacific Palms Community Association	64
Page, Bruce	186, DR305
Page, Warren	58, DR269

Participant	*Submission no.*
Pape, Bryan	7
Pastoralists and Graziers Association of WA	91, DR289, DR313
Peart, Wally	DR304
Perkins, Raymond	86
Phelan, Thomas	61
Potter, Graham	183
Price, T.J.	38
Property Rights Australia	171, 203
Prospectors & Miners Association of Victoria	117
Queensland Farmers' Federation	177
Queensland Resources Council	DR311
Rambutan and Tropical Exotic Growers Association Inc.	179
Rees, Ben	210, DR227
Regional Vegetation Management Committees: South-West Queensland	158
Reynolds, Charles	48, DR245
Ricegrowers Association of Australia	113
Rural Conservation Service	136
Saunders, Augusta	19
Sebire, Geoff	DR319
Serpentine–Jarrahdale Land Conservation District Committee	66
Sheaffe, R.W.	30
Shire of Dandaragan	191
Shoalhaven City Council	98
Sinden, Jack	15
South Australian Farmers' Federation	140
South Australian Government	DR324
South East NSW Horticultural Producers Association	32
South Grafton Residents Progress Association Inc.	104
Southern Midlands Council	166, 197, DR306
St James – Devenish Branch – VFF	99
State Council of Rural Lands Protection Boards	95
Stewart, D.M.McL. & J.A.	77
Stubbs, David	214
Sutherland, Michael	159
Tamborine Mountain Landcare	5, DR240
Tasmanian Conservation Trust	84, DR286
Tasmanian Farmers & Graziers Association	160, 195, DR277
Tasmanian Government	201
Tatiara District Council	60
Threatened Species Scientific Committee	DR223
Timber Communities of Australia Grafton Branch	100
Timber Towns Victoria	DR263
Tippett, Gilbert	52, DR307
Tomlinson, Elizabeth	DR246
Tonna, Aaron	205
Trust for Nature (Victoria)	129

Participant	*Submission no.*
Turkington, Russell	50, DR241
Vallance, Jack	6, DR222
Van Santen, Rochelle	26
Victorian Apiarists Association	220, DR297, DR298
Victorian Catchment Management Council	DR312
Victorian Farmers Federation	149, DR284
Victorian Government	185, DR323
Wait, Anthony	43
Ward, Denise	196
Waterford, Jim	41
Waugh, Anne	106
Weatherald, Robin	DR271
Weeding, Maria & Geard, Helen	162
West Gippsland Catchment Management Authority	63
West Wimmera Shire Council	110, DR265
Western Australian Farmers Federation	94, DR287
Western Australian Government	151, DR290
Western Australian Local Government Association	DR260
Western, Dave	DR316, DR317, DR318
Weston, Peter	56
Wetland Care Australia	59
Wheatley, Len	10, 144, 181, DR226, DR314
Wilderness Society	89, DR315
Wildflower Society of Western Australia	33, DR259
Wills, Ray & the Ecological Society of Australia	DR267
Wilson, Bruce	DR254
Wilson, Mel & Kay	44
Witham, Anthony	34
Wood, Murray	211
Wren, Peter	119, DR303
Wroth, J.C. & C.M.	143
WWF Australia	108
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The NSW Farmers' Association forwarded a submission template to its members in response to our issues paper. Seventeen template submissions were received by the Commission, which are listed below. Sixteen additional template submissions were also forwarded from the NSW Farmers' Association but without names or contact addresses.

Participant	*Template submission no.*
Baglisin Pty Ltd	TS02
Brunt, Alan	TS04
Campbell, K. & S.	TS12
Charles Mills (Uardry) Pty Ltd & Yanga Pty Ltd	TS15
Cloros, D. & S.	TS17
Constance, Ernie	TS05
Crittenden, R.	TS13
Hall, A.G. & S.A.	TS07
Hall, D.H. & T.L.	TS10
Hamblin, Ian	TS06
JMC Woodside Trading	TS03
Kilmartin, Gary	TS16
Muirhead, J.	TS01
Peadon, T.R., P.J. & R.T.	TS11
Reid, Nerida	TS14
Webb, John	TS08
Wilson, T.J. & K.S.	TS09

A.2 Visits

New South Wales

NSW Farmers' Association

Wetland Care Australia

WWF Australia

NSW regional visits: Deniliquin, Tottenham, Wagga Wagga

Victoria

Australian Conservation Foundation

Victorian Farmers Federation

Victorian Government

Victorian regional visits: Bairnsdale, Omeo

Queensland

AgForce Queensland
Chinchilla Shire Council
Queensland Conservation Council
Queensland Farmers' Federation
Queensland Government
Queensland regional visits: Charleville, Mt Garnet, Tully

South Australia

Conservation Council of South Australia
Local Government Association of South Australia
Nature Conservation Society of South Australia
South Australian Chamber of Mines and Energy
South Australian Farmers' Federation
South Australian Government

Western Australia

Alcoa World Alumina Australia
Bradby, Keith
Conservation Council of Western Australia Inc.
CSIRO Sustainable Ecosystems (Australian Government)
Davies, Graham
Green Skills Inc.
Nindethana Seed Service
Pastoralists and Graziers Association of WA
SCRIPT (South Coast Regional Initiative Planning Team)
Western Australian Farmers Federation
Western Australian Government
Western Australian regional visit: Albany

Northern Territory

Department of Infrastructure, Planning and Environment
Environment Centre of the Northern Territory
Northern Land Council

Northern Territory Cattlemen's Association
Northern Territory regional visit: Douglas-Daly Region

Tasmania

Australian Bush Heritage Fund
Private Forest Reserve Program
Tasmanian Conservation Trust
Tasmanian Farmers & Graziers Association
Tasmanian Government
Tasmanian regional visit: Midlands

Australian Capital Territory

Australian Aluminium Council
Bureau of Transport and Regional Economics (Australian Government)
Department of Agriculture, Fisheries and Forestry (Australian Government)
Department of the Environment and Heritage (Australian Government)
Department of the Prime Minister and Cabinet (Australian Government)
Environment ACT
Minerals Council of Australia
National Farmers' Federation
The Treasury (Australian Government)

A.3 Initial public hearings

Brisbane, 28 July 2003

AgForce Queensland
Brisbane Region Environment Council
Canegrowers
East End Mine Action Group
Flanagan, Gerard
Freeman, Lynton
Fritz, William
Gecko – Gold Coast & Hinterland Environment Council
Timber Communities of Australia Grafton Branch

Cairns, 31 July 2003

Bauer, Bonny
Burtenshaw, Roz
Canegrowers Innisfail
Johnstone River Catchment Association Inc.
Katter, Bob MP
Longan Association Australia
Mulgrave Landcare Catchment Group
Natural Resource Management Board (Wet Tropics) Inc.
Sing, Robert

Canberra, 4 August 2003

Constitutional Property Rights Committee
D'Arcy, John
Greening Australia
National Association of Forest Industries
National Farmers' Federation
Page, Warren
Rural Conservation Service
Wheatley, Len

Perth, 7 August 2003

Collins, Ron
Conservation Council of Western Australia Inc.
Dival, John
Ferguson, Kenneison & Associates
Landcare Services
O'Dea, John
Pastoralists and Graziers Association of WA
Underwood, Craig
Western Australian Farmers Federation
Western Australian Government

Adelaide, 8 August 2003

Davis, Edward
McKay, Sally & McDowell, Jim
Parker, Kevin & Neville
South Australian Farmers' Federation
Tatiara District Council

Melbourne, 14 August 2003

Australian Conservation Foundation
Gippsland Farm Plantations Inc.
Jack, Ian
Mr Fern Pty Ltd
Pacers, Peter
Wait, Anthony
West Wimmera Shire Council

Melbourne, 15 August 2003

Blake, Janet & Kevin
Canegrowers & CSR Sugar – Herbert River District
Davis, Murray
Holt, Reginald
Tippett, Gilbert
Victorian Apiarists Association
Victorian Farmers Federation

Hobart, 18 August 2003

Forests & Forest Industry Council of Tasmania
Reserve Design & Management
Southern Midlands Council
Tasmanian Conservation Trust
Tasmanian Farmers & Graziers Association

Sydney, 19 August 2003

Hespe, F.S.
Institute of Public Affairs
NSW Farmers' Association
Ricegrowers Association of Australia
Wilderness Society
WWF Australia

Moree, 20 August 2003

Boardman, Allan
Country Women's Association of NSW
Leverton Pastoral Company Pty Ltd
Mills, Denzil
Moree Plains Shire Council
Murray Darling Basin Lippia Working Group
O'Regan, Bevan
Pape, Bryan
Schmidt, Andrew & Kathy
Sinden, Jack
Voller, Peter
Young, Rod

A.4 Draft report public hearings

Mackay, 2 February 2004

Ashburner, Bern
Dalrymple Landcare Committee Inc.
Greaves, Ray
Heit, Sandy
Mackay Conservation Group
Reedman, R.K.
Smith, Harold
Sunfish Mackay Regional Branch

Wildlife Preservation Society of Queensland

Toowoomba, 3 February 2004

AgForce Queensland
Boonah Shire Council
Clift, Colin
Tamborine Mountain Landcare
Turkington, Russell

Sydney, 4 February 2004

Australian Network of Environmental Defender's Offices
Campbell, Keith G.
Hespe, F.S.
NSW Forest Products Association Ltd

Dubbo, 5 February 2004

Arnott, Doug
Brewarrina Regional Vegetation Committee
Cook, Clyde
Edwards, Jim
Hall, Alan & Shirley
Menzies, Doug
NSW Forest Products Association Ltd: Cypress and Ironbark Division
Reynolds, Charles
Stanton, Richard
Tomlinson, Elizabeth
Weston, Peter
Young, Rod

Albury, 11 February 2004

Dennis E. Toohey & Associates
Euroka Station Partnership
Jones, Jack
Lucas, Geoff

McGowan, Paul
Ward, Bryan

Hobart, 13 February 2004

Hammond, John
Innes-Smith, Peter
McShane, Don
Northern Midlands Council
Oldaker, John
Southern Midlands Council
Swan, Denise
Tasmanian Conservation Trust
Tasmanian Farmers & Graziers Association

Perth, 17 February 2004

Conservation Council of Western Australia Inc.
Eastern Metropolitan Regional Council
Ferguson, Kenneison & Associates
Nixon, Murray
Pastoralists and Graziers Association of WA
Western Australian Farmers Federation
Western Australian Government

Melbourne, 23 February 2004

Australian Conservation Foundation
Sebire, Geoff
Weatherald, Robin

Melbourne, 24 February 2004

Davis, Murray
Jack, Ian & Sue
McKay, Sally & McDowall, Jim
South Australian Farmers' Federation
Threatened Species Scientific Committee

Timber Towns Victoria
Tippett, Gilbert
Victorian Farmers Federation

Geraldton, 18 February 2004 (Roundtable discussion)

Carr, Dick
Cripps, Terry & Roslyn
Davidson, Bruce
Hamersley, Len
Harris, Graeme
Harris, Ken
Hose, Bill
O'Donnell, Kay
Richards, Lloyd
Stokes, Dennis
Teakle, Haydn

A.5 Modelling workshop

Melbourne, 27 February 2004

ABARE (Australian Government)
Australian Greenhouse Office (Australian Government)
Ian Beale, Devine Agribusiness
Sean Constable, Constable Consulting
Department of Agriculture, Fisheries and Forestry (Australian Government)
Department of the Environment and Heritage (Australian Government)
Department of the Prime Minister and Cabinet (Australian Government)
Department of Transport and Regional Services (Australian Government)
Graham Kenny, Devine Agribusiness
NSW Farmers' Association
Geoff Slaughter, University of Queensland

B Environment Protection and Biodiversity Conservation Act

B.1 Introduction

The key legislation addressing native vegetation and biodiversity conservation at the Australian Government level is the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The EPBC Act commenced on 16 July 2000. It comprises:

- arrangements for environmental impact assessment, and approval, of certain actions that affect the environment; and
- mechanisms to conserve biodiversity and heritage.

In addition, a new national heritage system commenced operation on 1 January 2004. One of its key features is a National Heritage List which will be maintained under the EPBC Act. The list will include natural, historic and Indigenous places of outstanding heritage value to all Australians. The listed heritage values, not necessarily the place itself, will be protected under the EPBC Act (DEH 2004a).

By replacing seven acts, including the *Environment Protection (Impact of Proposals) Act 1974* (Environment Protection (Impact of Proposals) Act) and the *Endangered Species Protection Act 1982*, the EPBC Act consolidated and updated the Australian Government's regulatory regime for the environment, but also expanded its direct regulation of environmental matters (Scanlon and Dyson 2001). Through the EPBC Act, the Australian Government enacted Australia's obligations under several international treaties such as the United Nations World Heritage Treaty, the Convention on Biological Diversity and the Ramsar Convention on Wetlands.

In addition to administering the EPBC Act, the Australian Government plays other roles in biodiversity conservation and environmental management by:

- coordinating national policies, adopted by all States and Territories, such as the National Strategy for the Conservation of Australia's Biological Diversity;

- providing significant funding, through vehicles such as the Natural Heritage Trust and the National Action Plan for Salinity and Water Quality, for projects that protect or enhance the environment; and
- funding research on environmental issues through programs such as the National Land and Water Resources Audit and the Australian Biological Resources Study.

B.2 Description of the regulatory regime

The EPBC Act implements key aspects of the Council of Australian Governments' Agreement on Commonwealth/State Roles and Responsibilities for the Environment (COAG 1997). The objects of the Act are re-produced in box B.1.

Box B.1 **Objects of the *EPBC Act***

- To provide for the protection of the environment, especially aspects of the environment that are matters of national environmental significance.
- To promote ecologically sustainable development through the conservation and ecologically sustainable use of natural resources.
- To promote the conservation of biodiversity.
- To provide for the protection and conservation of heritage.
- To promote a co-operative approach to the protection and management of the environment involving governments, the community, landholders and Indigenous peoples.
- To assist in the co-operative implementation of Australia's international environmental responsibilities.
- To recognise the role of Indigenous people in the conservation and ecologically sustainable use of Australia's biodiversity.
- To promote the use of Indigenous peoples' knowledge of biodiversity with the involvement of, and in co-operation with, the owners of the knowledge.

Source: EPBC Act (s. 3).

Under the EPBC Act, certain 'actions' — projects, developments, undertakings, activities or a series of activities, or an alteration to any of these (s. 523) — require approval from the Australian Government Environment Minister. Actions that may 'trigger' assessment and approval under the EPBC Act include those that have, will have or are likely to have a significant impact on:

- a 'matter of national environmental significance'; or

- the environment[1] on Commonwealth land even if the action is taken outside Commonwealth land and on the environment in general if the action is taken on Commonwealth land; or
- the environment inside or outside Australian jurisdiction, where the actions are undertaken by the Australian Government or its agencies.

The definition of 'actions' in the Act is very broad. However, environmental assessment and approval is required only for 'new' actions and not for actions that were authorised before commencement of the Act or that represent a lawful continuation of land use started before the Act's commencement, unless such actions are enlarged, expanded or intensified (ss 43A–43B). Decisions by government bodies on grant funding, and government decisions authorising others to undertake actions, are also specifically excluded as 'actions' under the Act (s. 524). There are several other cases where actions do not require assessment and approval under the EPBC Act, such as:

- those covered by a bilateral agreement (see below) or Ministerial declaration (which allows the Australian Government Environment Minister (Environment Minister) to delegate assessment and/or approval to another Australian Government body);
- forestry operations undertaken in accordance with a Regional Forest Agreement process (unless they occur in World Heritage properties or in Ramsar wetlands or if the action is incidental to another action which does not have a primary purpose related to forestry); and
- actions in the Great Barrier Reef Marine Park authorised under the *Great Barrier Reef Marine Park Act 1975*. (EPBC Act, ss 29–43)

The Environment Minister may also exempt an action from assessment and approval if it is in 'the national interest' to do so, such as for defence or security reasons (s. 158).

Matters of national environmental significance

As outlined above, assessment and approval may be required under the EPBC Act for an action with a 'significant impact' on a matter of national environmental significance. The Act currently lists seven of these matters:

- World Heritage properties;
- National Heritage places (from 1 January 2004);

1 Amongst other things, the definition of 'environment' under the Act includes ecosystems and their parts, natural and physical resources and the heritage values of places (s. 528).

- wetlands of international importance (Ramsar wetlands);
- listed threatened species and ecological communities;
- internationally protected listed migratory species;
- Commonwealth marine areas; and
- nuclear actions.

There is scope for the Environment Minister to add additional matters to this list through regulations (for example, introduction of a greenhouse trigger has been proposed). Before doing so, the Minister must consult with the States/Territories, although their agreement is not necessary. The Minister is also required to report every five years on whether additional matters of national environmental significance should be added to the Act.

Significant impact

As stated above, the requirement to undergo assessment and approval under the EPBC Act applies when an action has a 'significant impact' in certain cases (for example, on matters of national environmental significance). Despite its importance in the regulatory regime, the term 'significant impact' is not defined in the EPBC Act or its regulations. However, the Department of the Environment and Heritage (DEH) has produced *EPBC Act Administrative Guidelines on Significance* (EA 2000), which set out criteria for judging whether the impact is likely to be significant. While the Guidelines provide examples of actions that are, and are not, likely to have a significant impact, they are not exhaustive or definitive. For example, the Guidelines state that an action is likely to have a significant impact on a critically endangered or endangered species when it:

- leads to a long-term decrease in the size of a population; or
- reduces the area of occupancy of the species; or
- fragments an existing population into two or more populations; or
- adversely affects habitat critical to the survival of a species; or
- disrupts the breeding cycle of a population (EA 2000).

Supplements to the Administrative Guidelines have been produced for some individual species, such as the Bluegrass ecological communities, Spectacled Flying-fox and the Grey-headed Flying-fox. While the Administrative Guidelines

provide some advice to those regulated, they are not legally binding.[2] The Guidelines are currently being reviewed by DEH.

Assessment and approval processes

Actions that trigger the EPBC Act must undergo the environmental assessment and approval process contained in the Act. The process involves three broad stages: referral by the proponent; assessment; and approval.

Referral

The EPBC Act (s. 68) requires those proposing to take an action that they think is, or may be, covered by the Act to refer a proposal to the Australian Government Environment Minister for a decision on whether the action is a 'controlled action' under the Act. A State/Territory agency with administrative responsibilities relating to a proposed action may also refer the action (s. 69) and the Environment Minister may request a person or a State/Territory agency to refer a proposal (s. 70).

The EPBC regulations require those submitting referrals to provide a description of the proposed action, the nature and extent of its likely impacts, and a statement on whether the proponent considers the action to be a controlled action under the Act. On the basis of the referral, the Environment Minister decides whether the proposal is a controlled action under the Act, and which of the controlling provisions apply. This decision must be made within 20 business days of receiving the referral (10 business days if the referral states that the proponent considers it a controlled action (s. 75)). Only controlled actions proceed to the assessment stage of the assessment and approval process.

In deciding whether an action is a controlled action, the Environment Minister must invite comment from other Ministers with administrative responsibilities relating to the proposal. The Minister must also publish the referral on the internet and invite public comment. However, these consultation requirements do not apply if the referral states that the proponent considers the action to be a controlled action.

[2] Advice provided by the legal firm, Deacons, to the National Farmers' Federation (sub. 128, p. 13).

Assessment

For controlled actions, the Environment Minister must choose how the impacts of the proposed action will be assessed. The following assessment options are available under the EPBC Act (s. 87):

- an accredited assessment process — a bilateral agreement or Ministerial declaration;
- assessment on the basis of preliminary documentation;
- a public environment report;
- an environmental impact statement; or
- a public inquiry.

The Environment Minister must invite comment from the State/Territory where the proposed action will occur before determining which assessment approach to apply. Each assessment method includes opportunities for the public to comment on the information presented.

Regardless of the assessment method used, usually the only impacts relevant for assessment are those the action has, will have, or is likely to have on the 'controlling provision' (for example, the matter of national environmental significance that has triggered the approval process) (s. 82).

Bilateral agreements

A bilateral agreement, available under the EPBC Act, between the Australian Government and a State/Territory Government would allow the Australian Government to accredit the environmental assessment and/or approval processes in the State/Territory (or vice versa). The objective of bilateral agreements is to minimise duplication in assessment and approval processes and to promote efficiency, timeliness and effectiveness of processes (s. 44). In effect, a bilateral agreement allows the Australian Government to delegate its assessment and/or approval role to the State/Territory, as actions which would have been assessed by the Australian Government under the EPBC Act would instead be assessed and/or approved by the State/Territory (similarly 'Ministerial declarations' that accredit other assessment processes of the Australian Government allow actions to be assessed under those processes, rather than under the EPBC Act).

The public is given an opportunity to comment on all draft bilateral agreements and final versions of bilateral agreements must be published, including a statement of

reasons for entering into them. Bilateral agreements are valid for up to five years and must be reviewed before expiry.

Assessment bilateral agreements set out the assessment method to be followed by each State/Territory. The assessment method must comply with criteria in the Act and regulations that are intended to set a minimum standard for assessment of environmental impacts. For approval bilateral agreements, an accredited management plan must be tabled in both Houses of the Commonwealth Parliament where it can be disallowed by either House.

Bilateral agreements may contain provisions for auditing, monitoring, and reporting on the operation and effectiveness of the agreement. Anyone can alert the Environment Minister to a potential contravention of a bilateral agreement, and the Minister can suspend or cancel an agreement if the State/Territory has failed, or will fail, to comply.

To date, the Australian Government has only entered into assessment bilateral agreements. Under these agreements, the Australian Government Environment Minister retains the role of making approval decisions (DEH 2003, p. 170). Bilateral agreements have been signed with Tasmania (2000), the Northern Territory (2002) and Western Australia (2002). And, according to DEH (sub. 190), the bilateral agreement with Queensland is well-advanced.

Where there is no bilateral agreement, case-by-case accreditation of assessment processes are used to reduce inter-governmental duplication (DEH 2003, p. 165).

Approval

On the basis of a completed assessment, the Environment Minister generally has 30 business days (at least 40 business days after a public inquiry) to decide whether or not to approve the action (with or without conditions). Prior to deciding, the Minister must receive a notice from the relevant State/Territory Government that the impacts of the action on matters, other than those of national environmental significance, have been assessed to the 'greatest extent practicable'(s. 130). Apart from some exemptions, such as for nuclear actions or actions on Commonwealth land, the Minister cannot approve an action until that notice has been received (s. 133).

In deciding whether to grant an approval, the Environment Minister must consider economic and social matters as well as relevant environmental matters (s. 136). The Minister must take into account: the assessment report or statement; the principles of ecologically sustainable development; and relevant comments received from

other ministers invited to comment (s. 136). The Minister may also consider a proponent's personal history with regard to environmental matters.

In 2002-03, approval was refused for the first time. Approval was denied by the Environment Minister because the proposal to take or destroy approximately 5500 Spectacled Flying-foxes (in the period November to December 2002) to protect a lychee orchard would have a significant impact on World Heritage values of a declared World Heritage property. Statistics on the operation of the Act are discussed in section B.4.

Conditions

The Environment Minister may attach any condition to an approval to protect, or to mitigate, or repair damage to a matter covered by the Act, whether the damage is caused by the action or not. Examples of conditions include requiring:

- the proponent to supply a bond, guarantee or cash deposit;
- periodic independent environmental audits of the action;
- implementation of an approved (by the Minister) plan for managing the impacts of the action;
- environmental monitoring or testing; and
- compliance with a specified industry standard or code of practice. (s. 134)

Conditions, such as avoiding activities at certain times, re-locating populations of species and preparing detailed plans to reduce impacts on the environment, were attached to most of the approvals made in 2001-02. Almost all approvals made in 2002-03 also were conditional. DEH (sub. 190) advised that the conditions are 'outcome-focused', where possible, to allow proponents to choose the most cost-effective means of complying with them.

Biodiversity conservation

As well as listing threatened species and ecological communities as matters of national environmental significance, chapter 5 of the EPBC Act contains other mechanisms for biodiversity conservation (some are outlined below). In many cases, only Australian Government agencies are required to comply, or compliance is required only for Commonwealth areas. However, some non-coercive provisions, such as conservation agreements, may apply to the private sector.

Listings of threatened species, ecological communities and key threatening processes

The EPBC Act requires the Environment Minister to establish a list of threatened (native) species that includes the following categories:

- extinct;
- extinct in the wild;
- critically endangered;
- endangered;
- vulnerable; and
- conservation dependent (ss 178–80).

The Act also requires the Minister to establish a list of threatened ecological communities in the categories of 'critically endangered', 'endangered' and 'vulnerable' (ss 181–2).

In 2002-03, seventeen additions were made to these lists and one species was de-listed (DEH 2003). At 30 June 2003, the total number of listings were:

- threatened species — 1611; and
- threatened ecological communities — 29 (DEH 2003, p. 216).

The Minister seeks the advice of the Threatened Species Scientific Committee (TSSC) before amending the threatened species or ecological communities lists, but in making changes to either of these lists, the Minister must not consider any matter that does not relate to the survival of the native species (s. 186) or the ecological community concerned (s. 187).

Changes to the threatened species and ecological communities lists can be the source of vigorous debate. In particular, the listing of Bluegrass dominant grasslands of the Brigalow Belt Bioregions (North and South) and the Brigalow ecological communities made in April 2001 generated controversy as these occur in productive agricultural areas.

Under the Act, the Environment Minister must also establish a list of 'key threatening processes' (s. 183). This list contained 13 key threatening processes at 30 June 2003 (DEH 2003, p. 216). This list includes 'land clearance' (effective 4 April 2001) which refers to the destruction of native vegetation — vegetation where native species constitute more than 70 per cent of plant cover or other vegetation containing populations of species listed under the EPBC Act — and its substantial replacement with non-local species or human artefacts (TSSC 2001).

Land clearing includes clearance of native vegetation for crops, pasture, plantations, gardens, houses, mines, buildings and roads. It does not include activities, such as grazing which can also change native vegetation composition and structure (TSSC 2001).

A threatening process is defined as a process which 'threatens, or may threaten, the survival, abundance or evolutionary development of a native species or ecological community' (s. 183). A process is eligible for listing if:

- it could cause a native species or ecological community to become eligible for listing in any category (listed above), other than 'conservation dependent';
- it could cause a species/ecological community already listed to become eligible for listing under a more endangered category; or
- it adversely affects at least two listed threatened species (other than conservation dependent) or at least two listed threatened ecological communities (s. 188).

While the Minister must 'take all reasonably practical steps' to ensure that all of the eligible threatened species and ecological communities are listed under the Act (s. 185), this requirement does not apply to the list of threatening processes.

Any person may nominate a native species, ecological community or threatening process for listing under the Act. Nominations are forwarded to the TSSC for advice, unless the Minister is satisfied the nomination is 'vexatious, frivolous or not made in good faith' (s. 191). The Committee generally has 12 months to provide its assessment to the Minister (s. 189). All of the lists maintained under the Act must be available to the public (s. 194) and, while there is no statutory requirement to call for public comments on nominations, the Minister has been doing so (Macintosh 2002).

Recovery plans and threat abatement plans

The EPBC Act requires a 'recovery plan' to be in place, within a certain timeframe, for each listed threatened species (except for extinct and conservation dependent species) and for each ecological community. The Environment Minister must consult with the appropriate State/Territory Ministers, and the public, and must consider the advice of the TSSC when making or amending recovery plans.

In contrast to a recovery plan, a 'threat abatement plan' is required (within a certain timeframe) for a key threatening process *only* if the Environment Minister decides that it is a 'feasible, effective and efficient way to abate the process' (s. 270A). For example, there is no threat abatement plan for land clearance. Again, the Act imposes consultation requirements on the Minister.

Any group can write a recovery plan (or wildlife conservation plan) and the Act allows provision of government funding for this purpose.

Recovery plans remain in force while the species remain on the threatened list. Recovery plans and threat abatement plans bind the Australian Government and its agencies (s. 268). All plans must be publicly available and must be reviewed at least every five years (s. 279). As at February 2004, almost 170 recovery plans were in force (DEH 2004b).

Register of critical habitat

The EPBC Act requires the Environment Minister to establish a publicly available 'register of critical habitat', which includes habitat 'critical to the survival of a listed threatened species or listed threatened ecological community' (s. 207A). It is an offence to take an action in the knowledge that it will significantly damage critical habitat in a Commonwealth area (s. 207B). The Act requires the Australian Government to place a covenant on critical habitat, to ensure its protection, if Commonwealth land is sold or leased to someone else (s. 207C).

The Minister is under no obligation to include places on the register of critical habitat. However, if a recovery plan is made, it must identify habitat critical to the survival of a threatened species or community and, when making a recovery plan, the Minister must consider whether the habitat should be included on the register (EPBC reg. 7.09(2)). There is no public nomination process for inclusion of places on the register of critical habitat and the Minister must take reasonable steps to consult with the owner of the place before including it on the register.

As at 31 December 2002, the habitats (all offshore) of only three species were included on the Register — Macquarie Island (Wandering Albatross and Grey-headed Albatross) and Albatross Island (Shy Albatross).

Conservation agreements

The EPBC Act allows for legally binding conservation agreements between the Australian Government and others for the primary purpose of enhancing conservation of biodiversity and/or of the heritage values of declared World Heritage properties, National Heritage places or Commonwealth Heritage places (s. 304). Conservation agreements may relate to private or public land (but not Commonwealth reserves) or marine areas and may involve Australian Government funding (or other assistance) to the other party bound by the agreement. The conservation agreement may require the other party to undertake certain activities, or to restrict certain activities, to promote conservation of biodiversity or heritage

values (s. 306). The Environment Minister must maintain an up-to-date list of conservation agreements in force and make the agreements available to the public (unless this would result in harm to biodiversity or heritage values, or it would reveal commercial-in-confidence material). As at 31 December 2003, there were no conservation agreements in force.

Other biodiversity conservation provisions

The Australian Government may provide financial or other assistance to anyone for activities such as identifying and monitoring biodiversity and for assessing biodiversity needs and priorities (s. 171).

The Australian Government may prepare bioregional plans for Commonwealth areas, or cooperate with a State/Territory or others to prepare plans for bioregions not wholly within Commonwealth areas (s. 176). Bioregional plans may include biodiversity objectives and strategies for achieving them. They may also include provisions about heritage values. In making decisions under the Act, the Environment Minister must have regard to bioregional plans where they exist.

The Minister may also make conservation orders to protect listed threatened species or ecological communities in Commonwealth areas (s. 464). The Minister must consider social and economic matters when making conservation orders and must consult with each Australian Government agency that may be affected by the order. It is an offence to contravene a conservation order. Conservation orders must be reviewed at least every five years, and the orders must be publicised.

Under the Act, the Minister may make wildlife conservation plans to protect, conserve and manage listed migratory species, listed marine species, cetaceans that occur in the Australian Whale Sanctuary, or a conservation dependent species (s. 285). These plans must be prepared in cooperation with the States/Territories where the species occurs unless the species occurs only in Commonwealth areas. Australian Government agencies must take 'all reasonable steps' to act in accordance with a wildlife conservation plan (s. 286). The Minister can give financial or other assistance to anyone to implement a wildlife conservation plan (s. 296).

The Act allows the Australian Government to declare reserves and to assign a IUCN (International Union for Conservation of Nature and Natural Resources) category to them. The Environment Minister may also make plans for managing biosphere reserves included in the World Network of Biosphere Reserves by the UNESCO International Coordinating Council of Man and the Biosphere.

The Act establishes a system for regulating international trade in wildlife to ensure Australia complies with its obligations under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and Convention on Biological Diversity (Part 13A).

Other notable provisions

Precautionary principle

When making many decisions under the Act, the Environment Minister must 'take account' of the precautionary principle 'to the extent he or she can do so consistently with the other provisions' (s. 391). Examples of decisions in which the precautionary principle must be considered include:

- whether or not an action is a controlled action;
- whether to approve an action;
- whether to grant a permit for taking or harming a listed threatened species, ecological community or a migratory species;
- how to make or vary recovery plans (which are compulsory for listed threatened species and listed ecological communities); and
- whether to have, or vary, a threat abatement plan for a key threatening process.

Under s. 391, the precautionary principle means that 'lack of full scientific certainty should not be used as a reason for postponing a measure to prevent degradation of the environment where there are threats of serious or irreversible environmental damage'.

Opportunities for public involvement

The Act provides opportunities for public comment and consultation on various issues, and requires dissemination of information to the public. Amongst other things, members of the public may:

- comment on referrals and assessments;
- comment on the development and operation of bilateral agreements;
- nominate species, ecological communities or threatening processes for listing;
- prepare recovery plans and wildlife conservation plans and submit them to DEH for approval; and
- comment on draft recovery plans, wildlife conservation plans and threat abatement plans.

To request public comment, DEH uses the public notifications page of the EPBC website, and also publishes weekly notices in the Australian Government Gazette (DEH 2002). Sections 170A and 515A list the type of information that must be published on the internet every week, such as:

- all permits issued in the immediately preceding week;
- the Minister's intention to develop a draft bilateral agreement;
- referrals received by the Minister in the immediately preceding week;
- each decision in the immediately preceding week of actions deemed to be controlled actions;
- each decision about assessment processes for controlled actions; and
- each draft or finalised report or statement published in the immediately preceding week and the availability of those reports.

In 2002-03, DEH received comments on 80 referrals. In its annual report, DEH said that it places a high priority on increasing awareness of the Act (DEH 2003).

Enforcement mechanisms

Part 17 of the Act deals with enforcement. It provides for the appointment of wardens, rangers and inspectors and their monitoring and search powers and powers to seize goods. The Act also allows the Environment Minister to require the holder of an environmental authority (an approval or permit given under the Act) to carry out an environmental audit if the Minister suspects that the Act has been contravened, or is likely to be contravened (s. 458). The Act provides for a civil penalty of up to $550 000 for individuals, and up to $5.5 million for bodies corporate, or a criminal penalty of up to seven years imprisonment and/or a fine of up to $46 200 for unlawful actions which have a significant impact on a matter of national environmental significance. The civil and criminal penalties are lower for breaches in relation to the environment on Commonwealth land or for actions by the Australian Government.

In addition, the Act allows an 'interested person' to apply to the Federal Court for an injunction, or interim injunction, restraining a person from engaging in conduct that contravenes the legislation (s. 475). The Act defines an interested person as an individual:

- who is a citizen or resident of Australia; and
- whose interests are, have been or would be affected by the conduct or proposed conduct; or

- who, at any time in the two years immediately preceding the conduct or proposed conduct that is the subject of complaint, was engaged in environmental protection activities or conducted research into environmental issues (s. 475).

The Court may also order the person to repair or mitigate damage to the environment if an injunction is granted. The usual common law obligation to provide an undertaking as to damages when seeking an interim injunction has been removed.

The Act specifically creates a duty for the proponents of actions to provide accurate information for the assessment and approval process and creates offences for deliberately or negligently providing false or misleading information to obtain an approval or permit, or in response to a condition on an approval or permit (s. 489). The Act also creates civil penalties and criminal liability for executive officers of bodies corporate in relation to false and misleading information (ss 494–5).

Advisory Committees

The Act establishes three committees to advise the Environment Minister on the Act:

- TSSC, primarily to advise the Minister on the listing of threatened species and ecological communities, recovery plans and threat abatement plans (ss 502–3);
- Biological Diversity Advisory Committee, primarily to advise the Minister on conservation and ecologically sustainable development issues (ss 504–5); and
- Indigenous Advisory Committee to advise the Minister on the operation of the Act, taking into account indigenous knowledge of land management, conservation and sustainable use of biodiversity (s. 505A–505B).

The Minister may establish further advisory committees if necessary (s. 511).

Reporting requirements

Each year, a report on the operation of the Act must be laid before each House of Parliament (s. 516). Section 516A requires all Australian Government Departments to report on how their department's activities accord with the principles of ecologically sustainable development in their annual reports and Section 516B requires state of the environment reports to be laid before each House of Parliament every five years. The next state of the environment report is due in 2006.

The Act must be independently reviewed at least every 10 years (s. 522A).

B.3 Development of the regime

In its 1996 pre-election environment policy statement, *Saving Our Natural Heritage*, the Coalition Government had outlined its intention to reform environmental legislation. A review of the roles of the Australian Government and the States/Territories with respect to environmental management resulted in the COAG *Heads of Agreement on Commonwealth/State Roles and Responsibilities for the Environment* in 1997. Implementation of some aspects of the COAG Agreement required reform of environmental regulation at the national level.

In February 1998, the Australian Government released a consultation paper, *Reform of Commonwealth Environment Legislation*, for public comment. Over 300 submissions were made on the consultation paper (SECITA 1999). The consultation paper foreshadowed three new Commonwealth Acts:

- an environment protection act — dealing with environmental impact assessment and approval processes;
- a biodiversity conservation act — to promote the conservation and sustainable use of Australia's biodiversity; and
- new heritage legislation.

The Bill presented to Parliament differed from the proposal in the consultation paper as it combined environment protection and biodiversity conservation in one piece of legislation. The Bill did not include heritage issues as these were to be deferred until the National Heritage Places Strategy was finalised. Heritage legislation was passed by the Australian Parliament in September 2003 and a new national heritage system started on 1 January 2004 (DEH 2004a). Some heritage values will be protected under the EPBC Act.

In July 1998, the Senate referred the Bill to the (then) Environment, Recreation, Communication and the Arts Legislation Committee for report by October 1998. The Committee's report was tabled in late April 1999 (with the delay due to a Federal election). The Senate Committee received over 600 submissions. The Act was debated and passed by both houses of Parliament two months later (SECITA 1999).

Around the time of the Act's commencement, DEH gave presentations about the Act to State and local governments, peak industry groups, professional associations, environmental lawyers and members of the public. It also provided more detailed workshops for environmental consultants and Australian Government Departments. The Australian Network of Environmental Defender's Offices (sub. 131) considered

that there was sufficient consultation with stakeholders in the lead up to the Act's introduction.

Comments received during consultations prior to enactment of the EPBC Act indicated wide acceptance of the need to reform existing environmental legislation, but concerns were raised in several areas such as:

- triggers for environmental approval processes — considered either too broad or too narrow;
- bilateral agreements — concern that they may represent a 'hand over' of responsibilities to the States/Territories, particularly in the case of approval bilateral agreements; and
- public consultation — considered inadequate given the scale and significance of the reforms (SECITA 1999).

Regulation impact statement

In the regulation impact statement (RIS) contained in the Explanatory Memorandum, the objectives of reviewing Commonwealth environmental legislation were described as:

> … to more effectively implement the [Intergovernmental Agreement on the Environment], put in place Commonwealth environmental law which operates more effectively and efficiently, and, most importantly, deliver better environmental outcomes. (Senate 1998, p. 7),

Two options for achieving the Government's objectives were outlined in the RIS — reform, or do not reform, existing environmental legislation.

The impact analysis in the RIS focused on potential benefits to governments and industry from reforming environmental legislation, through greater clarity and certainty regarding when the Australian Government would be involved in regulating environmental matters, and from streamlining assessment and approval processes. In the RIS, the costs to governments and industry of revising procedures for environmental assessment and approval, and from the need to become familiar with new arrangements, were raised but it was considered these 'should be small' (Senate 1998, p. 16).

Likely costs for industry from potential restrictions the Act might place on activities, for example through the listing of threatened species and ecological communities, were not discussed in the impact analysis.

The RIS noted that distribution of 5000 copies of a consultation paper was the main mechanism for consultation on the proposed reforms (Senate 1998, p. 17). The RIS also stated that the operation and effectiveness of many aspects of the Act would be subjected to regular evaluation and review, but details as to timing were not provided (Senate 1998, p. 18).

B.4 Promotion of environmental goals

The objects of the EPBC Act are outlined in box B.1. These are very broad. The Act has given the Australian Government greater legislative power to regulate directly (some) activities that affect the environment and has also expanded its role in environmental assessment and approval. By defining the Australian Government's role with regard to the environment (restricting it to matters of national environmental significance and matters affecting the Australian Government or undertaken by the Australian Government) the Act has, to some extent, clarified the Australian Government's environmental objectives. However, despite DEH's efforts to inform and assist stakeholders in understanding their responsibilities, there appears to be considerable uncertainty about the extent to which the Act will affect agriculture. For example, it is not necessarily clear when an action will have a 'significant impact' and hence it is not always clear what actions are likely to be regulated under the EPBC Act.

Some of the shortcomings of previous environmental legislation have been addressed by the EPBC Act (SECITA 1999). For example, the Act has:

- updated Commonwealth environmental legislation (most of which was passed in the 1970s) and consolidated it into a single act thus simplifying, in some respects, the regulatory regime at the Commonwealth level;
- replaced indirect mechanisms (such as foreign investment, export controls and funding decisions) for Australian Government involvement in environmental assessment and approval, with a set of specific situations (and processes) for its involvement, thereby potentially reducing uncertainty for industry and potentially resulting in more effective regulation of environmental issues;
- provided a mechanism (bilateral agreements) to reduce duplication in environmental assessment and/or approval processes between the Australian Government and State/Territory Governments;
- implemented international treaties that had not been fully implemented previously (for example, protection of biodiversity is now directly addressed);
- enhanced the capacity of the Environment Minister to make decisions on environmental assessments and approvals (previously the Environment Minister

only provided advice to the 'Action Minister' who was responsible for making the final decision about the need for assessment and approval); and

- updated regulation to reflect relatively recent principles such as 'ecologically-sustainable development' and the 'precautionary principle' (SECITA 1999).

The Environmental Defender's Office (sub. 131, p. 7) also noted that the EPBC Act 'provides for much greater transparency' than the (replaced) Environment Protection (Impact of Proposals) Act.

Despite these changes, several participants expressed concerns about the operation and scope of the Act. For example, the National Farmers' Federation (NFF) (sub. 128, appendix A, p. xxxiv) thought that 'the *EPBC Act* potentially applies to virtually anything a land holder might do on his or her land holding'. The Victorian Farmers Federation (VFF) (sub. 149, p. 7) considered it 'extremely complicated to read and interpret' and that it 'imposes complex and confusing obligations on landowners'. Canegrowers (sub. 101) also found the Act particularly confusing, while the National Association of Forest Industries considered that:

> In most cases, there is no clear path for investors to have their projects referred for assessment under the EPBC Act and prior to the assessment process, there is no clear indication of the requirements that proponents will have to address. (sub. 90, p. 9)

The Northern Land Council considered that implementation of international treaties through the Act:

> … has been highly selective and has consequently created extraordinarily confused policy settings for environmental management and commercial use of native species. (sub. 221, p. 9)

Others were concerned that the Act is failing to protect matters of national environmental significance adequately. For example, The Humane Society International — Australia (sub. 126) considered that threatened species and ecological communities listings were not comprehensive. This was because the EPBC Act listed only 29 threatened ecological communities (mostly carried over from previous legislation) while State lists were more extensive and the National Terrestrial Biodiversity Assessment had found that almost 2900 ecological communities are threatened.

The Australian Conservation Foundation (ACF, sub. 146) considered that the Act has had little impact on biodiversity protection (or on landholders) overall and that it requires a land clearing trigger to help protect Australia's biodiversity and native vegetation.

As the legislation is relatively new, it is difficult to judge conclusively the Act's success in achieving its environmental objectives. However, in its most recent

annual report, DEH considered that the Act is resulting in fewer environmental impacts:

> The operation of the Act has resulted in improved environmental outcomes from a range of activities such as mining developments, offshore seismic surveys, urban development, infrastructure projects and energy production. In part, these improved outcomes have resulted from the Act causing a change in behaviour of many proponents who have discussed their proposals with the Department and developed them to avoid, as far as possible, impacts on matters of national environmental significance. (DEH 2003, p. 54)

An examination of statistics reflecting operation of the Act to June 2003 also provides insights into the likelihood that the Act will be effective in promoting its objectives. Some of the statistics reported by DEH on the operation of the Act are summarised below.

Operation of the Act to June 2003

Table B.1 shows referrals and approvals for the years 2000–2003.

Table B.1 **Referrals and approvals[a]**
16 July 2000 to 30 June 2003

	Year ended 30/06/01	*Year ended 30/06/02*	*Year ended 30/06/03*	*Total*
Total referrals received	294	309	337	940
Approval not required — no conditions	161	196	175	532
Approval not required because action undertaken in a particular manner	30	17	75	122
Approval required — controlled actions	72	95	75	242
Approved — no conditions	2	4	1	7
Approved with conditions	6	22	24	52
Approval denied	0	0	1	1

a Some referrals lapsed/withdrawn before decision made. Some referrals/assessments in progress at 30 June.

Source: DEH (2003, p. 208).

As shown in the table, 337 proposals were referred under the Act in 2002-03 (up on previous years). About 20 per cent (75) were deemed 'controlled actions', and required assessment and approval under the Act. The proportion of actions requiring approval in 2003 was lower than in previous years. Twenty-five actions in total were approved during the year, 24 with conditions and 1 without. For the first time, an action (operation of an electric grid on a lychee farm) was denied approval (DEH 2003).

As at 31 July 2003, of 958 referrals since the Act's commencement:

- 27 related to the 'agriculture and forestry' sector;
- 10 of these were controlled actions, and therefore required assessment and approval; and
- three actions were approved, one was rejected, five were undergoing assessment and one was withdrawn (DEH, sub. 190, p. 3).

All 'agriculture and forestry' controlled actions to 31 July 2003 are listed in Table B.2.

Table B.2 **Controlled actions in the 'agriculture and forestry' sector**
16 July 2000 to 31 July 2003

Proposal	*Location*	*Assessment method*	*Decision*
Expand an area of irrigated cotton to 810 hectares	Central NSW	Public environment report	Proposal refused by NSW
Develop and operate expanded facilities (1 030 700 tonne capacity) at a grain silo	near Esperance, WA	Preliminary documentation	Approved
Construct and operate a rotary dairy shed and effluent management system	Central Victoria	Preliminary documentation	Approved
Remove existing vegetation and plant 26 000 hectares of hardwood plantation	Tiwi Islands	Preliminary documentation	Approved
Use an electric grid to take/destroy approximately 5 500 Spectacled Flying-foxes on an orchard	North Queensland	Preliminary documentation	Not approved
Clear about 90 Buloke trees to install centre-pivot irrigation over 64 hectares	Wimmera region, Victoria	Preliminary documentation	Approval phase (awaiting notice from State under s. 130(1B)
Undertake an annual harvesting of Red-footed Booby Birds	Cocos (Keeling) Islands	Awaiting preliminary information from the proponent	
Convert broadacre dryland cereal production across 10 000 hectares to irrigation	Whala floodplain, NSW	Environment impact statement (accreditation of State process)	Proponent preparing environmental impact statement
Harvest about 6 000 Red Gums in an area of 1 600 hectares to replant with a Red Gum and Blue Gum plantation	Wimmera region, Victoria	Awaiting preliminary information from the proponent	

Source: DEH (sub. 190, p. 5).

'Listed threatened species and ecological communities' was the matter of national environmental significance that triggered the assessment and approval process most often in 2002-03 (triggered 61 times) followed by 'listed migratory species'

(triggered 28 times). These were also the most common triggers in the Act's first two years of operation. Almost 40 per cent of actions requiring approval in 2002-03 triggered more than one matter of national environmental significance (DEH 2001; 2002; 2003).

Table B.3 outlines referrals by industry sector. Most referrals in 2002-03 arose from new urban and commercial development (23 per cent) followed by energy generation and supply (10 per cent), tourism, recreation and conservation management (10 per cent) and mining (9 per cent). A large number of land-based actions affecting threatened species and ecological communities in that year arose from property developments along the Queensland coast where there is a concentration of nationally significant environmental values (DEH 2003). In the previous year, most referrals also related to urban and commercial development, land transport, and tourism, recreation and conservation management. Most referrals in 2001-2002 related to south-east Queensland and the urban fringes of Sydney, Melbourne and Perth where urban development is encroaching on significant wildlife habitat (DEH 2002).

Table B.3 **Referrals and approvals by activity in 2002-03[a]**

Activity	*Referrals received*	*Approval required*
New urban and commercial development	77	15
Energy generation and supply	35	7
Tourism, recreation and conservation management	34	7
Mining	32	17
Exploration (mineral, oil, gas)	27	3
Land transport	22	9
Water management and use	18	1
Agriculture and forestry	13	4

a Some activities omitted.

Source: DEH (2003).

In 2002-2003, only 13 referrals (4 per cent) related to agriculture and forestry activities; 4 of these were deemed 'controlled actions'. Referrals from the agricultural sector were also low in 2001-2002 (a total of nine referrals). Table B.4 lists a selection of referrals from the agriculture and forestry sector.

Table B.4 **Selected 'agriculture and forestry' referrals[a]**

Proposed action	*Location*	*Approval required?*	*Approval granted?*
Cattle feedlot development	Rangers Valley, NSW	No	na
Clearing for centre-pivot irrigation	Minimay, Vic	No, if undertaken in specified manner	na
Dairy facility	Gannawarra, Vic	Yes	Yes
Viticulture development	Cornella, Vic	No	na
Clearing for pineapple plantation	Childers, Qld	No	na
Electrocution of Spectacled Flying-foxes	Kennedy, Qld	Yes	No
Cattle feedlot development	Milang, SA	Yes	Undecided
Mill and timberyard	Smithton, Tas	No	na
Red-footed Booby Bird harvest	Cocos (Keeling) Islands	Yes	Undecided

a As at 31 July 2003, there have been four referrals involving either clearing of Brigalow or Bluegrass. In all of these cases, approval was not required.

Source: Senator Bartlett (sub. 168, pp. 7–8).

On a jurisdictional basis (table B.5), most referrals in 2002-03 concerned proposals in New South Wales (25 per cent), Queensland (24 per cent) and Victoria (20 per cent). This was broadly consistent with previous years.

Table B.5 **Referrals and approvals by jurisdiction in 2002-03**

Jurisdiction	*Referrals received*	*Approval required*
NSW	84	17
Queensland	80	22
Victoria	66	14
Western Australia	26	6
South Australia	24	5
Tasmania	10	1
ACT	15	0
Northern Territory	8	3
External territories	4	3
Commonwealth marine areas	17	4

Source: DEH (2003).

While most controlled actions in 2002-03 were required to undergo assessment on the basis of preliminary documentation, or through an accredited process, some actions were assessed through an environmental impact statement or public environment report. Table B.6 provides a sample of the types of actions being assessed through these latter processes in 2002-03.

Table B.6 **Sample of major assessments underway at 30 June 2003**

Environmental impact assessments	
Department of Defence	Headquarters Australian Theatre, NSW
Dept of Industry, Science & Resources	National low level radioactive waste repository, SA
Epic Energy	Darwin to Moomba gas pipeline
Powerlink Queensland	High voltage electricity transmission line, QLD
Shell Development (Aust) Pty Limited	Floating liquefied natural gas facility, Timor Sea
TGS-NOPEC Geophysical Company	2-D seismic survey, QLD
Woodside Energy Ltd	Petroleum mining, full field development, WA
Public environment reports	
Cooloola Shire Council	Waste management, construction of new landfill, QLD
Coral Coast Marina Development Pty Ltd	Mauds Landing Marina, WA
Cultus Timor Sea Pty Ltd	Petroleum mining, Timor Sea
DR Developments (Queensland) Pty Ltd	Castaway Beach Resort, QLD
Phosphate Resources Limited	Exploration for mineable phosphate, Christmas Island
Sudaw Developments Ltd	Water management and use, Nathan Dam, QLD
Waterman Agriculture Pty Ltd	Irrigated cotton development expansion, NSW

Source: DEH (2003, pp. 214–5).

An examination of statistics reported by DEH highlights some issues for judging the overall effectiveness of the EPBC Act in achieving its objectives. Some of these issues are outlined below, followed by a discussion of mechanisms to monitor and enforce the Act.

Key issues

Number of referrals

There is insufficient information available to judge whether all of the proposed actions that fall under the scope of the Act are actually being referred and hence to assess to what extent there is non-compliance with the Act. It may be possible that awareness of the Act 'on the ground' amongst landholders and other stakeholders is still relatively low given the Act's relatively recent commencement. For instance, the Australian National Audit Office considered that DEH had made efforts to educate stakeholders about the Act but that there were 'further opportunities to ensure that actions that should be referred are, in fact, referred' (ANAO 2003, p. 85).

Referrals deemed 'not controlled actions' and approvals rejected

A large number of referred actions do not require approval and may be undertaken without conditions or, more likely, in a particular manner. As at 30 June 2003, only

one approval had been rejected. There may be many explanations why the bulk of referrals do not need to undergo the assessment and approval process. For example, there may be a lack of understanding of the Act's scope so that actions are referred unnecessarily, proponents may intentionally (cautiously) refer more actions than necessary, or DEH may be encouraging proponents to modify their proposals (to reduce environmental impacts) so that they can proceed without approval. Depending on the reasons for it, the absence of assessment and approval for many referred actions may undermine achievement of the Act's objectives.

Low level of referrals from the agricultural sector

The clearance of native vegetation was identified as the most significant threat to terrestrial biodiversity in both the 1996 and 2001 State of the Environment reports (NLWRA 2002), hence the low level of referrals from the agriculture and forestry sector warrants further examination. The low level of referrals may be partly explained by the exemption for 'existing use' (or by other exemptions), or by a lack of awareness or understanding of the Act's requirements amongst landholders, particularly small landholders. For example, some landholders may believe that only State regulatory regimes apply to land management. Alternatively, it may be possible that actions on individual properties are 'too small' to have a significant impact on a matter of national environmental significance, even though their cumulative impact may be significant. The location of agricultural activities, such as land clearing, may also not always coincide with the occurrence of matters of national environmental significance, however this would vary by region.

The reasons explaining why there are few referrals from the agricultural sector may warrant further examination by DEH to assess whether the Act's objectives are being undermined.

Few referrals from the Australian Government

The Act places more onerous requirements on the Australian Government and its agencies than on the private sector. Hence, proposals involving the Australian Government could be expected to trigger the Act more often than was the case, for example, in 2002-03 (8 cases). The ANAO (2003) also found that activities by the Australian Government accounted for most of the exemptions from assessment and approval granted under the Act (such as the exemption for the immigration processing centre on Christmas Island). The relatively low level of referrals from this sector may warrant further examination to determine whether it undermines achievement of the Act's objectives.

Monitoring and enforcement

The EPBC Act's potential to affect environmental outcomes depends partly on whether, and how, it is enforced. Broadly speaking, there are two main avenues for enforcement:

- enforcement by DEH; and
- enforcement by 'interested parties'.

Enforcement by DEH

In its audit of the quality and timeliness of environmental assessments and approvals under the Act, the ANAO (2003) recommended that DEH strengthen its monitoring and compliance activities. In response, DEH implemented a 'Compliance and Enforcement Policy' outlining the general framework used to achieve compliance with all the laws that it administers, including the EPBC Act. The enforcement measures outlined range from 'light-handed' approaches such as communication, education, cooperative assistance and the provision of timely information and advice, through to penalties (of escalating severity) such as suspension or cancellation of permits, injunctions, remediation orders, pecuniary penalties and potential punishments imposed through criminal prosecution.

The policy sets out the factors DEH considers when determining its response to contraventions, including whether legal proceedings will be pursued. Relevant factors include:

- the objectives of the legislation and its specific penalty provisions;
- the seriousness of the harm caused to individuals or the environment and the cost to the Australian Government or general community from the contravention;
- the level of malice or culpability of the suspect;
- the likelihood that the contravention will continue, or be repeated;
- public perceptions of the breach and of how it has been dealt with;
- the cost of the proposed response compared to its benefits; and
- whether use of a particular response would set a desirable precedent, or whether it could be counter-productive for maximising compliance with the legislation.

In 2001-02, members of the public informed DEH of 120 possible breaches of the Act. Many of these concerned listed threatened species and most were occurring along the coastline of Queensland, in central coastal areas of New South Wales and in areas around Melbourne (DEH 2002). When impacts are likely to be significant,

DEH encourages the proponent to make a referral; about 8 per cent of referrals received in 2002-03 occurred as a result of compliance action (DEH 2003).

DEH has generally focused on using education, awareness raising and/or warnings to encourage compliance with the Act. In 2001-02, DEH judged that 58 per cent of reported possible breaches required a low level response (such as sending a letter to raise awareness of the Act) and only five per cent warranted detailed examination (ANAO 2003, pp. 80–81). Under the 'Compliance and Enforcement Policy', education and/or warnings are used as the first response to a contravention, and for less serious contraventions. More severe penalties are reserved for contraventions that are serious or continuing. Penalties for breaching the EPBC Act are stronger than those that applied under previous legislation (ANAO 2003, p. 20).

However, Senator Bartlett noted that:

> … only two enforcement proceedings have been commenced … None … have concerned Australian citizens or residents and none have related to land management issues. (sub. 168, p. 16)

In 2002-03, the masters of some Indonesian fishing vessels were sentenced under the Act for illegal killing of dolphins in Australian waters (DEH 2003, p. 166). Enforcement proceedings against some individuals for failing to obtain approval for actions with a significant impact on a declared Ramsar wetland have commenced, with action in the Federal Court continuing (Taberner et al. 2004).

Senator Bartlett further considered that:

> … the Commonwealth's reluctance to take enforcement action have ensured the Act has had little or no impact on our environmental problems. It has also diminished the incentive for landholders to comply with the Act's obligations. This must be rectified if the objectives of the EPBC Act and the potential benefits to landholders and the broader community are to be realised. (sub. 168, pp. 16–17)

In its recent audit of assessment and approval processes under the EPBC Act, the ANAO (2003, p. 14) noted that, while department planning for the monitoring of approved actions was well underway, implementation was still 'at an early stage', and that DEH was not monitoring the progress of approved actions. The ANAO (2003, p. 90) observed that there were only eight staff dedicated to compliance and enforcement in DEH, four of whom were fully trained as inspectors for the EPBC Act. The Humane Society International — Australia commented that:

> … Environment Australia is in need of significantly increased resources to fulfil the EPBCA [EPBC Act] potential to protect Matters of National Environmental Significance, to consult effectively with landholders to develop environmentally and socially satisfactory solutions that uphold the law, and to carry out effective implementation and enforcement. (sub. 126, p. 3)

In response to the ANAO audit, DEH acknowledged that compliance, enforcement and auditing functions had been under-resourced (ANAO 2003, p. 97). DEH will establish a central Environment Investigations Unit in 2003-04 to improve enforcement of legislation where legal action is required (DEH 2003).

Reflecting the Act's relatively recent commencement, the ANAO found that the lack of progress by DEH on monitoring was largely due to its focus on administrative implementation issues, and awareness raising, and that overall compliance with the Act is adequate (ANAO 2003). However, it also noted the concerns expressed by some stakeholders that there is an increasing perception that DEH is unwilling to take enforcement action and that this is creating a culture of non-compliance in some industries (ANAO 2003).

Enforcement by 'interested persons'

As stated earlier, the EPBC Act specifically provides 'standing' to certain persons to promote compliance with the Act. These provisions will likely increase opportunities for public interest litigation to protect the environment, though not to the same extent that might occur under 'open standing'.[3] The Australian Network of Environmental Defender's Offices submitted that:

> Given that only 4 actions have been commenced in the three years, and the lack of enforcement by EA, it is possible that opening the standing requirements may allow for more effective enforcement of the legislation … (sub. 131, p. 9)

Interested persons have commenced proceedings in several cases under the Act.

The first application (*Booth v. Bosworth* [2000] FCA 1878 (13 December 2000)) by an 'interested person' for an injunction against an alleged breach of the Act occurred in December 2000. In this case, Booth sought an injunction to prevent a lychee farmer using electric grids to keep Spectacled Flying-foxes away from his lychee crop, on the grounds that electrocution of the flying foxes would have a significant impact on the world heritage values of the Wet Tropics World Heritage area. The injunction was granted by the Federal Court. The case demonstrated that actions undertaken offsite could be captured by the Act if those actions had a significant impact on a World Heritage Property.

Subsequent cases have included *Schneiders v. The State of Queensland [2001] FCA 553* (4 May 2001), *Jones v. The State of Queensland [2001] FCA 756* (15 June

[3] Standing refers to a person's or body's right to take a matter to court. Usually only those with a private material interest in a matter have standing. Legislation may confer standing on parties to bring court actions, for example, standing may be conferred on 'persons aggrieved'. With 'open standing' any person has the right to be heard in court.

2001), *Humane Society International Inc v. Minister for the Environment and Heritage [2003] FCA 64* (12 February 2003), *Mees v. Roads Corporation [2003] FCA 306* (8 April 2003) and Queensland Conservation Council Inc v Minister for the Environment and Heritage [2003] FCA 1463 (19 December 2003).

B.5 Administration and implementation

Although there have been some disputes, DEH considers that industry has generally reacted positively to administration of the Act because it provides 'greater certainty and a more streamlined approach than the previous ad hoc regime' (DEH 2002, p. 170). However, DEH also acknowledged in its annual report (2002) that the farming sector and the aquaculture industry are concerned about the operation of the Act.

Timeliness

Under the EPBC Act, statutory timeframes apply to the referral, assessment and approval process. These timeframes are summarised in table B.7.

Table B.7 **Statutory timeframes for the assessment and approval process**

Stage	*Statutory timeframe*
Initial screening of referral to determine if it is a controlled action	10 or 20 days
Decision on assessment approach	20 days after proponent provides preliminary information
Assessment	Timing determined by proponent
Approval	30 or 40 days

Source: DEH (2002, p. 179).

In 2002-03, statutory timeframes were met in more than 90 per cent of cases (DEH 2003). In its audit of the quality and timeliness of the assessment and approval process under the EPBC Act, the ANAO (2003) found that overall statutory timeframes were met, and that they have improved over time, although the timeliness of providing proponents with the reasons why a proposal was designated a controlled action could be improved.

Submissions received by the ANAO during its recent audit indicated that stakeholders were generally satisfied with the timeliness of the assessment and approval process (ANAO 2003). The Australian Government Department of Defence considered that the EPBC Act 'provides greater certainty and timeliness of

process than previous regulations' (sub. 42, p. 1). In contrast, the National Association of Forest Industries considered that:

> In some cases, … the EPBC Act approvals process is not clearly identified, thereby adding a considerable degree of cost, time and uncertainty to project assessments. (sub. 90, p. 3)

When the statutory timeframes are not met, the Act requires the Environment Minister to report the reasons for this in its annual report to Parliament. Reported reasons for past delays have included:

- the need to obtain legal advice, or other advice, on complex decisions;
- prolonged consultation with proponents regarding approval conditions; and
- delays caused by the absence, or travel, of decision makers (DEH 2002).

Bilateral agreements and other accredited processes, such as accreditation of State/Territory processes on a case-by-case basis, are the main mechanisms for improving the efficiency of the assessment process. Use of accredited processes increased from 18 per cent 2000-2001 to 38 per cent in 2001-02 (DEH 2002) but it is not clear whether their use is expediting the assessment and approval process:

> At present there is little evidence that bilateral agreements and accredited assessments improve timeliness, as there are so few bilateral agreements in place. (ANAO 2003, p. 18)

Education and provision of information by DEH may also reduce the administrative burden associated with complying with the Act. For example, information to assist proponents making referrals, such as application forms and access to an interactive map of listed species and ecological communities, is available on DEH's EPBC website. In addition to funding a full-time staff position at the NFF for a departmental officer to assist farmers in understanding the Act, DEH recently added a section to the website specifically for the agricultural sector (DEH, sub. 190). DEH also provides some funding to other groups, such as the 'EPBC Unit', to help conservation groups, and the public, increase their understanding of the Act (Humane Society International — Australia, sub. 126) and prepares numerous publications to provide information on the operation of the Act.

Assessment process

Reflecting the nature of a proposed activity, and its likely impacts, the Act allows the Environment Minister to require the proponent of a controlled action to undergo one of five types of environmental assessment (see above). The assessment options available to the Minister vary in terms of the information requirements they impose on the proponent. Hence, the proponent's costs would vary depending on the

assessment method chosen, particularly as the costs of some information requirements, such as flora and fauna surveys are very high.

As shown in table B.8, most assessments in 2002-03 were made on the basis of preliminary documentation or an accredited process. Assessment on the basis of preliminary documentation would likely impose lower information collection and project delay costs on proponents, relative to the other assessment methods available under the Act. However, in some circumstances, this approach may not provide sufficient information to adequately address the environmental, social and economic consequences of the action.

Table B.8 **Assessment method used for controlled actions, 2002-03**

Assessment method	*Assessment in progress 30 June 2003*	*Assessment completed*	*Action approved*
Bilateral agreement	4	1	0
Other accredited assessment	34	8	6
Preliminary documentation	9	21	14
Environmental impact statement	8	5	4
Public environment report	7	1	1

Source: DEH (2003, p. 213).

B.6 Impacts on landholders, other economic activities and regional communities

Impacts on landholders and regional communities

Evidence presented in several submissions from the agricultural sector suggested that the Act has not had a significant effect on landholders' current activities. For example, Ferguson, Kenneison and Associates, a legal firm representing several landholders in Western Australia, stated that the EPBC Act 'although implemented, has had little effect to date in the assessment process in Western Australia' (sub. 142, p. 20).

Similarly, the South Australian Farmers' Federation (sub. 140) focused on South Australian legislation 'as the *Federal Environment Protection and Biodiversity Conservation Act (1999)* has had little impact in this state'.

However, the NFF stressed that:

> … the small number of referrals [under the EPBC Act] is unrepresentative of the real effect of the Act in producing both real and perceived uncertainty within the farming sector. (sub. 128, p. 12)

Some environmental organisations considered that the Act has to date had a limited impact on landholders' activities or returns. For example, WWF Australia stated:

> To date, the evidence strongly suggests that the EPBC Act has had no or very little impact on rural landholders, with **only seven referrals** having been submitted on land clearing proposals since inception of the Act. (sub. 108, p. 3) (emphasis in original)

In a speech to a NFF Conference on 5 June 2003, the Australian Government Environment Minister said that:

> It is important to understand that the Act simply doesn't apply to most farming activity — only those actions which are likely to have a significant impact in one of the six matters of national environmental significance …
>
> In terms of farmers, only four of these six matters have any relevance … (Kemp 2003a)

In general terms, the key impacts of the Act on landholders include that they may:

- need to undergo Australian Government assessment and approval for their actions, if those actions impact on a matter of national environmental significance or on the environment on Commonwealth land (even if the actions are undertaken elsewhere);
- enter into conservation agreements with the Australian Government for biodiversity conservation on their properties, in exchange for technical or financial assistance; and
- be able to access financial and technical assistance under the Act for activities such as monitoring the components of biodiversity or for developing of recovery plans and wildlife conservation plans (EPBC Unit 2002).

Apart from these impacts, some farming organisations expressed concern about potential future impacts of the Act, and the uncertainty this creates.

Uncertainty and potential future impacts

Potential future impacts of the EPBC Act appear to be of greater concern than the current impacts of the legislation. The NFF observed that the provisions of the Act:

> … and the lack of consistency between and integration of Commonwealth, State and intra-state native vegetation and biodiversity regulations are resulting in unacceptable development uncertainties for farmers. (sub. 128, p. 4)

High levels of stakeholder and public awareness and understanding of the Act's requirements should reduce uncertainty about the operation of the Act and its potential impacts. However, general education and awareness about the Act's existence and requirements can only go so far in reducing uncertainty for those affected by the legislation. While the ANAO (2003, p. 21) found that there is a 'reasonable degree of awareness' of the Act, where the environment is a major business focus, there is a lack of understanding of what specifically needs to be referred.

However, DEH noted that feedback from clients and users of the EPBC website, as well as information supplied by the ANAO report, suggests that the Act has improved certainty for stakeholders regarding the environmental assessment and approval process (DEH 2003).

A source of uncertainty for stakeholders is likely to be how the concept of 'significant impact' will be interpreted, and thus what actions have a significant impact and need to be referred. Several participants commented on this. For instance, the VFF said:

> There are only very broad guidelines about what constitutes a 'significant impact' or an 'action' that would require a landowner to seek a permit from EA [Environment Australia/Department of the Environment and Heritage]. (sub. 149, pp. 7–8)

The uncertainty created for landholders by this term in the legislation is important because of the prospect of heavy penalties for failing to comply with the Act. The ANAO (2003, p. 37) noted that assessing 'significant impact' may be particularly difficult for smaller businesses, such as some farming enterprises, or for new businesses such as aquaculture or windfarm operations. While DEH has released Administrative Guidelines on Significance, more specific guidance may be required for individual industry sectors (including government) to reduce uncertainty and costs. DEH is currently reviewing the Administrative Guidelines and Supplementary Guidelines (DEH, sub. 190).

Another source of uncertainty, and cause for concern about potential impacts, arises because the Act's scope to affect farming practices largely depends on what is included in the list of matters of national environmental significance, such as the list of threatened species and threatened ecological communities. The Act allows the Environment Minister to expand the existing lists of threatened species and ecological communities and to add 'new' matters of national environmental significance (after consultation with the States/Territories).

Farming organisations are particularly concerned about the possibility of frivolous nominations for additions to the lists of threatened species and ecological communities, as nominations can be made by any member of the public.

Nominations impose costs on those opposed to the nomination because they must 'disprove' the need for nomination as opposed to requiring the nominator to make the case for listing (VFF, sub. 149). Also of concern is the fact that nominations for listing are assessed on the basis of factors that affect the survival of the species or ecological community alone, and that nomination assessments do not consider the social or economic costs that may be imposed on the community as a consequence of listing. The VFF (sub. 149, p. 7) labelled this 'conserve at all costs' legislation. However, DEH (sub. 190, p. 11) noted that, even though the Environment Minister cannot consider social and economic issues at the listing stage, information on these issues is still invited through public consultation and that this information is used by DEH for activities such as identifying stakeholders potentially affected and communicating listing requirements.

However, the Act specifically requires the Environment Minister to take social and economic factors into account when making approval decisions. In addition, the Minister has been calling for public comments on nominations before the TSSC has submitted its assessment, even though there is no statutory requirement to do so (EPBC Unit 2002). This information could be relevant for individual assessment and approval decisions under the Act. DEH (sub. 190) also said that it uses the information collected through this process to develop communication strategies to explain the implications of listing, to facilitate compliance with listing requirements, and to allay concerns of those who may be potentially affected by the listing.

The potential for duplication between lists of threatened species and ecological communities at the Australian Government level and at State level was also raised by the VFF (sub. 149). For example, the Grey-headed Flying-fox is listed as 'vulnerable' under both the EPBC Act and the NSW *Threatened Species Conservation Act 1995* (South East NSW Horticultural Producers Association, sub. 32) and the Cumberland Plain Woodland is also listed under both of these Acts (Nature Conservation Council of NSW, sub. 109).

According to the VFF:

> Too often, a listing under the Federal EPBC adds another level of regulation to protect a species or ecosystem that is already legislated for under the State legislation. In these instances, there is no additional environmental benefits from federal intervention, but inevitably there is more cost. (sub. 149, p. 8)

Dissatisfaction about the general requirement to obtain approval from two separate levels of government was raised in some submissions (for example, AgForce Queensland, sub. 54). In contrast, the Western Australian Farmers Federation (sub. 94) considered that Commonwealth and State environmental legislation were generally 'complementary' and Senator Bartlett (sub. 168) considered that

sometimes duplication is necessary so that the Australian Government can regulate activities of international, national or transboundary importance.

Current impacts

The EPBC Act may affect landholders' activities by potentially preventing the activity from going ahead, by placing conditions on the activity, and by imposing administrative costs of complying with the legislation. There is also the prospect of heavy penalties for breaches of the Act. However, the ACF (sub. 146, p. 6) contended that 'in reality, these acts are only very rarely used to prevent an action from occurring'. An examination of statistics on the operation of the Act to date (section B.4) seems to support this interpretation, suggesting that the EPBC Act is currently having very little direct impact on farming activities.

Despite the apparently low current impact on farming activities, the agricultural sector is concerned about the EPBC Act and, in particular, about the listing of land clearing as a key threatening process and by the listing of the Bluegrass ecological communities of the Brigalow Belt region (from inland New South Wales to parts of central Queensland) as endangered ecological communities. Both of these listings were strongly opposed by the agricultural sector on the grounds that there had been inadequate consultation and because of the burden they were expected to impose.

The effect of the listing of the Bluegrass ecological communities is that farming activities likely to have a significant impact on a bluegrass ecological community will need to be assessed and approved under the Act. A supplement to the Administrative Guidelines on Significance is available for the Bluegrass ecological community. The Guidelines list activities that are likely to have a significant impact on the listed Bluegrass and those that are not. For example, the supplement states that approval under the Act is not needed for the lawful continuation of a land use (such as many farming and land management activities) or for grasslands that are currently in poor condition (grasslands comprising more than 50 per cent weeds do not form a part of the listed community). Canegrowers (sub. 101) noted that, as a result of the rules, the burden of protecting these ecological communities will fall most heavily on those who have looked after their properties. Chinchilla Shire Council (sub. 88) observed that there is little incentive for landholders to control the invasion of exotic grass species in the Bluegrass communities (control of exotic grass species, unlike the control of weeds, is not regulated).

The guidelines specify that activities resulting in permanent loss of small areas (such as less than 20 hectares or less than five per cent of the patch) of the Bluegrass community will not be significant. Nor will activities that result in a

temporary and reversible impact on the condition of the Bluegrass listed ecological community.

Another concern expressed by farmers with respect to the Bluegrass and Brigalow listings is that requirements, and definitions of the regulated ecological communities, differ under the EPBC Act and the Queensland *Vegetation Management Act 1999*, thus adding to confusion and uncertainty as well as to the costs of assessment. For example, under the Queensland legislation, the clearing of remnant brigalow is regulated but the clearing of re-growth is not, whereas the action may be regulated in either case under the EPBC Act, if the action results in a significant impact on the ecological community (NFF, sub. 128, p. 14).

Chinchilla Shire Council raised concerns about the accuracy of mapping on which the decision to list the species was likely to be based and the accessibility of mapping to users:

> The ability of public data sets to establish whether an area is accurately mapped, whether it is in fact regrowth and, if regrowth, whether State and Commonwealth criteria are met is questionable. Unlike soil and land resource maps which have an informative extension and education content as well as technical content, vegetation mapping is not reported or presented in such user accessible formats ...
>
> Many of the concerns with the accuracy of mapping which apply to Brigalow also apply to the Bluegrass community … As in the case of Brigalow, listing and the preparation of management guidelines has proceeded in the absence of such critical data. (sub. 88, p. 7)

The recent nomination to list the Western Basalt Plains Natural Temperate Grasslands in Victoria as a threatened ecological community under the Act also raised concerns for the VFF which was strongly opposed due to potential restrictions listing might pose for farm businesses in the region (sub. 149, p. 16).

In addition to the impacts of listings of threatened species and ecological communities, the Federal Court case, *Booth v. Bosworth* (outlined earlier), illustrated that even actions outside World Heritage areas could affect World Heritage values and hence could fall under the ambit of the Act. Thus landholders on properties near World Heritage properties will need to consider whether the activities on their property may affect the World Heritage values of World Heritage properties nearby.

According to the Northern Land Council (NT) (sub. 221), the EPBC Act is also having an effect on Indigenous communities interested in developing enterprises based on sustainable use of native plants and animals. This is particularly important in situations where communities have few other viable income sources. The Council argued that implementation of international treaties, such as the Convention on

International Trade in Endangered Species of Would Fauna and Flora (CITES), through the Act has resulted in restrictions on trade that 'go well beyond the requirements of CITES'.

B.7 Summary

The EPBC Act, which commenced operation in 2000, updated and consolidated the Australian Government's regulatory regime for the environment.

The Act focuses the Australian Government's role on matters of national environmental significance, on activities affecting the environment on Commonwealth land and on the activities of Australian Government agencies that affect the environment. By defining the Australian Government's role with respect to the environment, the Act was designed, in part, to reduce uncertainty and duplication in the regulation of environmental issues.

Despite this, parts of the agricultural sector have expressed strong concerns about the impacts of the Act on the sector, including that it creates uncertainty for farmers. The statistics reflecting operation of the Act suggest that to date it has had little direct impact on the agricultural sector overall, in terms of denying approval for activities, or in terms of requiring activities to undergo the environmental assessment process. DEH has also put in place mechanisms to increase the agricultural sector's understanding of the Act which may reduce the extent of uncertainty in the future.

The Act itself also provides opportunities for general public involvement and consultation on a range of matters, such as aspects of the assessment and approval process and nominations for the lists of threatened species and ecological communities. Information about the scope and operation of the Act is relatively easy to obtain via the EPBC website and DEH's annual reports on operation of the Act.

C New South Wales

C.1 Introduction

Comprehensive regulation of the clearing of native vegetation was first introduced in New South Wales in the mid 1990s. Clearing controls appear to have been introduced in response to a number of environmental issues including soil erosion, declining water quality in rivers, contaminated groundwater and the loss of native plant and animal species (DLWC 1997).

New South Wales has been assessed to have around 67 per cent of pre-1800 native vegetation remaining (NLWRA 2002a).[1] The main causes of changes to native vegetation include clearing for cropping and grazing by stock, grazing by feral animals, logging, weed invasion and mining. The highest degree of clearing has tended to be on the western slopes and western plains of the Central Division and the flatter parts of the tablelands — for example, it has been estimated that around 70 per cent of pre-1800 native vegetation was cleared from the Central Division[2] wheat/sheep zone (NVAC 1999). Current estimates of vegetation clearance vary widely, from 15 000 to 80 000 hectares a year (Smith 2003), probably reflecting widely different definitions of 'clearance'.

The *Native Vegetation Conservation Act 1997* (NVC Act) currently underpins the legislative framework for native vegetation management in New South Wales. The NVC Act is implemented in conjunction with the *Threatened Species Conservation Act 1995* (TSC Act).

The NVC Act provides for a regional approach to native vegetation management. Initially, vegetation management was to be based on Regional Vegetation Management Plans (RVMPs). Community-based Regional Vegetation Committees (RVCs) were to develop RVMPs for 22 designated regions throughout New South Wales. However, there were considerable delays in the implementation of the

1 Native vegetation in the intensively-used zone — see figure 3.1.

2 For land-management purposes, New South Wales is divided into Western, Central and Eastern Divisions. Clearing of native vegetation on leasehold land in the Western Division was regulated prior to the introduction of the State-wide regulation in 1999. Approximately 51 per cent of land is freehold, and 39 per cent is leasehold in New South Wales.

regime envisaged under the Act. By late 2003, five years after the introduction of the Act and when the process was suspended, only two RVMPs had been finalised.

Since its introduction, the NVC Act has been subject to some criticism, including that it was inequitable and costly for landholders and that it failed to achieve adequate environmental outcomes.

In December 2003, the NSW Parliament passed legislation reforming natural resource management. The legislation provides for repeal of the NVC Act and for the establishment of a regulatory regime based primarily on the *Native Vegetation Act 2003*. The new regime is expected to be operational by mid 2004, once the required supporting regulations (which contain much of the detail of the regime), have been developed and implemented.

The new regime is intended to end broadscale clearing of remnant vegetation and to 'deliver improved systems for managing native vegetation and a better deal for everyone involved in caring for the land' (DIPNR 2003a, p. 1). Proposed changes include restructuring the regional vegetation management framework, and increasing funding to encourage landholders to 'actively manage and restore vegetation' (DIPNR 2003a, p. 2).

This appendix discusses the current system of native vegetation management in New South Wales, namely that implemented under the NVC Act and the TSC Act, as well as the proposed regime.

C.2 Description of the regulatory regime

The regulatory regime established under the NVC Act is intended to provide guidance on areas of native vegetation that can be cleared without application, the circumstances in which an application to clear is necessary, and how such applications are to be assessed. The operation of the NVC Act is linked directly to the TSC Act and the *Environmental Planning and Assessment Act 1979* (EPA Act).

Native Vegetation Conservation Act

The NVC Act applies to native vegetation on most private land in New South Wales.[3] The NVC Act came into force on 1 January 1998, replacing *State*

[3] The NVC Act incorporates native vegetation clearing controls previously contained in the *Soil Conservation Act 1938*, the *Western Lands Act 1901*, the *Crown Lands (Continued Tenures) Act 1989* and the *Forestry Act 1916*.

Environmental Planning Policy No. 46 (SEPP 46), an interim native vegetation management measure introduced in 1995.

Under the NVC Act, vegetation management planning was intended to be implemented at the regional level through RVMPs (developed by RVCs — box C.1), which were to promote 'partnerships between government, landholders, industry and the community' (DLWC 1998a, p. 1).

Box C.1 **Regional Vegetation Committees**

Regional Vegetation Committees (RVCs) were appointed by the Minister for Land and Water Conservation to prepare Regional Vegetation Management Plans (RVMPs). The Committees consisted of:

- four representatives of rural interests, at least two of whom are nominated by the NSW Farmers' Association;
- two representatives of conservation interests nominated by the Nature Conservation Council of New South Wales;
- one non-government member of a Catchment Management Board or Committee;
- one relevant Landcare group member;
- one local government nominee;
- two representatives of Aboriginal interests nominated by the NSW Aboriginal Land Council;
- one representative each of the Department of Land and Water Conservation (DLWC), NSW Agriculture and the National Parks and Wildlife Service; and
- one scientific expert in an area relating to native vegetation conservation and management.

Wherever possible, RVCs were to adopt a consensus approach to decision making, rather than majority voting. DLWC considered the consensus approach to be 'a powerful mechanism, which can involve a level of compromise by all members to try and arrive at a draft plan, which is supported by the committee as a whole' (DLWC 2002b, p. 2).

While consensus was strongly preferred, there was provision for voting when consensus could not be reached. In these instances, members of committees were able to submit a minority report where they did not agree with the majority view. RVCs also were responsible for reviewing and monitoring a RVMP.

Sources: DLWC (2002b); NVC Act.

RVMPs also were intended to provide certainty to landholders by specifying the circumstances when development consent was required to remove vegetation, as

well as detailing measures for the protection of high conservation value vegetation, and strategies to meet the objects of the NVC Act (DLWC 2002b).

The development of RVMPs was intended to follow an extensive process to allow for adequate community consultation and to ensure that environmental concerns associated with vegetation clearance were taken into account. Community-based RVCs were responsible for developing draft RVMPs. In preparing a draft RVMP, the follow matters were required to be taken into consideration:

- matters relating to the conservation of native vegetation and native species (particularly threatened species) and their habitats;
- matters relating to the conservation of soil and water resources, and of archaeologically, geologically or anthropologically sensitive or significant areas of land, as they relate to native vegetation management;
- matters relating to the social and economic aspects as they relate to native vegetation management;
- any instrument made under an Act (including any environmental planning instrument …) that applies to the regions … (NVC Act, s. 27)

Applications to clear native vegetation

In most circumstances landholders are required to apply to the Department of Infrastructure, Planning and Natural Resources (DIPNR)[4] for development consent to remove native vegetation. Consent is not required where the proposed clearing is subject to an exemption; where the activity is in accordance with a RVMP; or where the activity is in accordance with a native vegetation code of practice.

All applications for development consent require a pre-application site visit from a DIPNR officer to determine whether development consent is required and, if it is, to clarify and provide advice on the application. Information required to be submitted with an application varies according to the amount of native vegetation proposed for clearing. Information to be submitted might include analysis of the likely social and economic impacts of the clearing, and the implications of the activity on threatened species of flora and fauna.

The NVC Act provides for a range of exemptions from the need to obtain development consent (including 34 exemptions carried over from previous land-clearing regimes), which are intended primarily to allow for day-to-day farm management activities (box C.2). At the time of the introduction of the NVC Act,

4 The DIPNR was formed in May 2003 through the integration of the Department of Land and Water Conservation (DLWC) and Planning NSW. Prior to this, the DLWC was responsible for administering the NVC Act.

many of these exemptions were intended to be interim measures until either a new suite of exemptions was drafted, or until RVMPs were in place.

Box C.2 **Exemptions from previous regimes carried forward under the *Native Vegetation Conservation Act 1997***

Different exemptions relate to leasehold land in the Western Division, and land in the Eastern and Central Divisions. On Western Division leasehold (under the *Western Lands Act 1901*) land exemptions include:

- clearing of land (not more than 40 metres wide) for fencing; and
- clearing of land (not more than 30 metres wide) for, among other things, an access trail, telephone line or cable.

On land, other than State protected land or Western Division leasehold, the following clearing is exempt from the need to obtain development consent:

- minimal clearing — the clearing of up to two hectares per year for any contiguous landholding in the same ownership;
- minimal tree cutting — the cutting of no more than seven trees per hectare in any period of one year for on-farm uses, including fenceposts and firewood;
- stock fodder — the lopping of native vegetation for stock fodder in any period of declared drought if the continued health of the vegetation is not affected; and
- regrowth — the removal of native vegetation, whether seedlings or regrowth less than 10 years of age if the land has been previously cleared for cultivation.

Sources: DLWC (1998a); NVC Act.

Generally, exemptions apply to the clearing of native vegetation for the purposes of maintaining and constructing fencing and other farm infrastructure. In some areas of the State, the removal of regrowth was exempt from the need to obtain development consent if the regrowth was less than 10 years of age and was on land that had been cleared previously for cultivation.[5]

Property agreements

As well as providing for the regulation of clearing of native vegetation on landholders' properties, the NVC Act also provides financial and technical

[5] Exemptions include those exemptions that applied under SEPP 46, the *Soil Conservation Act 1938* and Schedule 4 of the *Western Lands Act 1901* (carried forward under the savings and transitional provisions of the NVC Act (Schedule 4)). As such, exemptions differ depending on the classification of the land. For example, different exemptions relate to leasehold land in the Western Division, and land in the Eastern and Central Divisions.

assistance to landholders to manage and improve the existing level of native vegetation through property agreements.

Funding for property agreements is sourced from the Native Vegetation Management Fund. In addition to funding associated with property agreements, landholders can apply for grants of up to $10 000 to carry out simple native vegetation management work such as fencing, weed control or revegetating. There are currently 556 property agreements covering over 59 000 hectares (Bartel 2003).

Threatened Species Conservation Act

The TSC Act came into force in June 1996 and was intended to streamline existing regulatory procedures under the EPA Act and the *National Parks and Wildlife Act 1974*. The intention was to allow for the integration of threatened species assessment into the State's planning system and to remove the requirement to obtain a separate approval from the National Parks and Wildlife Service (NPWS) for actions that also required consent under the EPA Act.

The TSC Act provides for listing and de-listing of species, populations or ecological communities as either endangered or vulnerable, and the preparation of recovery and threat abatement plans (box C.3).

The TSC Act also contains provisions for the listing of key threatening process.[6] Once a species is listed, any government authority charged with approving a development or activity that may have a significant impact on the species or population is required to seek the approval of the NPWS or the Minister before allowing the development or activity to proceed.

Listing of species, populations or ecological communities under the TSC Act triggers a range of processes determined by the category of listing. For example, the Director-General of the NPWS is required to prepare a recovery plan for an endangered species, population or ecological community as soon as practicable after it is listed (TSC Act, s. 56). Under certain circumstances, a threat abatement plan to address key threatening processes may be required (TSC Act, s. 74).

In September 2001, the clearing of native vegetation was listed as a key threatening process under the TSC Act. NPWS has yet to complete a threat abatement plan for native vegetation clearing, but is required to do so by 2004 (AONSW 2002).

6 A process 'that threatens, or may have the capability to threaten, the survival or evolutionary development of species, populations or ecological communities.' (TSC Act, s. 4)

Box C.3 ***Threatened Species Conservation Act 1995***

The *Threatened Species Conservation Act 1995* (TSC Act) came into force in June 1996. The objects of the Act (s. 3) include to:

- conserve biological diversity and promote ecologically sustainable development;
- prevent the extinction and promote the recovery of threatened species, populations and ecological communities;
- protect the critical habitat of those threatened species, populations and ecological communities that are endangered.

To pursue these objects, several processes are set out in the TSC Act for the identification, protection and management of threatened species, populations and ecological communities and their habitats. This includes the development of Recovery Plans (under Part 4) and Threat Abatement Plans (under Part 5).

Recovery Plans

Recovery Plans are developed for particular threatened species, populations or ecological communities, and identify any critical habitat or threatening processes. They are required to specify what must be done to ensure the recovery of the species/population/community, what must be done to protect critical habitat, and who is to implement the plan. Plans include measures to minimise adverse social and economic consequences of implementation. The *Native Vegetation Conservation Act 1997* specifically requires that Regional Vegetation Management Plans include the provisions of any relevant recovery plans.

Threat Abatement Plans

Threat Abatement Plans aim to manage each threatening process identified in schedules to the TSC Act so that the adverse effects on the threatened species/population/community are abated, ameliorated, or eliminated.

Sources: NVAC (2000a); TSC Act.

Removal of native vegetation, which may be exempt under the NVC Act and is not controlled by any Environmental Planning Instrument under the EPA Act, may still require an approval under Part 5 of the EPA Act or a licence under the TSC Act if it is likely to harm or damage the habitat of a threatened species, population or ecological community (NVAC 2000a).

Environmental Planning and Assessment Act

The EPA Act (box C.4) provides the planning framework to implement the clearing controls implemented through the NVC Act and, once it commences, the Native Vegetation Act. Where development consent is required to remove native

vegetation, this needs to be obtained from the Minister under Part 4 of the EPA Act. The EPA Act provides for penalties of up to $1.1 million for clearing without a development consent.

Box C.4 ***Environmental Planning and Assessment Act 1979***

The *Environmental Planning and Assessment Act 1979* (EPA Act) provides the broad framework for land-use planning in New South Wales. Objects of the Act (s. 5) include to encourage:

> the proper management, development and conservation of natural and artificial resources, including agricultural land …
>
> the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats; and
>
> ecologically sustainable development.

The EPA Act establishes a process for land-use planning at three levels: State, regional and local. It does this through the creation and adoption of Environmental Planning Instruments which guide and direct the types of land use which can and cannot occur in particular areas.

The EPA Act also allows for State Environmental Planning Policies (SEPPs) to address issues of State-wide significance. SEPPs relevant to native vegetation include:

- SEPP 14 *Coastal Wetlands*, which applies to developments within areas mapped as coastal wetlands. Development consent is required for land clearing, levelling, draining and filling.
- SEPP 19 *Bushland in Urban Areas*, which applies to a limited number of local government districts in metropolitan areas. Development consent must be obtained before bushland (zoned or reserved for public open space) can be disturbed.
- SEPP 44 *Koala Habitat*, which provides a mechanism for the identification and protection of koala habitat.

SEPP 46 *Protection and Management of Native Vegetation*

- SEPP 46 was introduced in August 1995 and was repealed when the *Native Vegetation Conservation Act 1997* was introduced. SEPP 46 introduced clearing controls for the first time for rural landholdings in the Central and Eastern Divisions of the State (there were some clearing controls for the Western Division of the State).

Sources: DLWC (1997); EPA Act; NVAC (2000a).

Other legislation

There is a range of other legislation that may affect landholders' ability to manage native vegetation on their properties.

- *Heritage Act 1997*
  - The Heritage Act enables listing, on the recommendations of the Heritage Council of New South Wales, of environmental heritage items of State significance on the State Heritage Register. Approval may be required from a local council or the Heritage Council before undertaking activities that affect areas or items listed.
- *National Parks and Wildlife Act 1974*
  - This Act is concerned with the establishment, preservation and management of national parks, historic sites, State conservation areas and the protection of certain fauna, native plants and Aboriginal objects. As such, the Act enables the Director-General of the NPWS to place certain restrictions (such as stop-work orders) on activities that are likely to have a significant effect on listed areas of land and species. For the same purposes, the Director-General may place interim protection orders on certain areas of land.
- *Rural Fires Act 1997*
  - This Act provides for the designated local authority to issue an order requiring a landholder to carry out specified bushfire reduction work. Also specified in the Act are the conditions for when a permit is required for the burning of vegetation for clearance purposes.
- *Plantation and Re-afforestation Act 1999*
  - The Act provides for the regulation of forestry plantation establishment, management and harvesting activities on private lands and lands managed by State Forests in New South Wales. Under the Act, authorisation is required for activities associated with establishing, harvesting and managing a plantation. Although the Act applies to plantation operations on what is essentially cleared land, approval is required for the incidental removal of native vegetation associated with the establishment and management of plantations.

C.3 Natural resource management reform

In December 2003, the NSW Parliament passed legislation to reform natural resource management in the State. Part of the reforms include replacement of the NVC Act with the Native Vegetation Act. The Native Vegetation Act will come

into effect once the required supporting regulations have been developed, which is expected to be by mid 2004. In addition to the Native Vegetation Act, the NSW Parliament also passed the *Natural Resources Commission Act 2003* (NRC Act) and the *Catchment Management Authorities Act 2003* (CMA Act).

In announcing the reforms, the NSW Government considered that the regime implemented through the NVC Act 'was overly complicated and couldn't deliver on agricultural and conservation outcomes' (DIPNR 2003b, p. 1). Approximately $406 million has been made available to implement the reform package, funded jointly from the National Action Plan for Salinity and Water Quality (NAPSWQ) and the Natural Heritage Trust (NHT).

The new legislation does not repeal the TSC Act and hence the requirement to assess likely impacts on threatened species remains a part of the new consent process for clearing native vegetation. A review of the TSC Act is to be undertaken by the Minister of the Environment to examine whether any changes are necessary in 'light of the extensive changes to natural resource management arrangements embodied in these [Acts]' (NSW Legislative Assembly 2003, 12 November, p. 4898).

Natural Resources Commission Act

The NRC Act establishes the Natural Resource Commission (NRC) as an independent, statutory authority to provide the State Government with advice on natural resource management issues. The NRC is to make recommendations on natural resource management targets and standards for the State related to issues such as salinity, water quality, soil conservation and biodiversity. The NRC may conduct inquiries on specific issues as directed by the Government and recommend to the Government accreditation of Catchment Action Plans developed by Catchment Management Authorities (CMAs).

Catchment Management Authorities Act

The CMA Act establishes 13 regional authorities to deliver natural resource management at the catchment level. The CMAs are to replace 72 natural resource management committees — comprising 19 Catchment Management Boards, 20 Regional Vegetation Committees and 33 Water Management Committees. Specific functions of CMAs include:

- preparing catchment management plans and associated investment strategies;

- recommending and managing incentive programs to implement catchment management plans and maximise environmental outcomes;
- providing landholders with access to data needed to develop Property Vegetation Plans (PVPs);
- allocating funds to support development of PVPs and PVP-incentive based programs; and
- certifying or facilitating certification of PVPs (DIPNR 2004b).

Under the CMA Act, CMAs are constituted as statutory bodies, with a board comprising 5–7 members appointed by the Minister. Board members are to have, in the opinion of the Minister, skills and knowledge in the areas of primary production, environmental, social and economic analysis, State and local government administration, negotiation and consultation, community leadership, cultural heritage and water quality. As far as practicable, board members are to reside in the area of operations of the authority.

Native Vegetation Act

In the second reading speech for the Native Vegetation Act, the Minister stated that the objects of the Act 'reflect the Government's commitment to end broadscale clearing and maintain productive landscapes' (NSW Legislative Assembly 2003, 12 November, p. 4891). The objects include to:

- provide for, encourage and promote the management of native vegetation on a regional basis in the social, economic and environmental interests of the State;
- prevent broadscale clearing unless it improves or maintains environmental outcomes;
- protect native vegetation of high conservation value having regard to its contribution to such matters as water quality, biodiversity or the prevention of salinity or land degradation;
- improve the condition of existing native vegetation, particularly where it has high conservation value; and
- encourage the revegetation of land, and the rehabilitation of land, with appropriate native vegetation. (Native Vegetation Act, s. 3)

The Act is intended to provide for 'agreed definitions for terms that have been a constant source of contention for years, such as remnant native vegetation, regrowth, protected regrowth, and broadscale clearing' (NSW Legislative Assembly 2003, 12 November, p. 4891). The definitions are to be incorporated into guidelines for the management of native vegetation (box C.5).

Box C.5 **Key definitions included in the *Native Vegetation Act 2003***

The Native Vegetation Act provides definitions of a number of key concepts, some of these are listed below.

Native vegetation includes indigenous trees (including any sapling or shrub, or any scrub), understorey plants, groundcover (any type of herbaceous vegetation) and plants occurring in a wetland. Vegetation is considered indigenous if it is of a species of vegetation, or if it comprises species of vegetation, that existed in the State before European settlement. For the purposes of the Act, native vegetation does not include any mangroves, seagrasses or any other type of marine vegetation to which section 205 of the *Fisheries Management Act 1994* applies.

Clearing of native vegetation means any one or more of the following:

- cutting down, felling, thinning, logging or removing native vegetation; and
- killing, destroying, poisoning, ringbarking, uprooting or burning native vegetation.

Broadscale clearing of native vegetation means the clearing of any remnant native vegetation or protected regrowth.

Remnant native vegetation means any native vegetation other than regrowth.

Regrowth means all native vegetation that has grown since 1990, or since 1983 in the Western Division. Native vegetation may also be considered regrowth in instances when it has grown after a date specified in a Property Vegetation Plan (PVP) — the date being based on existing rotational farming practices. Regrowth does not include any vegetation that has regrown following unlawful clearing of native vegetation or following clearing of remnant vegetation caused by bushfire, flood, drought or other natural cause.

Existing rotational farming practices mean those farming practices that are reasonable and in accordance with accepted farming practices, and that have been in place since the date specified in a PVP.

Protected regrowth means any native vegetation that is regrowth and that is identified as protected regrowth in a PVP, an environmental planning instrument, a natural resource management plan of a kind prescribed by the regulations, or an interim protection order under the Native Vegetation Act. Protected regrowth also includes any native vegetation that has been grown or preserved with the assistance of public funds granted for biodiversity conservation purposes.

Routine agricultural management activities mean any of the following activities carried out by, or on behalf of, the landholder:

- the construction, operation and maintenance of rural infrastructure, including dams, permanent fences, buildings, bores, air strips (in the Western Division), stockyards and farm roads (the definition does not apply to rural infrastructure in areas zoned as rural-residential under environmental planning instruments or on small holdings — as defined in the regulations);

(Continued next page)

Box C.5 (continued)

- the removal of noxious weeds under the *Noxious Weeds Act 1993*;
- the control of noxious animals under the *Rural Lands Protection Act 1998*;
- the collection of firewood (except for commercial purposes);
- the harvesting or other clearing of native vegetation planted for commercial purposes;
- the lopping of native vegetation for stock fodder (including the uprooting of Mulga in the Western Division in areas officially declared to be drought affected);
- traditional Aboriginal cultural activities (except commercial activities);
- the maintenance of public utilities (such as those associated with the transmission of electricity or the supply of water); and
- any activity reasonably considered necessary to remove or reduce an imminent risk of serious personal injury or damage to property.

Regulations may make provisions for, or with respect to, extending, limiting, or varying the activities that are routine agricultural management activities.

Source: Native Vegetation Act (Part 2).

Applications to clear native vegetation

Under the Native Vegetation Act, approval is not required to clear regrowth native vegetation. As described in box C.5, regrowth is classified as vegetation that has grown after a certain date (the date either specified in the Native Vegetation Act or contained in an approved PVP). Landholders are also exempt from the need to gain regulatory approval to clear native vegetation in the course of undertaking routine agricultural activities.

In some circumstances, clearing of groundcover that comprises some native vegetation is permitted without the requirement to obtain approval (Native Vegetation Act, s. 20). Clearing of native vegetation that comprises only groundcover is permitted if the vegetation comprises less than 50 per cent native vegetation, and not less than 10 per cent of the area is covered with vegetation (whether dead or alive). The method for calculating these percentages is to be provided in the supporting regulations.

Those wishing to clear native vegetation have two options: submitting a development application to the DIPNR, or submitting a PVP to the relevant CMA for certification. Development consent is not to be granted by the Minister unless the clearing concerned 'will improve or maintain environmental outcomes' (Native

Vegetation Act, s. 14). In the second reading speech for the Native Vegetation Act the Minister stated that:

> … approval to clear remnant vegetation and protected regrowth will not be granted unless I am convinced that the clearing concerned will improve or maintain environmental outcomes. For example, in the Western Division of the State some native shrubs, such as narrowleaf hopbush, grow so thickly that they overwhelm other native species. At times landholders wish to control these species to encourage native groundcover, and this provision will allow a PVP that included such a control program and clearing to be undertaken. (NSW Legislative Assembly 2003, 12 November, p. 4897)

The supporting regulations for the Native Vegetation Act may make provisions for determining whether or not broadscale clearing is to be regarded as improving or maintaining environmental outcomes (Native Vegetation Act, s. 15).

The Native Vegetation Act provides for three categories of PVPs:

- to accredit existing native vegetation management practices in accordance with current laws;
- to provide access to incentives for on-farm conservation of native vegetation; or
- to give approval for landholders seeking to change their land management in a way that involves clearing protected vegetation or regrowth.

In some cases, a PVP may be used to classify regrowth as protected regrowth. In these instances, consideration is to be given to the social and economic implications of such a classification.

PVPs may be prepared by an individual landholder or a group of landholders. A PVP becomes valid only if approved by the Minister. However, under section 48 of the Native Vegetation Act, the Minister may delegate this authority to a CMA or other government agency. A PVP can have effect for any period specified in the plan up to a maximum of 15 years (the supporting regulations may make provision for reviews of PVPs after 10 years). PVPs apply to the land and not the landholders, and so continue to apply after any changes in ownership of the land concerned.

Compliance

Measures are to be implemented under the Native Vegetation Act to strengthen the compliance framework. The new approach is based on:

> … a risk management approach to prioritising investigation of alleged breaches; encouraging voluntary compliance through education and incentive programs; providing adequate resources to ensure effective compliance and enforcement; and

systematic monitoring of changes in native vegetation cover rather than ad hoc investigations. (NSW Legislative Assembly 2003, 12 November, p. 4898)

The NSW Government has indicated that satellite monitoring is to play a more prominent role in the monitoring of native vegetation clearance.

Private native forestry

Forestry operations on State land are excluded from the provisions of the Native Vegetation Act. However, the operation of private native forestry operations will require a PVP. PVPs for private forestry operations will be granted in instances where the Minister or relevant CMA is satisfied that the harvesting will maintain or improve environmental outcomes. Guidance as to whether operations 'will maintain or improve environmental outcomes' is to be provided in a Code of Practice for private native forestry activities, which is currently being developed by the DIPNR (DIPNR 2004a).

C.4 Development of the regulatory regime

There appear to have been different approaches used in the development of the three major native vegetation management instruments implemented in New South Wales over the last 10 years. SEPP 46, as an interim measure, was introduced with minimal public consultation — possibly to reduce the risk of pre-emptive clearing. The introduction of the NVC Act followed an extensive process of public consultation, whereas development of the Native Vegetation Act focussed on consultation with key interest groups.

Native Vegetation Conservation Act

Following the introduction of SEPP 46, the NSW Vegetation Forum was formed (comprising representatives of key stakeholder groups) to review the operation of the policy, and to present the views of the community on the possible 'future options and directions to achieve the long-term sustainable management of native vegetation' (NSWVF 1996, p. 1). In developing its recommendations, more than 160 meetings were held and 246 submissions were received.

The Forum's recommendations formed the basis of a White Paper that outlined the NSW Government's proposed model for native vegetation management in the State (DLWC 1997) — that is, the proposed NVC Act. The White Paper was released in

1997 to elicit public comment and more than 340 submissions were received in response.

Native Vegetation Conservation Act and the Environmental Planning and Assessment Act

A number of participants argued that in certain circumstances, the NSW Government did not have the legislative authority to regulate native vegetation clearance on private land. These participants considered this occurred where agricultural activities could be considered an 'existing use' of the land. They argued that when agriculture is an 'existing use' of the land, application of Common Law principles, and the provisions of the EPA Act, exempted landholders from the requirement to obtain a development consent to undertake activities consistent with agricultural production. For example, they considered that changing land use from grazing to cropping should not require a development consent, as the activity would still be consistent with using the land for agricultural activities. In terms of determining what is 'existing use' of land, Len Wheatley argued that:

> … local government is the responsible body for determining existing use rights … [and] that existing use rights controlled by local governments overrule state legislation. … existing use rights and property rights on land and water and their ecosystems must be clearly identified by local government before native vegetation and biodiversity decisions can be made. (trans., p. 197)

Other participants who provided information on this argument to the Commission included the Constitutional Property Rights Committee (trans., pp. 235–52 and pp. 977–87) and Warren Page (sub. 58).

Threatened Species Conservation Act

There appears to have been little public consultation associated with the introduction of the TSC Act. In the second reading speech for the Bill in 1995, the Minister acknowledged that there was a lack of time to undertake adequate consultation because the existing threatened species legislation, the *Endangered Fauna (Interim Protection) Act 1991*, was due to expire and new legislation needed to be introduced urgently. The Minister stated that:

> … intensive effort has gone into the development of new legislation and a detailed scheme was delineated. Inevitably, however, there has not been time available for full consultation with industry or with conservation interests. We knew that this would be the case. Having given a preliminary briefing on the new scheme to key stakeholders in recent days, it was obvious that both conservation and industry interests had concerns …

> In these circumstances the Government has undertaken additional finetuning of the legislative scheme giving better recognition — where possible — to the concerns that had been raised with us. (NSW Legislative Assembly 1995, 7 December, p. 4483)

Formal regulatory impact assessments do not appear to have been undertaken for either the NVC Act or the TSC Act.

Native Vegetation Act

In February 2003, the Wentworth Group released a report addressing some of the issues associated with the implementation of the NVC Act and, in doing so, proposed a 'radically new way of managing native vegetation in New South Wales' (Wentworth Group 2003, p. 4). In response, the NSW Government appointed the Native Vegetation Reform Implementation Group (NVRIG) to identify ways to improve native vegetation management. The NVRIG comprised members of the NSW Farmers' Association (NSWFA), peak environmental interests, the Wentworth Group and representatives of State government agencies.

The NVRIG's report (NVRIG 2003), formed the basis of reforms to native vegetation management announced by the NSW Government in October 2003 (DIPNR 2003a).

C.5 Promoting environmental goals

This section assesses the effectiveness of the NVC Act in promoting its environmental objectives and describes some of the features of the reforms introduced in December 2003 in relation to pursuing environmental objectives.

There has been considerable debate about the effectiveness of the NVC Act in achieving its environmental objectives. As discussed below, the debate is difficult to resolve because of a lack of objective indicators to assess how well the regulatory regime has performed. Generally, however, there was some agreement among participants that the regulatory regime implemented under the NVC Act was not as effective as it might have been in achieving environmental objectives. There was less agreement as to the reasons why the objectives have not been met.

Objectives of the regimes

Native Vegetation Conservation Act

While the objectives of the NVC Act centre on the achievement of environmental goals, the objectives also acknowledge the need to consider the economic consequences of pursuing these objectives, particularly for landholders with remnant native vegetation on their properties and for regional communities (NVC Act, s. 3).

Threatened Species Conservation Act and the Environmental Planning Assessment Act

The TSC Act and the EPA Act that, together with the NVC Act, form the mainstay of native vegetation and biodiversity regulation in the State also have explicit environmental objectives. For instance, objects of the TSC Act (box C.3) include to 'prevent the extinction and promote the recovery of threatened species, populations and ecological communities' (TSC Act, s. 3). Objects under the EPA Act (box C.4) include 'the protection of the environment including the protection of native animals and plants' (EPA Act, s. 5). Both Acts have in their objects that consideration be given to the principles of ecologically sustainable development.

Comparing objectives between regimes

While the objectives of the three Acts appear to be broadly consistent, there does seem to be a potential for conflict between the objectives of the NVC Act and the TSC Act. The NVC Act directs that social and economic aspects be considered in the regulation of native vegetation management. While there is no explicit direction to consider economic and social aspects under the TSC Act, there is the requirement to promote ecologically sustainable development.

Understanding of the objectives

Considerable information has been provided to promote the objectives and general understanding of the regulatory regime established under the NVC Act. For example, a number of guidelines and factsheets were made available by the DLWC on the objects and operation of the regime. In addition, the public consultation undertaken in developing the NVC Act might have been expected to raise community awareness of its provisions. An important part of the community

consultation process were the RVCs, which provided a mechanism for disseminating information on the operation of the Act at a local level.

The requirement to have a DLWC officer attend a property to determine whether a landholder is required to apply for a development consent also may have aided landholders' understanding of how the regime works.

While considerable information has been provided on the objects of the NVC Act, there has been ongoing debate about the appropriateness of the objectives. The NSWFA (2003b) considered that the objectives were poorly defined. The focus on the conservation of native vegetation, above all other aspects, such as the sustainable use of resources, was seen as a major weakness of the regime. NSWFA argued that:

> … the objectives of the [NVC Act] have never been clear beyond a desire to preserve native vegetation on private land. The failure of the Act to clearly consider vegetation management in the context of a productive, viable and functioning landscape has led to many of the problems and much of the conflict that has occurred. (2003b, p. 6)

Despite the information provided by government agencies on the operation of the NVC Act, difficulties in understanding the complexities of its practical application may have affected compliance (section C.6).

Achieving objectives

The principal objective of the NVC Act is 'to provide for the conservation and management of native vegetation on a regional basis' (NVC Act, s. 3). The Act was not expressly intended to impose blanket restrictions on the removal of native vegetation, but rather was intended to:

> … prevent further *inappropriate* clearance [of native vegetation] through development of [RVMPs] and the requirement for Development Consent for land clearing where the land is not otherwise exempted. (DLWC 1998b, p. 2) (emphasis added)

Clearly-specified objectives for native vegetation management were intended to be a feature of the regulatory regime implemented under the NVC Act. For instance, guidelines and targets were to have been provided in RVMPs. Targets and objectives for the conservation of native vegetation also were intended to be contained in a native vegetation conservation strategy developed by the Native Vegetation Advisory Council (NVAC). While a draft strategy was released in 2000 for public consultation, a final report has not been released (NVAC 2000a). The Nature Conservation Council of New South Wales observed that the Act:

> … promotes the development of regional vegetation management plans and a native vegetation conservation strategy, however it fails to provide guidance for the

> conservation of vegetation in unambiguous terms, by way of clear objectives, targets, strategies and benchmark plans, five years after its implementation. (sub. 109, p. 2)

The case for the development of targets and standards has been acknowledged in the proposed reforms of the native vegetation regulatory regime:

> Clearly defined environmental standards, targets and native vegetation categories will increase understanding among stakeholders and land managers and allow vegetation to be managed according to its significance. (DIPNR 2003a, p. 2)

A Natural Resources Commission will be responsible for recommending State-wide environmental standards and targets, with these targets to be implemented at a regional level to allow for 'monitoring of practical natural resource management' (DIPNR 2003a, p. 2).

Native vegetation clearance under the Native Vegetation Conservation Act

One indicator of the effectiveness of the regime is the rate of native vegetation clearance that has occurred since the introduction of the NVC Act. The DIPNR currently monitors the clearance of native vegetation in two ways: satellite mapping and monitoring of clearing approvals.

Based on satellite mapping techniques, clearing of native 'woody vegetation' over the period 1991–95 was approximately 50 000 hectares per year. After the introduction of vegetation clearing controls in 1995 (SEPP 46), clearing fell to around 30 000 hectares a year over the period 1995–97. On the basis of this evidence, the NVAC (1999, p. 29) concluded that 'it is possible that regulation has worked to reduce clearing — at least in some parts of New South Wales'. Over the period 1997–2000, clearing of woody native vegetation is estimated to have declined further to around 14 000 hectares per year (DLWC 2001).

However, questions over the accuracy of this type of satellite technology, and the fact that this measure focuses only on woody vegetation (and does not, for example, include estimates of the amount of clearing of native grasslands and some shrublands), mean that these figures provide only a partial indicator of rates of total native vegetation clearance (box C.6). Again, definitions of 'remnant vegetation' and 'clearance' are critical, along with the ability of satellite imagery to differentiate what falls within and outside the legislated definitions.

The DIPNR also maintains a register of clearing approvals in accordance with the provisions of the NVC Act. The annual area of land approved for clearing in the period 1996–2002 is shown in figure C.1 (the area applied to be cleared, and the area approved to be cleared, by DLWC region are shown in figure C.2 in section C.7).

These figures may understate the area cleared as they do not include land cleared without a permit: that is, land cleared illegally or legal clearing under an exemption. On the other hand, where clearing involved only partial clearing of the area approved (for example, the clearing of isolated trees, clumps of trees and sparse woodlands), or where clearing was postponed or not undertaken, the figures may overstate the amount of clearing.

Box C.6 **Satellite monitoring of native vegetation clearance**

The DIPNR contracts the Environmental Research and Information Consortium (ERIC) to monitor land clearing using Landsat satellite technology. The ERIC approach uses satellite images to compare and interpret changes in woody vegetation (trees and large shrubs) with at least 20 per cent canopy cover, followed by detailed visual inspection and measurement of clearing. The technology underpinning the approach is restricted to measuring woody vegetation and cannot reliably detect clearing in open woodlands, shrublands, grassland and other herbaceous communities.

In 2001, the National Parks and Wildlife Service conducted a study of clearing in the NSW wheatbelt. It used targeted aerial photography to add a higher degree of accuracy to satellite imagery. The study showed that the rate of clearing in the wheatbelt areas was 10 times that revealed by satellite measurement alone. DIPNR is currently working with the Native Vegetation Advisory Council to improve vegetation monitoring techniques. The NSW Government has allocated $17 million to develop comprehensive mapping coverage of New South Wales over the period 1999–2006.

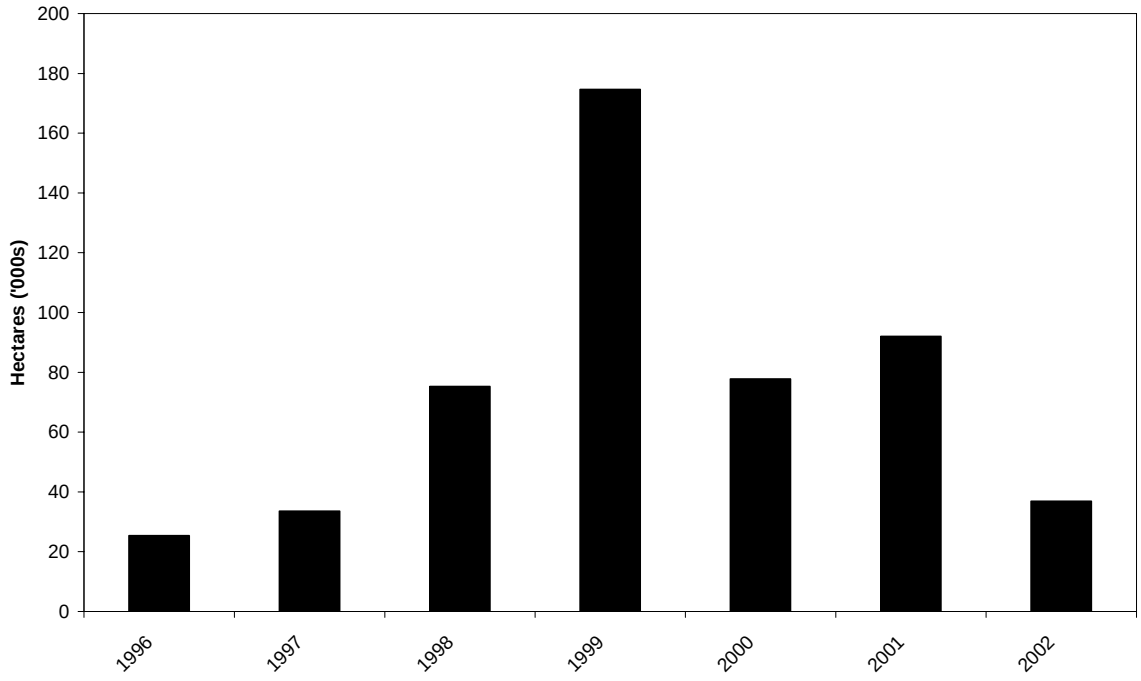
Sources: AONSW (2002); DLWC (2001).

In 2002, the Audit Office of New South Wales (AONSW 2002, p. 22) found that 'there is currently no program in place to systematically monitor changes in native vegetation'. While the DIPNR has instigated a program to improve its mapping capability, the program will not be able to provide complete coverage of New South Wales for many years (AONSW 2002).

As noted in section C.3, the NSW Government has indicated that satellite mapping is likely to play a more prominent role in the monitoring of native vegetation clearance.

Moreover, rates of vegetation clearance are affected by a number of factors, in addition to regulation. Economic factors, such as commodity prices and exchange rates, and environmental conditions (drought etc.) also influence a landholder's decision whether to clear native vegetation. As such, even if accurate figures of changes in vegetation clearing were available, they would only provide a partial indication of the effectiveness of the regime in reducing native vegetation clearance.

Figure C.1 **Native vegetation clearance in New South Wales based on clearing approvals, 1996–2002[a,b]**



a 1998 and 1999 figures subject to validation. **b** Approvals prior to 1998 were issued under SEPP 46.
Data sources: AONSW (2002); DLWC (2003).

Appropriate rates of native vegetation clearance?

There has been considerable debate about the effectiveness of the regime in achieving its environmental objectives. A major criticism is that it has 'demonstrably failed to control broadscale clearing' (Australian Conservation Foundation, sub. 146, p. 12). The DLWC (2002a, p. 25) commented that vegetation is being cleared at 'unsustainable rates'. Since the introduction of the NVC Act, it has been argued that New South Wales has continued to lose large amounts of native vegetation — both through legal and illegal clearing. Bartel (2003, p. 139) argued that with large areas of permitted clearance, and many areas of clearance exempt, even if the existing legislation was being complied with, 'its aims may not be achieved'.

The NSW Government has stated that an objective of the 2003 reforms to natural resource management (section C.3) is to 'end broadscale clearing of remnant vegetation' (DIPNR 2003a, p. 2).

Clearing allowed under exemptions

In 2000, the NSW Government established a Community Reference Panel (CRP) comprising peak stakeholder groups and key government agencies to advise on measures to improve the implementation of the NVC Act, including reviewing the system of clearing exemptions. The CRP reported that:

> … reliance on the exemptions was intended as an interim measure until either a new suite of exemptions was drafted or until [RVMPs] were in place. The considerable time that would be required to prepare [RVMPs] was not originally anticipated, nor was the fact that substantial areas of New South Wales would not have [RVCs] appointed in the short term … Therefore the significance of the current system of exemptions has increased. (2001, p. 3)

Some participants considered that the system of exemptions reduced the effectiveness of the NSW regime. The Wentworth Group (2003, p. 5) argues that 'the [NVC Act] is being undermined by too many exemptions that have created legal loopholes and have made compliance complicated'. The Nature Conservation Council of New South Wales argued that:

> There are major concerns about the unchecked cumulative impacts of the exemptions under the Act, as there is no requirement for landholders to inform the Department of clearing perceived to be exempt. Therefore land clearing is being carried out without assessment, and without consideration for the broader and cumulative impacts on a regional basis. Alleged breach reports indicate the use of exemptions over large areas, an increasing use of a combination of exemptions so more land can be cleared, clearing of areas adjacent to land that falls under the exemption, and 'creative' interpretations of the exemptions which are not consistent with the objects of the Act. (sub. 109, p. 2)

As discussed in section C.3 and below, the natural resource management reforms introduced in December 2003 provide for a new system for determining exemptions from the need to obtain development consent. The impact of exemptions under the NVC Act on farming practices is discussed in detail in section C.7 below.

Perverse environmental outcomes

Many participants argued that in a number of cases native vegetation and biodiversity conservation regulations were proving to be detrimental to landholders' ability and willingness to provide environmental services.

Landholders undertake a number of activities to manage and improve the quality of native vegetation on their properties — through activities such as weed and feral animal control, planting of native vegetation and bushfire reduction measures.

The NSWFA noted:

> … the direct impacts on conservation resulting from the regulatory approach to land management can be seen in terms of reduced ability to sustainably manage the land. That land benefits from management in many parts of the State is well recorded yet this is a point that few seem to understand. The tendency is to think that of a well-preserved environment as inconsistent with economic productivity. But there is a plethora of evidence that native vegetation benefits from careful management. (2001, p. 10)

Some participants argued that while regulation may prevent the clearing of native vegetation, it does not necessarily ensure that the remaining native vegetation will be managed effectively to provide positive environmental outcomes. Several participants considered that 'minimal interventionist' approaches to native vegetation management often resulted in detrimental environmental outcomes (subs 27, 57, 58, 172).

Some evidence was provided that the current legislative regime impedes action to manage native vegetation. A common example concerned the management of 'invasive' native vegetation which, if left unchecked, could result in land degradation and biodiversity loss. The NSWFA observed:

> In many of the lower rainfall areas of the State, woody regrowth of Cyprus Pines, Bimble Box and other invasive natives leads to the choking out of understorey species that are crucial to the survival of many indigenous species of fauna. The resulting monocultures do nothing to promote biodiversity and may in fact result in severe erosion and environmental degradation. (2001, p. 10)

Restrictions on the removal of native vegetation were also claimed to have implications for the management of 'invasive' weeds such as Lippia (box C.7). P.A. and E.G. Gallagher (sub. 70, p. 2) noted that 'the lack of native vegetation clearing imposes difficulties in the eradication of feral animals and is disastrous to bushfire management'. F.S. Hespe expressed similar views (sub. 62).

The NSWFA argued that the regulations create incentives for landholders to avoid the impacts of the legislation:

> The current regulatory approach encourages what is termed in the United States as a 'shoot, shovel and shut-up' approach to threatened species conservation. Certainly when talking to farmers many will acknowledge areas of great ecological value on their properties and the presence of endangered and valued species. Farmers value these habitats and always have but the regulatory framework currently in place means that they will never inform authorities of their existence, undermining any attempts at recovery planning or improved information. The reason for this reluctance to inform is fear of management restrictions. (2001, p. 11)

Box C.7 **Lippia and the *Native Vegetation Conservation Act 2003***

Lippia (*Phyla Canescens*) is an introduced plant that is 'highly competitive' with native pastures. The species is unpalatable to stock, and infestations have the potential to reduce the carrying capacity of native pastures significantly. Lippia has a system of deep roots, which can dry out soil and lead to erosion.

The Murray Darling Basin Lippia Working Group argued that, given current knowledge, effective management and eradication of Lippia often involves selective clearing of native pastures and woodlands followed by a program of spraying or cultivation (to ensure the root system is eliminated). The Group considered that the regime established under the Native Vegetation Conservation Act (NVC Act) restricted landholders' ability to undertake these management activities.

> … to maintain productivity in Lippia affected country [landholders] must have exemptions in the [NVC Act] to allow selective clearing to rehabilitate the land from this imported weed … (sub. 170, p. 2)

Sources: Murray Darling Basin Lippia Working Group (sub. 170, trans., pp. 967–76).

Rod Young observed that potential restrictions under the NVC Act and the TSC Act had created a situation where landholders are forced to question the viability of allowing certain species of flora to continue to grow on their land. He noted in relation to threatened species, such as Giant Red Grass, and the endangered ecological communities of White Box and Yellow Box, that these:

> … species grow naturally on our better red and black soil types. The implications of certain terms such as 'High Conservation Value' will almost certainly lead to serious ramifications for those landowners with these species growing on their properties …
>
> The legislation is crying out to be amended so that it is financially and environmentally attractive to enhance the growth of such species. (sub. 27, p. 2)

The 10-year exemption on the clearing of regrowth has been cited as creating a 'perverse incentive to re-clear regrowth to maintain its unprotected status' (WWF Australia, sub. 108, p. 6). The incentive created for landholders under the exemption is to clear to avoid regrowth becoming classified as remnant vegetation under the legislation, thus requiring consent (with all the attendant costs).

Under reforms announced in 2003, clearing of regrowth will not require regulatory approval. 'Regrowth' is defined in the Native Vegetation Act as all native vegetation that has grown since 1990, or since 1983 in the Western Division. However, native vegetation may also be considered regrowth in instances when it has grown after a date specified in a PVP. The Minister noted that this later provision is:

> … intended to cover those situations where regrowth has arisen as part of a planned and legitimate cropping or grazing rotation that commenced before the standard cut-off date

> for defining regrowth … there will be cases where one size does not fit all. (NSW Legislative Assembly 2003, 12 November, p. 4896).

The criteria for defining native vegetation as regrowth through PVPs is to be contained in the supporting regulations for the Native Vegetation Act.

Voluntary conservation efforts

An objective of the NVC Act is to encourage landholder and community involvement in native vegetation management (DLWC 1998b). Instead of encouraging landholders to undertake measures to improve the quality and quantity of native vegetation on their properties, many participants have argued that it has had the opposite effect. General frustration with the regulatory regime has been cited as a reason that landholders are now less inclined to get involved in voluntary conservation measures, both on their own properties and in the local community.

The NSWFA argued that one of the most damaging results of the regulatory approach:

> … is the loss of goodwill [among farmers] to carry out much needed conservation works on a voluntary basis. Although there are those who continue to commit their time and money to voluntary conservation efforts, an increasing number of landholders are questioning why they should put themselves out when in return they are not trusted to make the most basic land management decisions. Moreover, the compulsory contributions many are making to conservation through income forgone and reduced property values, is a real disincentive to offering still more on a voluntary basis. (2001, p. 12)

The Timber Communities of Australia (Grafton Branch) argued that:

> The approach taken by the State Government of over regulation and the threat of prosecution has led to landholders who were amenable to some sort of environmental work taking place on their properties now refusing to come to the party. (sub. 100, p. 2)

Doug Menzies considered the current regulations had created a disincentive to manage areas of his family's property, Iona, for conservation purposes:

> Our plans for Iona, had we been left alone, would have resulted in 465 hectares, or about 29 per cent of that holding, preserved as healthy, managed native woodland, including approximately 145 hectares of heavily wooded creek country we intended to fence off from farming and livestock. We would have been very pleased to maintain it as our own private little national park, having properly managed noxious plants and feral animals.
>
> Under the present environmental and land management rules, there is no way known our family is going to agree to remove any area of our holding totally from production. Rather than leave us to do our work, the government elected … to force us into its idea

> of environmental enhancement, which not only lacks knowledge but is completely devoid of incentives or compensation of any consequence. (trans., p. 1290–1)

Another reason cited was that landholders were, in some cases, less inclined to undertake revegetation activities because of the risk that the native vegetation would later become subject to regulatory restrictions. Eva and Arnfried Duden (sub. 57) noted that landholders were not planting native vegetation as they anticipated potential restrictions on management and harvesting activities. The Leverton Pastoral Company observed that:

> Since the [NVC Act] has been introduced there is less incentive to improve the environment as it is a burden to our livelihoods. That is, the [NVC Act] has had the opposite effect. (sub. 96, p. 1)

The Institute of Public Affairs (sub. 135, p. 5) listed a range of potential 'perverse' outcomes that might eventuate when a landholder is deprived of the possibilities to 'combine economic and environmental activity'.

Compliance levels

Since the introduction of the NVC Act 'the number of alleged breaches reported to the DLWC each year has increased steadily', to the point that in 2001 there were more than 200 alleged breaches of the Act (AONSW 2002, p. 44). Once a breach is detected, there are several alternatives available to address violations of the Act, including warning letters and stop-work orders, through to prosecution of the offence in the Land and Environment Court. In the period since the introduction of the NVC Act in January 1988 until April 2002, there were 705 reported breaches. Of these, no further action was taken in approximately 70 per cent of cases, 21 per cent of breaches resulted in the issuance of a warning letter and in just under 1 per cent of cases, the DLWC commenced prosecution (AONSW 2002).

The DLWC considered that the increase in the number of cases reported in 2001-02 reflected:

> … increased vigilance and greater awareness of the [NVC Act] in the community. The compliance outcomes achieved during the year far exceed those in previous years, indicating a trend towards increased efficiency on the part of the [DLWC] in dealing with compliance matters. (2002a, p. 29)

Effective monitoring appears to be hampered by the large area that needs to be monitored, combined with the fact that clearing on private property may often be difficult to observe. Current monitoring in New South Wales relies on property inspections conducted by the DLWC, document searches and, to a lesser extent, compliance monitoring from the air through the interpretation of satellite images

and aerial photographs. Breaches of the Act are most likely to be detected through complaints from the public, or from reports from DLWC staff and other public servants (AONSW 2002; Bartel 2003). This has led to criticisms that monitoring is unsystematic and relies on chance to detect violations (Bartel 2003).

The amount of illegal clearing will be determined by various factors, including the likelihood that breaches will be detected and successfully prosecuted, the penalties for non-compliance, and the benefits derived from not complying with the regulations. The AONSW considered that there was a high likelihood of breaches of the NVC Act, in part, because:

- an individual's private financial interests will not generally coincide with the public's conservation interests;
- the very large number of individual properties and the remoteness of much native vegetation mitigate against detection of breaches of the Act;
- the time required to obtain consent from DLWC may extend to over a year;
- [RVMPs] are introducing self-assessment to landholders with no established assessment skills and limited extension officer support; [and]
- industry associations, some of whom are lobbying for the Act to be repealed, provide little or no pressure to their members to comply with the Act. (2002, p. 42)

It has been claimed that the number of broadly-worded exemptions under the NVC Act make enforcement difficult (Wentworth Group 2003; Nature Conservation Council of New South Wales, sub. 109; AONSW 2002). Bartel (2003) argued that inadequate mechanisms for enforcing the provisions of the NVC Act, combined with low penalties, were unlikely to discourage non-compliance. The Australian Conservation Foundation (sub. 146) cited lack of enforcement as one of the key problems with the legislation.

As part of the reforms announced in October 2003, measures are to be introduced to encourage voluntary compliance, but also to strengthen the native vegetation compliance framework. The focus will be on the 'systematic monitoring of changes in native vegetation cover rather than ad-hoc investigations' (DIPNR 2003a, p. 3).

Consideration of economic and social impacts

Consideration of the economic and social impacts of regulation is required under the NVC Act when assessing applications for development consent and when developing RVMPs. Economic factors must also be considered in the development of environmental planning instruments under the EPA Act.

However, it has not always been clear how these trade-offs have been evaluated. This has led to criticism that social and economic aspects have not been incorporated in the decision-making process in any meaningful way. This appears to be particularly relevant with applications that have implications for the protection of threatened species. The AONSW observed:

> Reconciling multiple objectives can be difficult, and there is limited guidance to staff on how to address this tension. The [DLWC's] staff guidelines do not generally distinguish environmental screening criteria that are likely to trigger a refusal, from tradeable benefits and costs. In particular, there is little guidance on 'trading-off' environmental impact for socio-economic gain. (2002, p. 36)

The Moree Plains Shire Council (trans., p. 913) and the Narrandera Shire Council (sub. 72) both said that social and economic aspects were not considered 'properly' in the development of RVMPs.

The Local Government Association and Shires Association of New South Wales expressed similar concern:

> … in relation to socio-economic implications of listings of threatened species through the [TSC Act] … Greater consultation with the regional and local community is required to ensure that recovery plans for these species can be implemented with success, and [to] fully consider the implications to local communities. (sub. 178, p. 2)

The legislative reforms introduced in December 2003 aim to achieve environmental objectives while maintaining 'productive landscapes'. As such, the objects of the Native Vegetation Act are to be pursued in accordance with principles of ecologically sustainable development (Native Vegetation Act, s. 3). There is also an explicit requirement to consider the economic and social implications of declaring regrowth as 'protected' through a PVP. However, economic and social factors do not appear to be required to be considered with respect to broadscale clearing (as it is defined under the Act). Broadscale clearing is only permitted if it is considered to 'improve or maintain environmental outcomes' (Native Vegetation Act, s. 29).

C.6 Administration and implementation

The Commission is directed in the terms of reference to examine a number of issues with respect to the administration and implementation of State regulatory regimes (terms of reference, para. 3).

Administrative costs of the regimes

The costs of developing and administering native vegetation and biodiversity conservation are borne primarily by the NSW Government. Administration of the NVC Act has been undertaken mainly by the DIPNR, although some costs are also borne by local government and representatives of local communities through their participation in RVCs.

Under the proposed reforms, the DIPNR is to provide some staff and corporate support services (such as financial management, human resources, accommodation, information technology) for CMAs. DIPNR (2003a, p. 5) noted that the Australian Government 'will also play an important role as a major investor in CMA activities through joint Commonwealth/State programs such as the NAPSWQ and the NHT'.

The NPWS is responsible for maintaining schedules of threatened species, populations and ecological communities, and for developing threat abatement plans and recovery plans under the TSC Act.

The role of assessing whether particular developments have implications for species and communities listed under the TSC Act, tends to reside with various consent authorities. For example, the DIPNR is required to consider the potential impacts of a development proposal on threatened species when assessing an application under the NVC Act. Local councils are required to consider the TSC Act when processing applications made under various planning schemes. Shoalhaven City Council provided an example of local government involvement in the administration of the TSC Act, and noted that there:

> … are costs to both Council and landowners in the Shoalhaven that arise from legislation that deals with biodiversity conservation and native vegetation protection. Because Council is a consent authority, they are required to invest resources into assessment relating to biodiversity conservation and native vegetation protection that relate to requirements under the [EPA Act] and [TSC Act]. Because of the nature of Shoalhaven, Council has many applications that need to have issues of threatened species assessed and has therefore employed a Threatened Species Officer to deal with the large amount of environmental assessment work that is required in development applications. (sub. 98, p. 1)

Implementation of the regime

The implementation of the regulatory regime originally envisaged under the NVC Act was delayed by the protracted development of RVMPs. When recent reforms were announced in October 2003, only 2 of a potential 22 RVMPs had been gazetted — the Mid-Lachlan RVMP and the Riverina Highlands RVMP.

Factors that appear to have contributed to the slow development of RVMPs include: difficulties in reaching consensus (Thompson 2001, National Association of Forest Industries, sub. 90); a lack of quality data on which to base decisions, including appropriate mapping (AONSW 2002, Wentworth Group 2003); that members of RVCs may have lacked the appropriate skills — such as meeting, facilitation and negotiation skills — or lacked access to appropriate technical knowledge to develop the plans (DLWC 2002a).

Murrumbidgee Irrigation summarised what it considered to be the shortcomings of the RVMP process:

> … the department support was patchy, data was limited, advice was inconsistent and the focus squarely on legislative means. Ideas developed at the committee level to deal with a regional issue were often overridden by the government desire to have a single approach across the state. This just compounds the regional community feeling that they are not consulted and remote/political decisions are being made with no reference to the local considerations. Other points that have affected any meaningful plan development were:
>
> - limited or no assessment of the likely costs versus benefits;
> - limited understanding of local ecosystem dynamics to assist in decision making;
> - limited access to alternative options such as incentives, education, stewardship arrangements … (sub. DR262, p. 1)

The RVMP process was terminated in late 2003. Regional planning under legislation introduced by the NSW Parliament in December 2003 is to be based on Catchment Action Plans developed by CMAs (section C.3). The NSW Government has stated that there will be consultation with RVCs to integrate existing RVMPs into Catchment Action Plans (DIPNR 2004b), but many landholder representatives on RVCs felt the process would have to start anew, and that they would not participate again.

Complexity

The information required to determine whether a proposed clearing activity requires consent and, if so, what course of action needs to be followed can, in some circumstances, be quite onerous. A landholder planning to clear native vegetation must first ascertain if government permission is required to undertake the activity. Landholders need to be aware whether the proposed activity is exempt, and if it is not, which agency or agencies are responsible for assessing an application to clear. The NSW National Party (sub. 115, p. 2) argued that it 'is becoming increasingly difficult for landholders to keep up with the legal requirements for managing their own land'. The South Grafton Residents Progress Association observed that:

> The statutes are very complex and will require considerable expenditure on the part of landholders to ensure that they do not become penalised for breaching various sections of one or more of the requirements. (sub. 104, p. 3)

The Munmurra Landholder Action Group commented that:

> Anecdotal evidence would suggest that the current bureaucratic application process is lengthy and difficult to navigate. The time and assistance required in making applications to clear or develop land are at a substantial cost to the applicant … (sub. 69, p. 4)

Understanding how regimes operate can be onerous not only for landholders but also for authorities which have responsibility for administering planning instruments. Moree Plains Shire Council noted that:

> … unless you've been working in government a while, it's pretty hard to understand some of these things and how it works … the challenge … in a lot of this is to actually start to align … our planning instruments with what's happening with some of the higher legislation as well. Sometimes, if you don't know the exact provisions in some of these things, then it can actually create confusion in the field because people say, 'We're getting conflicting advice'. (trans., pp. 914–5)

Shoalhaven City Council noted:

> One of the main problems with the implementation of the [TSC Act] is the lack of information provided to consent authorities when new listings for species are made. In order to have a species listed on either the Commonwealth or State legislation information on the distribution, threats, biology of the species or community are provided to a scientific committee however this information is not made public … Dissemination of this information to consent authorities and proponents would reduce the resource and financial costs in undertaking further assessments. (sub. 98, p. 2)

The NVRIG (2003, p. 7) argued in its report that:

> Fundamental to the success of a new model for landscape management is simplifying the overwhelmingly complex structures that exist at present, to empower the farming community to take control of the problem …

As such, an overarching stated objective of the 2003 reforms is to reduce the complexity of the regulation of native vegetation management.

Assessing clearing applications

In the absence of finalised RVMPs, the DIPNR's role in assessing development consent applications under the NVC Act has been more significant, and of longer duration, than was originally anticipated. The assessment process under DIPNR has been subject to some criticism, especially over the length of time taken to process applications and the lack of transparency in the decision-making process. The

AONSW (2002) noted that the average length of time taken to assess clearance applications considerably exceeded the maximum amount of time recommended in the DLWC's customer service guarantees.

In addition, the AONSW considered that there were a number of factors that contributed to a lack of transparency in decision-making, including that:

- internal staff guidelines for assessment are not made available to the public;
- although determination notices and assessment summaries are provided to landholders, the detailed assessment reports are not made available;
- there are no public hearings (such as by panels) for major proposals …
- there are limited mechanisms for appeal that are expensive and come at the end of the process … (2002, p. 38)

A lack of transparency, combined with a lack of well-understood targets and guidelines detailing native vegetation objectives, may have encouraged perceptions of unfairness and inconsistency in the application approval process. Peter Weston considered that:

> The [DIPNR's] inconsistency and consent process and the time lag is quite unacceptable. We've got an example … [where] they've allowed a family to take out individual trees across the landscape, and I encourage it because it's leading to better farm practice; yet another chap up the road, who's got 8000 acres of encroached timber, made an application to clear 600 acres to try and get some degree of drought control … He could not disturb a tree. (trans., p. 1284)

Murray Irrigation Ltd noted that it is:

> … apparent there is a lack of consistency in the treatment of different applications for vegetation removal/clearing … Whilst flexibility is an important component in assessment, inconsistent interpretations and administration is not desirable, and leads to further frustration within the community. (sub. 79, p. 1)

Compliance costs borne by landholders

The Commission received considerable comment that the costs incurred by landholders in complying with the NVC Act, and with other related legislation, were often significant and excessive. Although there is no direct charge imposed by the DIPNR to assess a development consent application, there are, depending on the size of the application, a number of other direct costs associated with the application process (an example of these costs is described in box C.8). The Institute of Public Affairs observed that:

> Under the [NVC Act], any 'clearing' is subject to the development consent procedures. The clearing application process involves 30 or more steps, numerous consultations, opportunities for almost anyone to object and a mountain of paper. This puts such

processes beyond the reach of most landowners. They all have a day job and are already grappling with many other regulations. (sub. 135, p. 4)

In some cases, as a condition of consent being granted, there may be requirements for the landholder to undertake certain activities to improve the extent and quality of native vegetation on the property. For example, native vegetation 'offsets' may be required, whereby an area of cleared property is set aside and replanted with native vegetation. Alternatively, improvements may be required to areas of existing native vegetation, such as fencing-off riparian areas.

Box C.8 **Compliance costs — a case study**

Euroka Station Partnership (ESP) manages a property of approximately 11 000 hectares of unrestricted freehold land near Jerilderie, upon which merino sheep and beef cattle have been run for over fifty years.

In 1996-97, after a period of declining margins from wool and livestock sales, ESP considered it 'essential' to expand the existing small irrigation and dry farming operations on the property by converting up to 1200 hectares of freehold land from livestock grazing pasture to irrigation. After applying for approval in 1997-98, ESP encountered considerable delays that resulted from 'application and implementation of the Threatened Species Conservation Act and the Native Vegetation Conservation Act'.

Approval was granted for the development, although the area approved was less than that sought in the original application. ESP anticipates that the first irrigation crop will be sown during spring 2003, some five years after the decision was taken to pursue this development. ESP estimates that forgone income over the past four financial years is around $1.6 million, or approximately $435 000 in lost operating surplus.

In addition to lost production opportunities, ESP noted:

> … Financial Records for the past five financial years reveal that a total of $110,000.00 have been spent on surveying and drafting services, preparation and presentation of clearing applications which comply with the [NVC Act], technical and legal advice, preparation for and attendance at the meetings referred to above and additional project management time, communications and fees. (sub. 167, p. 3)

Source: Euroka Station Partnership (sub. 167).

Landholders also may incur costs from the time taken to assess an application. Under the NVC Act, a site visit is required before an application to clear native vegetation can be submitted. Clearing guidelines state that generally 2–3 weeks notice is required to organise a visit. Once an application is submitted, the DLWC has a statutory requirement to respond within 40 days (DLWC 1999), although, as mentioned above, the amount of time taken by the DLWC has often been considerably longer.

Elizabeth Tomlinson argued that complying with native vegetation regulations resulted in a loss of flexibility for landholders in terms of adopting new technology and responding to changes in market conditions:

> The loss of the right to introduce, rapidly, new technology can not see our farmers continue to be amongst the most efficient in the world. If it is necessary to pass by a government department any wish to change, the time lag could see the advantage lost. (sub. DR246, p. 1)

The issue of compliance costs also was raised in relation to forestry operations. The NSW Forest Products Association highlighted the significant compliance costs resulting from the operation of the TSC Act in conjunction with the on-going Brigalow Belt South Bioregion Regional Forest Assessment. The Association argued that before temporary licences for forestry operations can be granted under the TSC Act, State Forests is required:

> … to undertake costly and technically difficult surveys before allowing entry by harvesting businesses into areas planned for logging. The costs and additional work associated with these surveys is causing neglect of normal management operations within the forest. (sub. DR243, p. 2)

Moreover, the NSW Forests Products Association (sub. DR243, trans., pp. 1207–25) argued that the often restrictive nature of temporary licences granted has resulted in significant costs for forest operators.

Costs resulting from inconsistency

Some participants argued that inconsistencies in State legislation, and between State and Commonwealth legislation, were resulting in uncertainty for landholders and increased compliance costs.

At the State level, clearing authorised by a development consent or consistent with an approved RVMP, generally is exempt from the provisions of other environmental planning instruments and regulations, such as local environmental plans issued by local councils. However, in the absence of a RVMP, clearing that is exempt under the NVC Act may be subject to other regulation such as a local environmental plan made under the EPA Act or a recovery plan under the TSC Act. In these cases, activities that are allowed under the NVC Act may be prohibited under another piece of legislation. The National Farmers' Federation argued that:

> Farmers are required to comply with the [NVC Act] and must seek approval to clear land … unless it falls within a statutory exception … Yet where a proposed development activity falls within this exception it may still trigger the [TSC Act] which may result in severe restrictions in property use. Under the [TSC Act] where a species is identified as 'threatened' it is an offence to 'harm, pick or damage' the species and

> potential development is likely to involve an expensive and time-consuming Species Impact Statement. The [TSC Act] provides that clearing done in the interests of 'routine agriculture' may be exempt from the operation of the Act yet fails to provide any definition of what this exemption entails. (sub. 128, p. 15)

Shoalhaven City Council raised the issue of inconsistencies between State and Commonwealth legislation potentially leading to increased compliance costs.

> Because no bilateral agreement has been reached between the NSW State Government and the Commonwealth, in situations where threatened species are affected that are listed on both NSW and Commonwealth legislation, potentially two assessments will need to be undertaken by the proponent. (sub. 98, p. 2)

Dispute-resolution procedures

The Land and Environment Court hears appeals against decisions made under Environmental Planning Instruments established under the EPA Act and, therefore, appeals against decisions under the NVC Act. Appeals must be made within 12 months of being advised of a determination. Since the introduction of the NVC Act, the appeals process has been used very rarely. The AONSW (2002) noted that opportunities to appeal decisions were limited and expensive.

The Land and Environment Court will hear appeals made against decisions under the Native Vegetation Act. There are no provisions for third parties to challenge the merits of a decision to grant a consent. However, third parties may challenge the legality of a consent decision on procedural grounds (NSW Legislative Assembly 2003, 12 November, p. 4897).

C.7 Impacts on landholders

A large number of submissions addressed the implications that restrictions on broadscale clearing had for farming practices and farm viability. Participants also noted that regulations often had significant implications for landholders intending to change land use or to adopt new technology (for instance new irrigation systems), as well as their ability to undertake normal farming practices (fencing and paddock rotations). The Commission also received information concerning the impact of regulations on forestry activities.

For the most part, these submissions concerned the negative impact of the regulations on farming and agricultural practices. Participants noted that the impacts of the regulations on landholders and farm activities can differ substantially across regions, and even across particular properties within regions, depending on the type

and amount of vegetation on particular properties. The Institute of Public Affairs noted that the impact of regulations:

> … will be uneven across landowners and profoundly inequitable. It will generally be costliest to those who have historically been the most responsible. Some landowners have extensive private forest, some have none, some have many protected species some have few. The costs of this essentially social legislation will be disproportionate across the community and within the rural community. (sub. 135, p. 7)

Impacts on farming practices

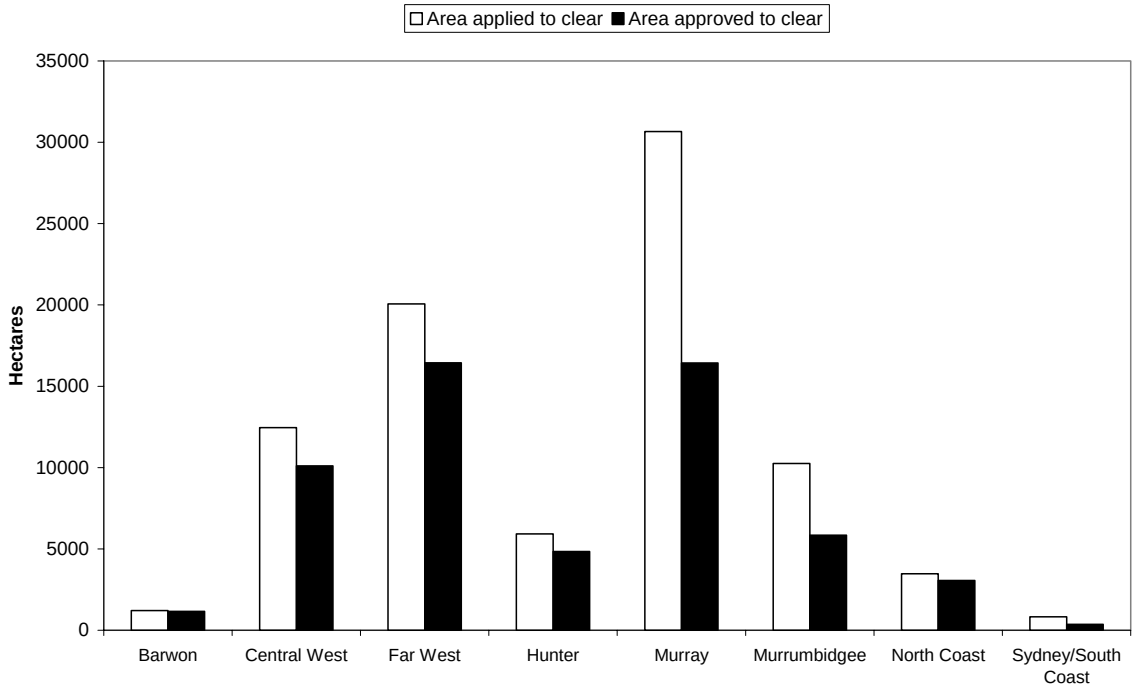
The NSWFA observed that many of the restrictions on farming practices resulted from the perceived impact of the proposed activity on threatened species:

> Australian farmers are acutely aware of the need to improve productivity and respond to market signals. However, their ability to implement more productive and efficient technologies (such as the use of centre-pivot or underground drip irrigation systems) is often constrained directly or indirectly by threatened species legislation. Even ecologically positive management technologies such as long-rotation cropping and grazing systems and cell-grazing are unable to be utilised in some situations, because of the restrictions imposed by this legislation. (2002, p. 2)

The impacts of the regulation are likely to be greatest in the regions where the demand for clearing is significantly higher than that permitted under the regulations. In 1999, the NVAC reported that clearing in New South Wales is 'mainly occurring in the Coolabah-Black Box woodland of the Darling Riverine Plains Bioregion (Moree-Walgett-Nyngan regions) for wheat and cotton, and the Riverina Bioregion for rice' (NVAC 1999, p. 29). In 2002, applications were received to clear 30 655 hectares in the Murray region, 20 058 hectares in the Far West and 12 453 hectares in the Central West. The data in figure C.2 suggest that the Murray region was potentially the most affected by restrictions under the NVC Act in 2002, as only 50 per cent of the area applied to be cleared in that region was approved. It should also be noted that applications to clear land are unlikely to represent the total demand for clearing in these regions. Landholders are unlikely to submit an application to clear in cases where they considered (or had already been advised) that the application would not be approved.

In a majority of cases, development consent was sought for 'permanent land use change clearing' such as for 'cropping' or 'grazing and cropping' purposes. Areas approved to be cleared by land use are shown in table C.1. Clearing of isolated trees accounted for approximately one-third of all approved clearing in 2002, although the amount of clearing actually undertaken would have been much smaller, given the partial nature of vegetation coverage.

Figure C.2 **Area approved for clearing under the NVC Act, 2002**
DLWC regions



Data source: DLWC (2003).

Table C.1 **Approved clearing by proposed land use and type of clearing in the Murray, Central West and Far West regions, 2002[a]**

	Murray		*Central West*		*Far West*	
	Hectares	%	Hectares	%	Hectares	%
Proposed land use						
Cropping	2 036	12	7 007	69	10 645	65
Cropping and grazing	9 132	56	1 435	14	217	1
Irrigation development	3 660	22	228	2	90	1
Woody weed burning	0	0	0	0	4 151	25
Other	1 606	10	1 427	14	1337	8
Total	**16 434**	**100**	**10 097**	**100**	**16 440**	**100**
Type of clearing						
Isolated trees	5 207	32	8142	81	843	5
Open woodland	5 016	31	744	7	12 120	74
Shrubland	2 919	18	0	0	700	4
Grassland	219	1	0	0	1230	8
Other	3 073	19	1211	12	1547	9
Total	**16 434**	**100**	**10 097**	**100**	**16440**	**100**

a DLWC regions.

Source: DLWC (2003).

Expanding agricultural production

Some participants noted that the difficulty of obtaining a development consent had significant implications for long-term development plans. Increasing the amount of land for cultivation was often seen as crucial for there long-term viability. Some participants observed that restrictions on land clearing not only denied landholders the returns from bringing new land into production, but also the attainment of the scale economies associated with larger operations — such as the productivity improvements achieved through more efficient crop rotations and spelling.

Kevin and Sue Campbell (sub. 11, p. 1), for example, described how they purchased a property in 1993, prior to the introduction of SEPP 46. The farm of 11 000 acres was only '18 per cent developed at the time' and the property was purchased with the intention to develop. A costly application process under SEPP 46 (both in terms of the costs associated with the application process and lost production opportunities), resulted in approval of a further 7 per cent of the property for clearing. The landholders would like to develop more of the property, but consider that they cannot under the NVC Act.

Managing regrowth and changing land use

Participants also argued that the requirements of the regime were affecting their ability to manage their existing operations effectively. For many agricultural businesses, broadscale clearing was not a once-off activity, but an important component of the production cycle and an essential tool in managing regrowth.

It was argued that regrowth, if left unchecked, reduces the amount of native pasture available for grazing and makes stock management more difficult. Over an extended period of time, the invasive native vegetation (often referred to as 'woody weeds') can become so dense as to make the land unsuitable for grazing, and can result in land degradation (NSWFA 2003b, subs 7, 12, 16).[7]

Tania Hall noted:

> Land management required on our properties should not be referred to as clearing or developing, as the land was originally open productive woodland with ample pasture cover, any clearing should be regarded as land maintenance … each year this

[7] Landholders argue that certain dense growth of woody weeds prevents the establishment of native grasses. Woody weeds 'out compete' the native grasses for space, light and available soil moisture. The resultant lack of effective ground cover reduces topsoil stability, leading in many instances to soil erosion (NSWFA 2003).

property's carrying capacity is reduced, due to invasive native vegetation. (sub. TS10, p. 1).[8]

Under the NVC Act, development consent is required to remove native vegetation regrowth if the land has not been cleared in the past 10 years. Participants argued that not obtaining a consent can have significant implications for their operations. The Leverton Pastoral Company observed:

> Paddocks that would have been cleared on a 20 to 30 year cycle now cannot be cleared. Our land has enormous regenerative ability, regrowth timber, (belah, box and myall) which has not been taken into consideration in the [NVC Act] …
>
> In uncleared areas the regrowth timber has got so thick it has choked the native grasses out and the paddocks now have limited stock carrying capacity. Erosion has started to develop under the heavy timber. (sub. 96, p. 1)

Faye McPherson also noted that:

> Legislation works in many cases out here to reduce the productivity of the properties by preventing the clearing, cultivation, [and] pasture improvements needed to improve both the [carrying] capacity and the income of the property. (sub. 173, p. 4)

While selective 'thinning' of native vegetation may be permitted under the regulations, this can be a high-cost form of native vegetation management (NSWFA, pers. comm., 10 July 2003). Participants noted that the removal of 'invasive' native vegetation may be more cost effective when clearing is combined with cropping activities. Raymond Perkins observed that the requirement to obtain development consent often meant that:

> … the practice of cropping and grazing, often with long periods between cultivation, adopted by most good farmers is prevented. The common practice of incorporating weed eradication with cropping to cover this expensive exercise is also prevented, so the chance to eradicate perennial weeds such as Box Thorn and Galvanised Burr is lost. Failure to destroy weeds in this way leads to a downward spiral in productivity and value. (sub. 86, p. 2)

Declining carrying capacity on properties because of regrowth places pressure on other more productive areas of the property, which in turn has implications for the long-term sustainability of agricultural activities. Tania Hall observed:

> Normally the property is productive where it is open, but extreme pressure is put on these open areas by domestic livestock, uncontrolled numbers of feral and native animals and cropping, because of the inability to use the rest of the property productively. (sub. TS10, p. 1)

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8 The NSWFA provided members with a questionnaire on some of the issues they considered relevant to this inquiry. A number of completed questionnaires were forwarded to the Commission as submissions. Submissions of this nature are referred to as template submissions. For example template submission 1, when referenced, is referred to as sub. TS1.

In certain situations, development consent is required for the removal of paddock trees. In the *Draft Western Riverina Regional Vegetation Management Plan*, the clearing of certain paddock trees in areas of 'high conservation value' will, in instances where approval is granted, require the landholder to provide an offset ratio of 400 new trees for every paddock tree removed (WRRVC 2002).

An example illustrating the potential impacts on farming practices associated with an application to remove paddock trees is shown in box C.9. The example highlights the potentially high costs involved with the application process when the proposal may have ramifications for threatened species and their habitat.

Some participants argued that the NVC Act prevented some landholders from managing certain types of 'invasive weeds' effectively. Doug Arnott (trans., pp. 1241–60) stated that treatment of exotic weeds such as St John's Wort and Patterson's Curse by introducing improved pastures (which, in his case, involves aerial spraying and sowing of hill country) is prohibited under the NVC Act:

> … in hilly country we're being restricted in spraying and also, with native vegetation issues, we can't spray out these weed dominated pastures and put in an improved pasture. As a management tool if we do put in an improved pasture, we can then compete with the restricted weeds and cut down paddocks, use stock better to manage the weeds and basically, in essence, cut down the time spent using chemicals, manpower, everything — chasing around hills, chasing around weeds — and use livestock and pasture to combat these problems we have. (trans., p. 1241)

Box C.9 **Restrictions on the removal of paddock trees**

Restrictions on the removal of individual trees may be applied in several regions, usually when the trees are assessed to provide habitat for threatened species.

An example that highlights some of the impacts associated with the removal of paddock trees occurred when a landholder near Wagga Wagga applied to remove 19 paddock trees to install a centre-pivot irrigation system over an area of approximately 56 hectares. Initially, the landholder was advised that an offset of 400 trees for every tree removed was required — 7600 trees in total. After an extensive period of negotiation, approval was granted for the removal of the paddock trees with an offset provision of 2000 trees at an approximate cost of $10 000. (As part of the application process, the landholder was required to finance a targeted fauna survey at the cost of $3315, which found that threatened species would in no way be impacted by the proposed clearance). The length of the application process resulted in a year of lost production on an irrigated paddock in a drought year.

Source: NSWFA (pers. comm., 10 July 2003).

The 10-year exemption on the clearing of regrowth native vegetation

The 10-year exemption on the clearing of regrowth creates a strong incentive to clear regrowth within the 10-year period to avoid the requirement to obtain a development consent. Participants noted that the implication of this 'rule-of-thumb' was that it forced landholders to clear land sooner than they otherwise would have — sometimes with negative impacts on farm productivity (box C.10).

Despite the inconvenience and additional costs of clearing, landholders felt that it was necessary to avoid the risk of subjecting the land to the development consent process. If, for example, threatened species were associated with the land, a landholder could lose the ability to clear at a later date. According to Rod Young:

> You would get to a stage where you would have threatened species in there and, technically, once you get over the 10 years … you should legally go to consent. The problem could be, say, if Giant Redgrass shows up — Giant Redgrass is growing along virtually all our shire roads on any of the red soil country, so if you got somebody in from say [DIPNR] to inspect it, they probably would find say Giant Redgrass or maybe Queensland Bluegrass, maybe some of the wallaby grasses, and this could cause you problems. So despite the fact that we don't mind the native grasses, particularly for cattle production, we've got to be careful that we don't tie ourselves up.
>
> I feel that if that law could be made more flexible, there would be a lot of people that would be prepared to leave that grass there for a longer period of time … I know in years gone by we often used to leave a grass paddock out for much longer and that returned a certain amount of humus and structure to the soil, and therefore we were less prone to erosion when we went back into a farming phase. (trans., pp. 948–9)

Box C.10 **Participants' comments on the impacts of the 10-year rule**

> [When I purchased the property] the majority of the regrowth was eight to nine years of age. I realised that under the current regulations I was able to clear this regrowth and had no other option than to borrow the money to do so. The alternative would have been catastrophe. I would have been left with a property of scrub which would be of no use to anyone except feral animals. The clearing of the regrowth has improved this property. The soils and pastures are healthier as a result … Stock are easier to locate and we have less deaths as a result of better wild animal control. (Clyde Cook, sub. 12, p. 1)
>
> The ten year rule on native grassland has shortened the period I leave arable land under pasture in my overall crop-pasture rotation program, I wonder sometimes for how long can I keep this rotation going … The native grasses help overall with bloat control in cattle, and provide some dry feed in drier seasons. I appreciate a mix of pasture and in some cases would like to leave these paddocks under grass for a longer period. However this would mean I would legally lose the option of returning those paddocks back to cropping sometime in the future. (Rod Young, sub. 27, p. 1)
>
> The under ten year regrowth is a real problem. We need flexibility. It is not always practical to remove the regrowth every 10 years, often, it is better … to leave it for longer periods and remove when time, money and weather permit. (Jim and Evelyn O'Neill, sub. 172, p. 2)

The legislation introduced in December 2003 will result in a change to the definitions of regrowth and broadscale clearing. These changes seem intended to reduce the impact of existing native vegetation regulations on farming practices described above. The changes move away from prescriptive regulations, to allow for more flexibility in the management of regrowth.

Positive impacts

Little evidence was presented to the Commission on positive impacts on farming of the regulatory regime in New South Wales. However, some positive comment was received on the benefits available under the regulatory regime to mitigate the costs of certain activities. Anthony O'Halloran observed that the TSC Act:

> … has been useful for me to get funding to fence off my creek lines. These Box Gum riparian areas were in a sad state, and now after obtaining grants and revegetating the area, these areas are bio-diverse, erosion is under control, weeds are on the decline and we now have a couple of koalas! If this riparian corridor had not come under the [TSC Act], I do not believe we could have done the remedial work necessary. (sub. 80, p. 1)

Nita Lennon considered that the negative impacts of the legislation may not be that great:

> … [the NVC Act] does not impact upon us detrimentally and I would suggest that most farmers in the Central West would not be adversely affected by this legislation as most suitable farmland was cleared some time ago. Many of our farming colleagues are now engaged in, or interested in, revegetating parts of the landscape. (sub. 82, p. 1)

Others suggested that there have been some benefits arising from increased awareness of environmental problems, derived from the information provided under the regimes. The South Grafton Residents Progress Association noted in relation to the development of the Clarence RVMP:

> We believe that one benefit in this area has been a greater awareness of the extent of acid sulphate soils and the need to manage this problem particularly in the lower river areas where cane is grown. There has been a marked increase in activities and co-operation from the sugar industry in research and experiments resulting in better management of this problem.
>
> There is no doubt that the clearing of vegetation from along creek and riverbanks has added to erosion. This problem has effected downstream properties and associated waterways together with the property that is the source of the erosion. Any encouragement to protect these locations under the Vegetation Plan will help to alleviate this problem. (sub. 104, p. 3)

Impact on property values and returns

Many participants observed that the adverse impact of the regulations on the earning capacity of the land was being reflected in property values (sales and land valuations) and returns (box C.11).[9]

Box C.11 Participants' comments on the impact of native vegetation and biodiversity regulations on property values

The equity of our scrub country has fallen dramatically due to not being able to sustainably develop it. Our overall property value has drastically reduced because we do not have enough developed land. Wool production and yields are down due to increased vegetable matter and dust. It's very hard to fatten stock due to overgrazing by kangaroos and crop yields are also affected by wildlife. Lambing percentages are down. (Kevin and Sally Campbell, sub. TS12, p. 1)

The Valuer General's Department has always valued land at an unimproved capital value arrived at by looking at land sales and assuming that similar land could have the same potential value. When we wrote to the Valuer General objecting to his latest valuation of our land, stating the amount of native vegetation that we are not allowed to clear and therefore cannot farm, the value of this land was reduced by $200 000. The return to a landholder of a patch of scrub can be negative if it is just a habitat for feral animals … (Jane Manchee, sub. 83, p. 1)

As similar quality rural properties vary widely in historic use there will be wide variations in value under this Act. Properties that have been conserved by minimum cultivation should have a higher value due to higher fertility, but these are now restricted use properties with a much lower value and a lower productive capacity. (Raymond Perkins, sub. 86, p. 2)

Since the introduction of the regulatory regime, participants observed that the difference in value between 'developed' and 'undeveloped' land — land with native vegetation that requires a development consent to clear — had, in many cases, widened considerably. The differential no longer reflected just the costs of clearing and bringing land into production, as well as its relative productive capacity (soil quality, topography etc), but also reflected the impact of increasing legislative restrictions on landholders' ability to use and develop the land. The Leverton Pastoral Company argued that:

> Land that has not been cleared has depreciated in value to the extent where it is very difficult to sell in our area especially as our area has a predominance of farming. The value difference is no longer what it would cost to clear the land but rather like comparing gold to rock. No one wants rock and everyone wants gold. The laws have

9 A number of participants (such as Narranda Shire Council (sub. 72), Jane Manchee (sub. 83) and the Leverton Pastoral Company (sub. 96)) referred the Commission to a study by Professor Jack Sinden (sub. 15) into the impacts of native vegetation regulation on land values in northern New South Wales. This study is discussed briefly in appendix K.

> punished the landowners who preserved native vegetation and have significantly benefited those that have developed. (sub. 96, p. 2)

Russell Gillard (sub. 36) observed how he purchased a 1600 acre property in 1995 with the intention of developing approximately half of the property for a mix of agricultural purposes. Difficulties in obtaining development consent have meant that he has been only able to develop 100 acres of the property:

> … our plan was to develop the farm to partially or fully sustain us in retirement and/or [en]able us to retire early. Without the ability to develop further, our plans will not be a reality, our future is unsure.
>
> The value of the property is not known, we have not tried to sell it, however we own 1600 acres in total, we have the use of 100 acres, that is $1/16^{th}$, or 6.25 per cent. Would you buy a 16 story office block, where you could only lease out one floor? I doubt it. Yes, the value of the property has been drastically affected. (sub. 36, pp. 1–2)

Property values have also been affected by the uncertainty as to how the regulations might evolve over time. In relation to the *Wilderness Act 1987*, Rod Young observed:

> … the problem with the Wilderness Act as it stands is that an area is nominated. It is then assessed. If an area is identified as the potential for wilderness it is only then that the owner of the land has the right to say no and it will not go through to declaration. However, the blot of nomination remains on that land and as a result this process has lowered the value of those properties. (trans., p. 946)

Impact on investment patterns

The decision by landholders to undertake investment is determined by a number of factors, including the real rate of interest, expectations about commodity prices and developments in technology. Native vegetation and biodiversity regulations can have a significant impact on the decision to undertake investments by affecting the costs and risks associated with a particular investment. For example, costs associated with the application process may include compliance costs, the need to provide offsets, and lost production opportunities associated with the time taken to obtain approval. As discussed above, these costs can be considerable.

Regulation may also affect investment decisions by adding to the level of uncertainty associated with a proposed development. Changes in the interpretation of regulations, the discovery of threatened species in a particular area, and the listing of new species and habitats on the schedules of the TSC Act might possibly lead to new restrictions being imposed on land-use options.

The uncertainty associated with native vegetation and biodiversity regulations in New South Wales was cited by a number of participants as having negative implications for investment decisions (box C.12).

Box C.12 Participants' comments on the impact of native vegetation and biodiversity regulations on investment

> The [NVC Act] has detrimental effects on farm businesses, farm management, landholders' investments and rural communities … Over regulation of land clearing means uncertainty to land accessibility. For any farm business this jeopardises its productivity and in turn, reduces farm profitability. (P.A. and E.G. Gallagher, sub. 70, p. 1)
>
> The laws discourage investment in agriculture because you never know when the government is about to further restrict your rights to manage your land in the way that you see fit. I would not purchase land that had not been developed for farming. The laws certainly encourage further off-farm investment which only enhances the decline in regional NSW. (Leverton Pastoral Company, sub. 96, p. 2)
>
> The legislation and related regulations … make profitable new investment slow, tedious, more risky and expensive. (Euroka Station Partnership, sub. 167, p. 3)

Impact on the attitudes of finance providers

Although evidence was provided to the Commission about the ramifications of native vegetation and biodiversity regulations for investment, little evidence was provided on the impacts of the regulatory regime on finance providers' attitudes. Jane Manchee commented:

> Finance providers should speak for themselves but seem reluctant. They certainly let us know the obvious, which is that land not farmed, in this district, is worth much less than that which is farmed. This has a big impact on the landholders ability to obtain finance. (sub. 83, p. 2)

Similarly, the Euroka Station Partnership stated that the:

> Application and implementation of the legislation and regulations under review have negative impacts on collateral values through the placement of encumbrances on freehold title. Bank representatives are concerned about these aspects of the legislation particularly where their borrower customers are concerned. (sub. 167, p. 3)

In some instances, the impacts of the regulations on farm profitability and property values, combined with the uncertainty associated with the regime, could be expected to result in lending institutions reducing their valuations of properties, therefore increasing landholders' risk status.

Government measures to mitigate negative impacts

While some funding is provided to encourage voluntary conservation activities by landholders (for example, funding provided through the Native Vegetation Management Fund and property agreements — section C.2), there do not appear to be any measures to offset the negative impacts of the regime, particularly in the form of monetary assistance. This was cited as a serious flaw of the regulatory regime by landholders and associations that represent them. Landholders argued that they were unfairly bearing the costs associated with the retention and management of native vegetation.

The DLWC noted that information and education initiatives are available to landholders, which are aimed at lessening the impacts of the legislation where possible. For example, in the context of regional vegetation planning, the DLWC noted that:

> Regional vegetation management planning is not just about clearing controls and exemptions. [RVCs] are also examining alternative mechanisms to promote sustainable resource management through the development of incentive schemes, providing more accurate and relevant information, and property planning. This will provide landholders with the additional skills and resources to plan and manage their properties for the best economic and ecological outcomes. (DLWC 2002b, p. 4)

Generally, however, the comments received indicated that the measures introduced to mitigate the negative impacts of the legislation were considered to be inadequate.

Increased assistance to landholders to encourage the retention and management of native vegetation is a feature of the reforms announced in October 2003.

> To encourage land managers to actively manage and restore vegetation, current financial incentives will be targeted to on-ground action and the dollars distributed at a regional level. (DIPNR 2003a, p. 2)

In addition to funding for on-ground activities, funding will likely be provided for a revolving fund to purchase properties of high conservation value. The details of incentive programs are yet to be announced.

C.8 Impacts on regional communities and other economic activities

Participants noted that the impacts of regulations on farm productivity and property values also have implications for regional communities. To the extent that production and incomes of landholders decline, this can be expected to be reflected

in the demand for services (labour and other) in the regional communities. P.A. and E.G. Gallagher observed:

> The impact of native vegetation clearing regulation has many adverse effects beyond the farm gate. If growth and productivity of a farm are diminished, the flow-on effect to the larger rural community means businesses, contractors, labourers and financial services will suffer. (sub. 70, p. 2)

Moreover, restrictions imposed on land use that affect government valuations of property will affect the rate base of local governments. It was also noted that properties of high conservation value purchased by organisations such as the NPWS or non-government organisations (such as the Australian Bush Heritage Fund) are excluded from the rate base. A landholder entering a voluntary conservation agreement is entitled to a rebate, which further diminishes the rate base. The use of rebates as an incentive for landholders to enter into voluntary conservation agreements concerned the Local Government Association and Shires Association of New South Wales:

> The Associations oppose the rate rebates as a conservation mechanism due to concerns about the inequities in the distribution of the rate burden across the local community. Conservation benefits extend beyond local boundaries, so it would be more equitable for the costs associated with the provision of rate rebates to be shared across the State. (sub. 178, p. 4)

The Commission received no information regarding the impact of the NSW vegetation regimes on other economic activities, such as infrastructure development.

C.9 Summary

Native vegetation and biodiversity regulations in New South Wales appear to have resulted in significant impacts on some landholders and farming practices. Evidence suggests that the distribution of impacts is uneven across regions, and often across properties within regions — with the impacts determined by the extent and type of native vegetation on properties. This led a number of participants to question the equity of the regimes, arguing that certain landholders were unfairly bearing the costs of pursuing environmental objectives.

Regulation has affected farming practices in a number of ways. As well as restricting broadscale clearing, participants noted that regulations often had significant implications for landholders intending to change land use or to adopt new technology (for instance, new irrigation systems), as well as their ability to undertake normal farming practices (fencing and paddock rotations).

Concerns were also raised about implementation and administration of the regime.

- The slow development of RVMPs has meant that the implementation of a regional framework for vegetation management, an objective of the NVC Act, has not eventuated.
- A lack of consideration given to the economic and social aspects of applications to clear native vegetation. The issue of how to consider trade-offs between development applications and the potential impacts for threatened species appeared particularly problematic.
- There was a lack of transparency in the decision-making process under the NVC Act. This, for example, may have encouraged perceptions that economic aspects of proposals were not given appropriate consideration and/or that the provisions of the Act were inconsistently interpreted across regions and properties.
- There was considerable uncertainty associated with the implementation of the regimes. This was a result of the complexity of the legislation and uncertainty as to how the provisions of the regime were being interpreted and implemented.
- Compliance with the legislation was also seen as a problem with the suggestion that illegal clearing may be undermining the objectives of the NVC Act and the TSC Act.

In terms of environmental objectives, it appears the NVC Act has resulted in a reduction in the rate of native vegetation clearance, although the extent of the reduction is not clear. Generally, there was criticism that the reduction in clearing has been inadequate. However, any assessment is complicated by a lack of clearly-specified native vegetation or, more importantly, broader environmental targets. It is misleading to count just the number of hectares cleared, or not cleared, disregarding their location, conservation value, and the value of agricultural production.

Participants also provided evidence that, in some cases, native vegetation and biodiversity regulations were contributing to poor environmental outcomes. Restrictions on the removal of native vegetation may affect landholders' ability to undertake certain activities that are beneficial to the environment, such as managing invasive weeds and controlling feral animals. Dissatisfaction with the regime may also be contributing to an unwillingness among landholders to undertake voluntary conservation efforts.

The legislation introduced by the NSW Parliament in December 2003 appears to address many of the issues raised by participants to this inquiry. Importantly, the reforms aim to improve the regional approach to native vegetation management and have the potential to reduce the complexity of the regulatory process. There will be

greater flexibility to manage regrowth and to change land use. That said, broadscale clearing will not be allowed unless it is considered to improve or maintain environmental outcomes.

Although there has been a move to strengthen the compliance and enforcement framework, the importance of encouraging voluntary compliance is acknowledged in the reform package. To this end, funding has been increased significantly.

D Victoria

D.1 Introduction

Over the last 170 years there has been significant clearing of woody native vegetation in Victoria to provide land for housing, agriculture and mining activities. It is estimated that in that time around two-thirds of pre-1800 forest and woodlands — which covered close to 90 per cent of the State — has been cleared (Woodgate and Black 1988). This represents an average rate of clearing in the vicinity of 80 000 hectares per year.

Of the remaining native vegetation, only about 13 per cent (1.1 million hectares) is on private land — which makes up over two-thirds of the State. Over 90 per cent of the original tree cover on private land has been cleared. An estimated 7.4 million hectares of vegetation is on public land. Relatively, this is the largest level of clearing of all States and Territories, reflecting the suitability for agriculture of much of Victoria's land and climate.

Woodgate and Black (1988) estimated an average gross clearing rate (excluding reforestation) of around 15 400 hectares per year between 1972 and 1987. Annually this clearing represented less than 0.1 per cent of the State's land area, close to 0.2 per cent of remaining woody vegetation and about 1.4 per cent of the remaining native vegetation on private land.[1] Around 13 000 hectares of this clearing was on private land, much of it around Mildura, Horsham and Portland during the early and mid 1980s. Woodgate and Black (1988) note that the rate of clearing slowed in the late 1980s due to a greater awareness of land degradation and the removal of government incentives to clear land.

Following the introduction of controls on clearing native vegetation into the *Planning and Environment Act 1987* (PE Act) in 1989, permanent loss of woody native vegetation in Victoria in recent years has been estimated (using satellite imagery) at around 2500 hectares per year (DNRE 2002).

The Victorian Government (sub. 185) indicated that 19 of the 90 known species of non-marine mammals, which existed in Victoria at the time of European settlement,

[1] The net clearing rate, after allowing for revegetation, was about 10 400 hectares per year.

are now extinct in the State, with many others having reduced populations and distributions. Over 900 species of Victorian plants are considered to be rare or threatened.

D.2 Description of the regulatory regime

In Victoria there are two major pieces of State legislation that regulate native vegetation clearance (PE Act) and the conservation of biodiversity (*Flora and Fauna Guarantee Act 1988* (FFG Act).[2] This legislation operates as part of a broader framework of sustainable land management and environmental protection policies (such as catchment management) which is outlined further below.

Vegetation clearance

Regulation of native vegetation clearance in Victoria does not involve separate native vegetation legislation. Rather, it is achieved via planning schemes and related permit requirements established under the PE Act. Native vegetation retention controls were introduced under the PE Act in 1989.

The purpose of the PE Act is to:

> … establish a framework for planning the use, development and protection of land in Victoria in the present and long-term interests of all Victorians (s. 1).

The objectives of the PE Act are:

(a) to provide for the fair, orderly, economic and sustainable use and development of land;

(b) to provide for the protection of natural and man-made resources and the maintenance of ecological processes and genetic diversity;

(c) to secure a pleasant, efficient and safe working, living and recreational environment for all Victorians and visitors to Victoria;

(d) to conserve and enhance those buildings, areas or other places which are of scientific, aesthetic, architectural or historical interest or otherwise of special cultural value;

(e) to protect public utilities and other assets and enable the orderly provision and coordination of public utilities and other facilities for the benefit of the community;

[2] In Victorian planning schemes native vegetation is defined as plants that are indigenous to Victoria including trees, shrubs, herbs and grasses. Plants indigenous to Victoria are those species that occurred naturally within the State before European settlement.

(f) to facilitate development in accordance with the objectives set out in paragraphs (a), (b), (c), (d) and (e);

(g) to balance the present and future interests of all Victorians (s. 4).

Part 1A (s. 4A) of the PE Act allows the Minister to prepare or approve standard planning provisions (the Victorian Planning Provisions (VPP)) to 'provide a consistent and coordinated framework for planning schemes in Victoria'. Within this state-wide framework, responsible authorities (usually municipal councils) have scope to develop their own tailored provisions considered appropriate for their municipality. These local provisions cannot obviate the need for a planning permit where this is required by the PE Act. The Minister can also prepare a planning scheme for any municipality.

The VPP require that in planning schemes established under the PE Act, a planning permit needs to be obtained to remove, destroy or lop native vegetation. The VPP provide a range of exemptions from these permit requirements, many of these to facilitate normal rural management practices. These exemptions include:

- clearing on properties that are less than 0.4 hectares in size;
- clearing regrowth that is less than 10 years old where the land is being re-established or maintained for cultivation or pasture;
- cutting of reasonable amounts of wood for personal use;
- clearing of vegetation presenting an immediate risk of personal injury or property damage;
- clearing to make fire breaks (up to 6 metres wide) or for periodic fuel reduction burning;
- clearing as a result of grazing by domestic stock or moving stock along a road;
- clearing to the minimum extent necessary, and not more than 10 hectares, to remove burrows for vermin control (after obtaining permission from the Department of Sustainability and Environment (DSE));
- clearing of dead vegetation and certain types of native vegetation (for example, bracken);
- clearing under the *Catchment and Land Protection Act 1994* (CaLP Act);
- clearing of native vegetation planted for timber production, agroforestry, shelter belts, woodlots, street trees, gardens and horticultural purposes; and
- clearing necessary for carrying on an extractive industry.

Local planning schemes can override some of these exemptions. For example, in the West Wimmera Shire, a permit is required to remove, destroy or lop dead native trees, because they may provide habitat for the Red-tailed Black Cockatoo.

Although the administration and enforcement of planning controls over clearing generally rests with municipal councils as the 'responsible authority', for applications involving an area of clearing greater than 10 hectares, councils must seek the view of the DSE as the 'referral authority'. Its advice (including refusal of a permit or placing conditions on a permit) must be followed, hence providing DSE with effective overriding power in such cases. For areas under 10 hectares, councils may seek advice from DSE regarding a clearing application but in general are not bound to accept it.

The responsible authority may grant permits subject to conditions.

Protection of biodiversity

Along with the native vegetation controls in the PE Act, the main Victorian legislation for protecting biodiversity is the FFG Act which also covers sustainable use of native flora and fauna.

The FFG Act was the first State biodiversity legislation in Australia. Rather than the broad habitat protection provided by the PE Act, the FFG Act is specifically targeted at identifying and preserving particular threatened species and communities and identifying and controlling processes that may threaten biodiversity. Department of Natural Resources and Environment noted:

> The Act seeks to put in place preventative management mechanisms to ensure no biota or ecological communities become extinct and that the processes that threaten biodiversity are identified and addressed. The Act is far broader than 'endangered species' legislation, covering ecological communities; potentially threatening processes; community involvement in conservation; a strategic approach to biodiversity conservation and sustainable use. (DNRE 2003)

The purpose of the FFG Act is:

> … to establish a legal and administrative structure to enable and promote the conservation of Victoria's native flora and fauna and to provide for a choice of procedures which can be used for the conservation, management or control of flora and fauna and the management of potentially threatening processes (s. 1).

The Act defines fauna as any animal life (excluding humans) indigenous to Victoria, in any stage of biological development. Flora is defined as any plant life indigenous to Victoria, in any stage of biological development.

Under the FFG Act (s. 10), threatened species or ecological communities of flora and fauna, and potentially threatening processes can be listed by the Minister after recommendation from the Scientific Advisory Committee established under the Act. To be listed, flora or fauna must be in a demonstrable state of decline likely to result in extinction or significantly prone to future threats likely to result in extinction. Potentially threatening processes need to pose, or have the potential to pose, a significant threat to the survival or evolutionary development of a range of flora or fauna. Anyone can make nominations (supported by prescribed information) for listing (or repealing of listing) of flora, fauna or threatening processes.

When a listing occurs under the Act, an Action Statement must be prepared by DSE identifying actions that have been, or will be, taken to conserve the species or community or to manage the potentially threatening process.[3] As well as relevant nature conservation matters, the statements must also consider relevant social and economic issues. To date, over 120 Action Statements have been produced.

Both living and non-living flora listed under the Act have legal protection. A permit must be obtained from DSE (s. 47) to collect or trade in protected native plants or to undertake works (including clearing native vegetation) or other activities which might kill, injure or disturb listed native plants or other declared flora. However, an exemption is provided to private landholders if the flora are not sold.

The Act (s. 20) allows DSE to determine that part or whole of the habitat of any taxon or community of flora or fauna that is critical to its survival.[4] DSE is also able to make Management Plans for any taxon or community of flora or fauna or potentially threatening process. It must consult with any landholder or water manager who may be materially affected by the plan and prepare a draft plan for public comment. The plan must indicate how flora and fauna conservation and management objectives are to be implemented and how progress is to be assessed. It must also state the nature conservation and the social and economic consequences of the plan and indicate when it should be reviewed (s. 23).

Section 26 of the FFG Act allows the Minister to make interim conservation orders to conserve the critical habitat (on land or in water) of a taxon of flora or fauna that has been listed, or nominated for listing, as threatened or potentially threatened. The

3 For example, the predation of native wildlife by the Cat *Felis catus*, was listed as a potentially threatening process and an Action Statement was produced in March 1997, outlining the actions to be taken to ameliorate the adverse effects of this process. These proposals included continuing education programs, control programs and regulation of the keeping of cats in sensitive areas.

4 The FFG Act defines taxon as a taxonomic group of any rank into which organisms are categorised.

Minister must consider nature conservation matters and the social and economic consequences of making the order.

The order may provide for the conservation protection or management of flora, fauna, land or water within the critical habitat, the prohibition or regulation of any activity or process taking place on that habitat, and the prohibition, regulation or management of activities outside the habitat which are likely to adversely affect it. The order can also specify work or activities that are to be undertaken. Any person can make a submission about the interim conservation order and those owning critical habitats must be consulted before it receives Ministerial approval. An order operates for two years and can be amended by the Minister during that period. Where there is any conflict between them, the conservation order prevails over any planning scheme.

Section 43 requires compensation to be paid to landholders for financial loss suffered as a direct and reasonable consequence of the making of an interim conservation order and of having to comply with that order. Section 7(3) allows the provision of grants and other incentives to encourage the achievement of the flora and fauna conservation management objectives of the Act.

Catchment management legislation

In common with a number of other jurisdictions, regulation of a range of land and water conservation issues in Victoria has been rationalised into a regional framework. The CaLP Act replaced and integrated various Acts dealing with soil conservation and control of vermin and noxious weeds. While the sole focus of the CaLP Act is not preservation of native vegetation and biodiversity *per se*, the Act's operations will have a significant impact on them (for example by reducing land and water degradation). Targeted native vegetation retention and regeneration will also be an important part of catchment management strategy.

The Victorian Catchment Management Council stated that the CaLP Act system, known as the Catchment Management Framework, was:

> … derived from regional community land management activity — predominantly the Landcare movement. The framework is based on a recognition that over 64 per cent of Victoria's landscape remains privately owned and community participation is required to address natural resource management and sustainability issues. (VCMC 2003)

The Victorian Government indicated that the purpose of the CaLP Act is to:

> … set up a framework for the integrated management and protection of catchments; encourage community participation in the management of land and water resources and set up a system of controls on noxious weeds and pest animals. It provides for the

> declaration of special areas and the development of management plans to address specific land management issues in those areas. (sub. 185, p. 13)

Nine (non-metropolitan) Catchment Management Authorities (CMAs) were established under the CaLP Act. They brought together the roles of a number of groups previously providing advice on single issues. In introducing the legislation the then Minister indicated that CMAs would:

> … encourage a coordinated approach to the management of natural resources within their region in close cooperation with the regional community, particularly land-holder groups, local government organisations and water authorities and promote community awareness and involvement. (Victorian Legislative Assembly 1994, 5 May, p. 1621)

CMAs develop and implement Regional Catchment Strategies (s. 24) which assess the extent and causes of land degradation. These strategies set out objectives for the quality of land and water resources, and set out a program of measures to improve and monitor land and water use and to treat land degradation. These measures have included promoting sustainable agricultural and land management practices, such as the introduction and management of perennial pasture species, regeneration of remnant vegetation and tree planting.

While not limiting the programs a strategy may contain, section 24(3) focuses on cooperative mechanisms such as research, educational programs, land management advisory services, land use planning and incentives for better land management. A CMA can recommend to a planning authority established under the PE Act that amendments be made to a planning scheme to give effect to the catchment strategy.

CMAs have also been used as the vehicle for developing Regional Native Vegetation Management Plans as part of their regional catchment strategies. These plans will be used to inform the decision making of planning authorities when assessing vegetation clearance applications and other environmental issues in an integrated way.

The CaLP Act establishes general duties of land owners (s. 20) to take all reasonable steps to: avoid causing land degradation which may cause damage to another property; conserve soil; protect water resources; eradicate regionally prohibited weeds; prevent the growth and spread of regionally controlled weeds; and control established pest animals.

Land owners must also take all reasonable steps to prevent the spread of regionally controlled weeds and established pest animals on roadsides adjoining their land. DSE can direct a land owner to eradicate or control noxious weeds or pest animals. The costs of these actions are to be borne by the land owner. DSE can issue land

management notices (s. 37) to land owners who do not meet these obligations, (including their general duties under s. 20).[5]

A CMA can also recommend to the Minister that land in its region be declared a special area (s. 27) and it can prepare a plan to deal with specific land management issues in that area. These plans must state a program of action to be taken to deal with the relevant land management issues, state the targets, costs and benefits of that action and allocate responsibility for taking and bearing the costs of the action (s.30).

Land owners may be required to observe land-use conditions recommended in a special area plan (s. 33). The plan must include an estimate of the total cost of complying with these conditions, including any decrease in the value of land or financial loss likely to result, and provide a method of apportioning this cost between land owners and others who will benefit from the plan, and between the properties to which the conditions will apply (s. 30(3)).

Other legislation and activities

There are a number of other pieces of State legislation which, while not having vegetation or biodiversity protection as their main objectives, do contain provisions that can impact on these matters. For example, the *Wildlife Act 1975* and *Fisheries Act 1995* provide for protection of endangered fauna. Other Acts, such as the *Mineral Resources Development Act 1990* and the *Forests Act 1958*, refer to protection of biodiversity.

The Victorian Government (sub. 185) observed that its approach to the conservation of native vegetation and biodiversity goes beyond regulatory mechanisms. It noted a range of initiatives including: government assistance to private land conservation programs, such as Land for Wildlife and Trust for Nature; programs such as the Natural Heritage Trust and Landcare, which assist landholders to achieve improvements in native vegetation and biodiversity; and the direct purchase by Government of properties considered of particular environmental value.

It also noted the BushTender scheme, which aims to achieve improved biodiversity outcomes, beyond those required by the regulatory regime, in a cost-effective way. BushTender provides the opportunity for landholders to bid to provide management

[5] Among other things, land management notices may prohibit or regulate land use or land-management practices and require action to improve land-management practices, prevent or minimise land degradation or rehabilitate degraded land. They can only be issued after attempts to reach agreement on appropriate remedial actions have failed and only with the consent of the relevant CMA (s. 39).

services to improve the quality or extent of native vegetation on their land. In this way, it provides an indication of the cost of producing the environmental services the community receives from management of native vegetation.[6] Unlike the clearing restrictions in the PE Act, BushTender also requires the Government to prioritise its environmental objectives because public funds are being expended. A number of trials of the BushTender scheme have been carried out in the north east and north central regions and in Gippsland, involving nearly 5000 hectares of significant native vegetation and the expenditure of $1.2 million over the period of the management agreements.

The Victorian Farmers' Federation (VFF) considered that the Government's reliance on the PE Act to conserve vegetation, detracted from the potential of BushTender:

> The VFF believes that BushTender has great potential to be expanded and to provide the framework for cost sharing of Victoria's environmental responsibilities as an ongoing, market driven cost-sharing arrangement. Yet, this program, which had so much potential, appears to be floundering. Payment for environmental management outcomes is not very attractive to government when the alternative is draconian legislation which requires the landowner to protect all indigenous flora and fauna at his or her own cost anyway. (sub. 149, p. 14)

D.3 Development of the regulatory regime

The permit requirements for clearing native vegetation were introduced into planning schemes in 1989 with little, if any, consultation. This lack of consultation may have reflected concerns about panic clearing if advance notice were given.

Because native vegetation clearing restrictions are implemented under planning schemes (and government policy statements and other documents guiding these schemes), important changes can be made to their provisions and operation without the same degree of scrutiny as legislative amendments. Changes in approach, such as the 'no net loss' of vegetation and now the 'Net Gain' objective, are implemented by introducing new guidelines underlying the planning scheme which provide broad direction to responsible authorities and referral authorities.

Several participants were concerned that the regulations implementing the planning scheme requirements were developed and amended without consultation with landholders.

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6 To the extent that landholders also receive some private benefit from management of the vegetation concerned, bids should be somewhat below the total cost of these management activities.

Paul McGowan of Barnawartha commented:

> It is the bureaucrats that make the regulations and the community which I represent here today is completely excluded from those situations. It should be the community making the regulations, and in the community we have got enough wise, experienced, committed people to know what is the right thing to do with the land. (trans., p. 1335)

Timber Towns Victoria argued that greater consultation with landholders could be achieved without compromising environmental objectives:

> In the future, governments could place a temporary suspension on the issuing of permits for land clearing while they consult with landholders and the community, prior to the development and implementation of any biodiversity/native vegetation legislation. This would allow for local knowledge and experience to be properly incorporated in the legislation. (sub. DR263, p. 5)

DNRE (2002) noted that there had been no comprehensive review of the native vegetation regulations since their introduction in 1989. Moreover, the VFF was critical of the time taken to produce operational guidelines for the new Net Gain assessment approach outlined by DNRE (2002):

> The Framework was released in August 2002, but it is only now that Operational Guidelines for the interpretation of the Framework are being produced. It is ironic that guidelines are needed to interpret a framework that was designed to provide direction for the interpretation of the VPPs. All of this will be available 14 years after the original VPPs were introduced. (sub. 149, p. 6)

The Victorian Government (sub. DR323) stated that guidelines for native vegetation control have been in place since 1990.

Regional Native Vegetation Plans are being developed involving consultation with native vegetation committees in each CMA. These committees have developed draft plans that are awaiting ministerial approval. These will be part of the framework supporting the native vegetation provisions of the VPPs. Because the CMA process is regionally based there is greater potential for consultation with landholders, local environmental groups and other regional interest groups. However, the Victorian Government (sub. 185, p. 10) indicated that these plans were to 'set regional priorities to achieving Net Gain'. The impact of local input is hence somewhat constrained.

The VFF (sub. 149) expressed concern that draft regional vegetation management plans being prepared by CMAs may be altered without consultation at the departmental level to fit in with the Net Gain objective.

D.4 Promotion of environmental goals

Victoria's native vegetation and biodiversity legislation has a number of often inter-related goals. This section presents these and discusses the extent to which they have been achieved.

Objectives of the regime

Native vegetation clearance controls for private land are constituted under provisions of the PE Act, the overarching objective of which is 'to establish a framework for planning the use, development and protection of land in Victoria in the present and long term interests of all Victorians' (s. 1).

The specific objectives of the vegetation clearance provisions are to:

- protect areas of significant vegetation;
- ensure that development minimises loss of vegetation;
- preserve existing trees and other vegetation;
- recognise vegetation protection areas as locations of special significance, natural beauty, interest and importance;
- maintain and enhance habitat and habitat corridors for indigenous fauna; and
- encourage the regeneration of native vegetation.

Retention and management of native vegetation is also considered important for agricultural productivity by improving land and water quality.

In implementing native vegetation clearance controls the Net Gain principle is now the primary objective of the regime (that is, gains greater than losses on a quality/quantity adjusted basis). Goals are also established for sub-regions with specific priorities attached. Hence, regional Native Vegetation Plans are being developed. DNRE 2002 (p. 4) indicated:

> A priority for implementing Net Gain is to avoid clearing. Where flexibility is required to support landholders as they move towards more sustainable land use and limited clearing is permitted, a rigorous process of ensuring achievement of the Net Gain principles must be pursued through strict application of the offset requirements.

Net Gain is measured on a combined quality and quantity basis. The conservation significance of an existing area of vegetation is determined by the conservation status of the vegetation types, the quality of the vegetation, the conservation status of any species present and other site-based criteria.

The Victorian Government is investigating ways in which offsets required in return for permission to clear native vegetation could be achieved through third-party agreements, thereby providing landholders with some flexibility in how they meet the offset requirements.

Section 4 of the FFG Act sets out the flora and fauna conservation objectives as:

(a) to guarantee that all taxa of Victoria's flora and fauna other than the taxa listed in the Excluded List can survive, flourish and retain their potential for evolutionary development in the wild; and

(b) to conserve Victoria's communities of flora and fauna; and

(c) to manage potentially threatening processes; and

(d) to ensure that any use of flora or fauna by humans is sustainable; and

(e) to ensure that the genetic diversity of flora and fauna is maintained; and

(f) to provide programs —

  (i) of community education in the conservation of flora and fauna; and

  (ii) to encourage co-operative management of flora and fauna through, amongst other things, the entering into of land management co-operative agreements under the *Conservation, Forests and Lands Act 1987*; and

  (iii) of assisting and giving incentives to people, including landholders, to enable flora and fauna to be conserved; and

(g) to encourage the conserving of flora and fauna through co-operative community endeavours.

The key objectives of the CaLP Act (s. 4) are to establish a framework for the integrated and coordinated management of catchments which will:

(i) maintain and enhance long-term land productivity while also conserving the environment; and

(ii) aim to ensure that the quality of the State's land and water resources and their associated plant and animal life are maintained and enhanced.

In addition, the Act aims to provide for the control of noxious weeds and pest animals and encourage participation by landholders, resource managers and the community in catchment management and land protection.

Landholder understanding of objectives

The Victorian legislation protecting native vegetation and biodiversity was among the earliest in Australia and there seems to be a broad understanding among landholders of the objectives of the regulation.

Nevertheless, the precise objectives and implementation of the regulations have changed over time and there remains a degree of uncertainty among landholders affected by the regulations. Submissions to this inquiry suggest that a major source of uncertainty comes from inconsistencies in application of the regulations across the State. Ron Hawkins (a West Wimmera Shire councillor) cited a lack of consistency in referral authority advice and requirements (sub. 111). The VFF argued:

> The regulations appear to vary significantly from Shire to Shire, and region to region, depending upon the way in which Department personnel or Shire planners are willing to interpret them. (sub. 149, p. 11)

In addition, as noted below, some landholders have observed cases where apparently small environmental benefits have led to large administrative costs (to government and landholders) and other costs to landholders. This has tended to cause disquiet among landholders about the underlying objectives of the regime and those implementing it.

Nillumbik Shire Council observed that for its region near Melbourne, landholders were not well informed about the regimes:

> Many landholders are still unaware as to their obligations as land managers as stated in the regulatory regimes. It is often as a result of approaching Council in relation to other matters that landholders are informed of their obligations. (sub. 174, p. 2)

This may reflect a high proportion of retirees and hobby farmers in that area.

The Victorian Government (sub. 185, p. 13) noted that the FFG Act 'drives various programs that foster community education'.

Have objectives been achieved?

As in all jurisdictions, there is a variety of often inter-related environmental and land-use productivity objectives underlying Victoria's native vegetation and biodiversity regulatory regime. These include retention of native vegetation for its own sake and as a habitat for fauna, special protection of particularly threatened flora or fauna, prevention and remediation of salinity and land erosion, eradication of weeds and feral animals and protection of water quality.

The achievement of these objectives is usually difficult to observe directly. However, for many of them the extent of native vegetation cover provides some (although highly imperfect) indication of their achievement. Hence, the extent of vegetation clearance and replanting is a commonly-used indicator of the performance of the regulatory regimes.

Native vegetation clearance

The extent of vegetation clearing that had occurred before 1989 limits the impact that the PE Act — which only operates on restricting future clearing — can have on the extent of native vegetation cover. The VFF noted:

> When the regulations were introduced in 1989, almost all of the large-scale land development in Victoria was finished anyway. Other than in East Gippsland, some of the Mallee and in the south-west corner of the state, where large tracts of native vegetation still remain on private land, there is no desire or need to engage in large-scale vegetation removal. In fact, farmers in Victoria have undertaken voluntary vegetation planting and protection on quite a large scale where it is needed by our active involvement in the Landcare movement. (trans., pp. 662–3)

Nonetheless, annual woody vegetation clearance appears to have fallen by around 10 000 hectares in the years after the introduction of vegetation clearance controls. It is now estimated to be around 2500 hectares per year. Since the clearing controls were introduced, government policy under the PE Act has moved to an objective of 'no net loss', and now to a 'Net Gain', in vegetation cover.

Although there may still be a small annual woody vegetation loss in Victoria, broader application of the Net Gain objective is likely to turn this around. West Wimmera Shire Council (sub. 110) indicated that over the last three years vegetation planting offsets in its region had led to increases in the number of trees (around ten times the number removed on permit) and the establishment of several permanent reserves and wetlands on private land.[7]

Some participants questioned the accuracy of this figure particularly as it relates to agricultural land where they contend native vegetation cover has been increasing. The VFF questioned the official estimate of 2500 hectare annual net loss in native vegetation in Victoria, particularly in relation to agricultural land:

> This estimate … must be considered questionable at best, as it is determined using satellite imagery and it does not differentiate between native vegetation removal for agriculture and native vegetation removal for urban development. The VFF suspects that clearing on rural land is more than offset by revegetation and planting works on rural land. (sub. DR284, p. 3)

Jack Vallance (sub. DR222) of Tempy noted significant voluntary planting of trees by landholders over the last decade to provide shade and shelter for stock. Paul

[7] There will be other causes of woody vegetation changes not picked up by the permit system. For example, reductions can occur because of legal clearing under permit exemptions, illegal clearing and fire, while increases can reflect voluntary plantings and revegetation under other regulations like the CaLP Act.

McGowan (trans., p. 1137) of Barnawartha considered that vegetation regrowth meant that the area of cleared land was decreasing in the north east of Victoria.

The variation in offsets required in return for clearing approval under the Net Gain principle depends on the environmental quality of the vegetation to be cleared. This is an attempt to recognise the loss in environmental value as a result of clearing. The revegetation costs imposed on landholders are then modified commensurately to reflect this and will be incorporated into the landholder's decision on whether to proceed. However, the policy does create incentives for landholders to fail to manage, or even actively to degrade, any areas of vegetation that they consider they may wish to clear in the future, in order to minimise required offsets. Gippsland Private Forestry Inc. (previously Gippsland Farm Plantations) noted:

> The quality of management of existing (and future) native vegetation is surely as important as reducing losses in area or extending the area of native vegetation in our rural landscapes. There appears to be little 'reward' to native vegetation owners for good past or future management. In fact one can argue there is in fact the opposite. Degraded native vegetation is generally given wider management options than quality native vegetation. The scope to undermine the intent of policy aiming to achieve sustainable native vegetation communities in the future by inadvertent or deliberate negative management actions will not be lost on landowners who do not support adoption of regimes they regard as unfair or unreasonable. (sub. 92, p. 2)

Where application of the regulations causes landholder disenchantment they can lead to the loss of landholder input in achieving environmental goals. Janet and Kevin Blake (sub. 188) of Barunah Park noted that they had been heavily involved in Landcare. However, concerns about excessive restriction on their ability to efficiently manage their property under the Victorian regime had led them to focus solely on farming. The National Farmers' Federation (NFF) noted the case of Sally and Gordon Moon of the Wulgulmerang area:

> The Moons have been involved in Landcare for a number of years and prior to the application to clear had received Landcare funding to enable the planting of 700 native trees on another area of their farm as part of a re-vegetation program. Since the refusal of the clearing permit and as a result of the way in which they were treated by the department, Sally and Gordon have not only cancelled their plans to be involved in the voluntary tree planting program but they have also left the Landcare program. (sub. 128, appendix H, p. iv)

The ecological processes being managed are often complex and overall outcomes can be difficult to predict. Mitchell Environment Group (from the Seymour area) noted that the requirement to remove pest plants can have unforeseen perverse consequences:

> … some programmes such as the Rabbit Buster programme saw the removal of all the bracken in places where it was the last vestige of habitat for small birds. Also the weeds programmes had unforseen impact on biodiversity in that blackberries and gorse in

> some areas were in fact protecting small native animals from introduced predators. Removal of these weeds without prior restoration of suitable native habitat meant local extinctions. (sub. 65, p. 1)

In other cases some types of native vegetation may occur in abundance in an area and requiring its retention would appear to provide little in the way of environmental services. Geoff Sebire of the Strathbogie Shire noted that Silver Wattle was widespread in his region:

> It is an indigenous species which seeds and more importantly suckers prodigiously. It is fast growing, short-lived and sometimes a curse in high rainfall hill country, and I experienced that. It is not threatened … There should be no restriction on its removal by authorities or by private individuals, particularly for fencing maintenance and construction. (trans., p. 1609)

Timber Towns Victoria expressed similar views about Coast Wattle and Sallow Wattle growing outside their natural range:

> Timber Towns Victoria believes landholders should have the ability to remove invasive vegetation that is not indigenous to the area without having to undertake an onerous permit application process. If this does not occur the environmental quality of their properties will not be enhanced and the legislation will not have achieved its desired goal. (sub. DR263, p. 5)

The native vegetation framework is implemented, at least initially, by local government. The Moyne Shire considered that lack of resources may compromise achieving the legislative objectives:

> Councils are neither resourced nor adequately skilled in native vegetation ecological assessments to effectively and efficiently implement the framework. (sub. DR229 p. 1)

Similarly, Corangamite Shire Council argued:

> Local Government is required to implement these regulations with very little or no training and resources. This has therefore reduced the effectiveness of the implementation and the ability of the community to clearly understand the restrictions placed on the general community. (sub. DR236, p. 2)

At times government objectives for land use may conflict with attempts to achieve biodiversity outcomes. Harry Haralambous of Melton, whose attempts to develop an orchard of viable size are being frustrated by requirements to protect native grass found on his property, commented:

> I'm in a green wedge area which is being preserved for agriculture or farming activities, but I can't … plant a tree. (trans., p. 682)

Frances Overmars of Mt Cotterell, where native grass is the predominant form of native vegetation, considered that the regulations had failed to protect the local environment adequately:

> Overall the regulations have been rarely applied even though the native grasses are reduced to less than 1% of their original cover. It is one of the most threatened ecosystems in Victoria and plants and animals within this system are extinct in this area or are bordering on extinction. It would appear that the regulations are not effective in controlling this spiral of destruction.
>
> We have salinity, soil erosion, weed infestation and water quality problems, which are directly linked to loss of native grasses, and the function that they perform in mitigating land degradation. (sub. 18, p. 1)

The Trust for Nature (Victoria) (sub. 129) also was concerned that agricultural activities were damaging or destroying native grasslands and considered that greater resources were required for compliance and enforcement of legislative requirements.

Initially, the major focus of regulation may have been on the more easily detectable clearance of woody vegetation. Submissions to this inquiry suggest that now native grass preservation is being more actively pursued either under Victorian legislation or the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (for example, VFF, sub. 149). However, any such developments are also likely to add to the costs the regime imposes on landholders.

Preservation of threatened species

To date, 231 plant species, 214 animal species and 35 ecological communities are on the list of threatened taxa and communities and 30 processes are on the list of potentially threatening processes under the FFG Act (DSE 2004).

The Victorian Government (sub. 185) argued that the success of various Victorian legislation and processes (including the FFG Act) in achieving Australian Government objectives in biodiversity conservation should be recognised and accredited under the EPBC Act.

Conversely, the Australian Conservation Foundation (ACF) (sub. 146) considered that the FFG Act has had very little impact in achieving biodiversity goals. It noted that no Interim Conservation Order (ICO) — the principal mechanism under the Act for regulating activities or uses which may harm a listed value — had ever been issued and that only one Critical Habitat Declaration (CHD) had been made and this was almost immediately revoked.

The ACF commented with regard to this CHD:

> The site where the species (the Small Golden Moths Orchid) has most recently been recorded, which had comprised the core of the critical habitat area, was promptly developed as a storage area for shipping containers. (sub. 146, p. 7)

The ACF argued that compensation provisions in the FFG Act played a significant role in restricting the use made of it:

> Ill-conceived 'compensation' is provided for, for any landholder who suffers financial loss as a result of the making of or having to comply with an ICO. The compensation provisions, forced through the Upper House of the Victorian Parliament, are very broad, and to a large degree are responsible for the fact that no ICO has yet been made (political obstacles around the making of CHDs are another factor here). (sub. 146, p. 8)

To the extent that the requirement to pay compensation to landholders under section 43 of the FFG Act discourages the issuing of ICOs in cases where the Government assesses the value of environmental benefits to the community as less than the costs they impose on landholder (and effectively the community), the outcome is an efficient one. Presumably if environmental benefits outweighed costs to landholders, governments should be willing to pay the necessary compensation.

However, it appears that many biodiversity objectives are being achieved without the need to pay compensation by preserving and expanding habitat under the PE Act. The VFF (sub. 149) considered that the FFG Act had been largely usurped by the requirements in the VPP. These provisions require that responsible authorities, in deciding on permits to clear native vegetation, must consider the role of native vegetation in conserving flora and fauna and the need to retain native or other vegetation if it is rare, supports rare species of flora or fauna, or forms part of a wildlife corridor.

Other objectives

Under the VPP, authorities responsible for deciding on applications for clearance of native vegetation must consider the role of native vegetation in preventing various forms of land degradation and the adverse effects on groundwater recharge (clause 52.17). These decision guidelines, if successfully implemented, should help prevent deterioration in land and water quality. The catchment management process also aims to deal with land degradation but generally in a less prescriptive way than the PE Act and focuses more on degradation issues rather than broader environmental goals.

Land degradation and water quality are long-term problems that can affect vegetation and biodiversity outcomes and agricultural productivity. It will be some time before the success of today's actions in addressing these problems can be assessed. Identifying what would have happened to land and water quality in the absence of current restrictions on vegetation clearance is particularly problematic. Hence the focus on assessing the success of native vegetation regulation in

rectifying these issues initially tends to be on input measures such as the extent and location of vegetation clearance and revegetation.

Level of landholder compliance

The Commission has received little direct evidence of non-compliance with the provisions of the various Victorian regulations. However, even in a small, relatively densely-populated State like Victoria, policing of the regulations is difficult and hence assessing the extent of non-compliance is problematic. It is unlikely that broadscale clearing would go unnoticed, but some smaller breaches of permit requirements might not be detected. The VFF (sub. 149) considered that councils rely significantly on landholders 'dobbing in' their neighbours as a means of finding breaches of the regulations.

Also, a number of participants indicated that compliance with the strict letter of the law could still see a failure to achieve the underlying environmental objectives — the attitude of landholders can make a significant difference to the environmental quality of native vegetation required to be retained on their land.

Drew Gailey from Echuca considered that landholders had options to circumvent the regulations without breaking the law:

> In the case of a grassland there is also nothing to stop someone overstocking, fertilizing, broadcast seeding or pugging up a paddock with livestock. Any of these acts can destroy the diversity of species, lessen its value or eliminate certain listed endangered species. (sub. 97, p. 1)

Similarly, confining excessive numbers of stock to graze in areas of native vegetation can significantly downgrade its quality.

The level of non-compliance is also likely to vary with the way the regulations are implemented. A number of landholders indicated that they are happy to assist achieve environmental goals, but need flexible administration to elicit this cooperation. Gerald McArdle from Geelong indicated:

> I had spent time and money in conjunction with Landcare to plant up to 16,000 trees in lots of 4,000 each along a creek area. When I queried the local government on possible removal of any of those trees should they present any problems, I was told that presently any or all removals would have to be matched with a replanting of four trees for every one removed provided a permit was issued. This meant if at some future time I required to remove these trees, I would have to replant and guarantee for life 64,000 trees, this was a stupid possibility, so I decided not to shoot myself in the foot, and refrained from planting any trees at all. (sub. 53, p. 6)

The difficulty in determining the level of achievement of underlying environmental goals means that any such sub-optimal outcomes resulting from landholder concerns are very difficult for policy makers to identify.

VFF considered that many landholders would often ignore newly-introduced requirements to obtain permission to clear native vegetation for vermin control:

> The fact is, few farmers will bother going to visit DSE to get a letter of permission to clean up a rabbit burrow. A farmer sees a burrow and gets rid of it while they are there. They don't go home, change, head off to the nearest regional DSE office, ask for a letter of permission and wait a number of days until it's approved and then go out and do the job. It's just another level of bureaucratic nonsense. Unfortunately, the change was gazetted without consultation with the VFF. (trans., p. 16)

Incentives provided by the regulatory framework

As with most jurisdictions, the main incentive for landholders to comply with the regulations in Victoria is fear of detection and punishment. Gippsland Private Forestry Inc.(formerly Gippsland Farm Plantations) considered that the Victorian regulatory framework did not provide sufficient motivation for landholder cooperation:

> … there is little attention given to the need for such landowners to have a convincing motivation to value native vegetation and regard it as an asset rather than a liability. There is insufficient focus on the fundamental drivers that will influence the behaviour of private landowners in order to achieve sustainable improved outcomes with respect to native vegetation management. (sub. 92, p. 2)

Particularly over the last 20 years many landholders have recognised the benefits to them of some revegetation of their properties. Timber Towns Victoria felt that regulatory restrictions on managing native vegetation meant that landholders were often not planting native vegetation when revegetating:

> Numerous landholders are confused and uncertain about the implications of native vegetation and biodiversity regulations on their farming activities. As a result some landholders are choosing to replant using introduced species because management of these species is not affected by onerous government legislation. This is unfortunate, as indigenous vegetation would provide many benefits to the landholder, environment and wider community. (sub. DR263, p. 2)

Jack Jones (trans., p. 1362) from the Ovens Valley commented that his Landcare group had difficulty convincing landholders to plant native trees because of concerns about their ability to clear this vegetation, if necessary, in the future.

Landholders will have an incentive to 'comply' with the regulations for their own benefit by not clearing existing native vegetation that provides some production or

amenity benefits to them. However, such behaviour would have occurred even without the regulation.

The FFG Act has an entitlement to compensation for landholders for the impact of an ICO. If landholders consider that compensation were likely to be adequate, they would be indifferent between the situation before and after an ICO was introduced. Indeed, to the extent that landholders receive private amenity benefits from conservation of endangered species and habitats — and a number of landholder participants have expressed such sentiments — they would be willing to bring attention to the existence of such species on their land.

However, the PE Act — which does not provide for compensation for restrictions on vegetation clearance — has been the main vehicle used to protect endangered habitats in Victoria. This means that, in the absence of private amenity benefits to landholders, there is a significant disincentive for them to report the presence of any threatened flora or fauna on their properties. Indeed, the regulation provides incentives for landholders to allow such species to deteriorate or to eradicate them.

Many landholders also complained of the detrimental impact on productivity and incentives of the poor management of adjoining publicly-owned land, and considered that this imposed costs on their farms and reduced the incentives of complying with environmental regulations on their own property.

Consideration of economic and social impacts

The Victorian Government's aim for the planning system is to 'establish a system that achieves a sensible balance between economic development, social growth and cohesion and the sustainability of Victoria's environment' (Thwaites 1999, p. 1). The range of exemptions to permit requirements partly reflect economic and social matters by allowing established rural practices, such as clearing of regrowth under 10 years old and personal use of wood from native vegetation, and by effectively exempting most urban properties via the exclusion of properties of below 0.4 hectares.

However, decisions on individual applications for permits for native vegetation clearance (and in particular any offsets required to achieve the Government's Net Gain objective) are based on environmental grounds. They generally do not take economic issues (such as the impacts on the landholder) or social issues into account.

Mr Fern Pty Ltd suggested:

> The requirement for compensation would improve the level of consideration of social and economic impacts on individual landholders. (sub. 46, p. 8)

The Victorian Government (sub. 185) argued that the possibility for permission to clear if suitable vegetation offsets are provided by the landholder lowered the total economic cost of the vegetation controls.

A number of the processes under the FFG, such as Action Statements, Management Plans and ICOs, must consider social and economic consequences, as well as nature conservation impacts. In addition, landholders are entitled to compensation for financial loss suffered as a direct consequence of an ICO. Landholders have not expressed major concerns to this Inquiry about the operation of the FFG Act to date.

D.5 Administration and implementation

Administrative costs

The Commission received a number of submissions arguing that the costs of complying with the Victorian regime are significant. The VFF (sub. 149) observed that farmers seeking permits can incur significant expense particularly where flora and fauna studies are required. It detailed the extensive and potentially very expensive administrative costs facing a proposed orchard development at Melton (trans., pp. 678–81). Ron and Margery Beach of Porepunkah had not applied for a permit to clear vegetation partly because of the anticipated expense and delay in the process (VFF, sub. 149, p. 17). Ian and Sue Jack (sub. 141) of Barnawartha expressed frustration at costly delays and inaccuracies in the planning process for establishing their proposed vineyard.

Local government is generally the responsible authority for administering and enforcing vegetation clearing controls. This can be costly to local government in regions with significant native vegetation and, if no additional State Government funds are provided, resources are likely to be limited. Nillumbik Shire Council indicated that:

> Monitoring and enforcement of the regulatory regimes is limited due to inadequate resources in the region. The State Government offers limited 'on ground' support to matters of this nature. (sub. 174, p. 3)

Because of the extent of past clearing, the average size of clearance applications in Victoria will be quite small, which in general would make the environmental benefits of refusing individual requests commensurately small. However, many of the administrative costs of dealing with applications are likely to be relatively fixed. In this situation, the case-by-case approval approach is likely to be an administratively expensive mechanism for achieving often relatively modest

environmental outcomes. The requirement to seek approval to remove a branch from a tree can create costs for administrators and landholders for very little benefit.

Janet and Kevin Blake (trans., p. 628) considered that the administration of the clearing controls was hampered by inexperienced staff who did not understand farming practices and the requirements of running a viable farming enterprise. The St James-Devenish Branch of the VFF (sub. 99) expressed similar views.

A number of participants, including Paul McGowan (trans., pp. 1333–5) of Barnawartha and Timber Towns Victoria (trans., p. 1733) considered that those implementing the regulations did not take sufficient account of the views and knowledge of landholders regarding the impact of land clearing applications on both landholders' operations and the environment.

Dispute-resolution procedures

The PE Act allows appeals (application for review) to the Victorian Civil and Administrative Tribunal (VCAT) by landholders against decisions to reject or modify applications for native vegetation clearance. The referral authority (currently DSE) can also appeal against council decisions or the conditions attached to them. Cases of alleged illegal clearing are also heard initially by VCAT.

The VFF (sub. 149) expressed concern that the Government had made changes to the planning regime during the appeals process in the Tripod Farmers case which had fundamentally altered the outcome. VFF also noted (trans., p. 670) that the administrative process can be expensive for landholders, with Tripod Farmers incurring legal costs of $52 000.

The VFF also commented on State Government changes to regulations — without consultation — which had previously exempted from permit requirements, removal of native vegetation to the minimum extent needed to destroy burrows for vermin control. These changes followed a landholder's successful appeal to VCAT:

> The tribunal found the farmer had undertaken the works in accordance with a legitimate exemption. The Department did not graciously accept the umpire's decision but rather amended section 52.17 of the VPP to require all farmers to seek permission from DSE if native vegetation is to be removed in the process of destroying rabbit warrens or fox holes. Given the extremely wide definition of native vegetation this in effect means farmers across the state must obtain written approval from the Department before they undertake any works to remove burrows for vermin control. (sub. DR284, p. 4)

Trust for Nature noted VCAT's preference for voluntary agreements when ruling on landholder appeals:

> The Victorian Civil and Administrative Tribunal (VCAT) sometimes refers applicants who are refused vegetation clearing permits to Trust for Nature, 'obliging' them to negotiate Trust for Nature conservation covenants or at least expressing a preference for these landowners to negotiate a Trust for Nature covenant over a Section 173 agreement as applied through local planning provisions. (sub. 129, p. 3)

D.6 Impacts on landholders

This section considers the impacts on landholders (both negative and positive) of the key Victorian regulations protecting native vegetation and biodiversity.

Negative impacts

Much of the land in Victoria worth using for agricultural purposes has already been cleared. Barson et al. (2000) estimate that over 90 per cent of the original tree cover on private land in Victoria has been cleared. For the majority of landholders who have cleared their properties (including of native grasses) to the extent they wished, and have maintained it in that cleared state, the vegetation clearance and biodiversity regulations will have little if any impact. Some landholders are voluntarily planting additional vegetation to improve their property's productivity, or for aesthetic reasons, or to improve environmental outcomes for the community.

Nonetheless, the pre-1989 clearing rates of between 10 000 and 20 000 hectares per year suggest an ongoing landholder preference to clear more land for agricultural production. The rate of native vegetation clearance slowed markedly — probably by over 10 000 hectares per year — following the commencement of clearance controls under the PE Act and has continued to decrease as policies for implementing the regime have become more restrictive. This suggests important negative impacts for some landholders, which will accumulate over time in line with unachieved preferences to clear vegetation. Submissions to this inquiry from landholders in most jurisdictions have indicated that clearing of a property in stages over time is a common practice for both financial and sustainability reasons. The VFF commented on the introduction of vegetation clearance controls:

> The government failed to recognise the severe impact this had on individual farmers, many who had bought uncleared land with the view to developing it for agriculture slowly and carefully over a number of years. (sub. 149, p. 6)

In addition, the introduction of new technology and scope for changing land use often requires removal of vegetation. West Wimmera Shire Council (sub. 112)

noted that in parts of its region, both switching land use from grazing to cropping and introducing larger machinery was being hindered by restrictions on clearing trees.

The implementation of the Net Gain principle to vegetation clearing applications has meant that, in many cases involving vegetation or habitat which is not of critical importance, landholders are not presented with an outright rejection of clearing. Rather they have an option to plant additional trees elsewhere and/or permanently set aside part of their property for conservation purposes. The cost of the regulation to landholders in these cases will be the lesser of the lost net income stream from not clearing and the cost of offsets required to obtain permission to clear.

For those landholders prevented from undertaking desired clearing, the costs can be significant. In some cases, viability of a property can be threatened if changes in costs or market conditions require a greater scale of operation, or, adoption of new technology, which involves clearing of native vegetation. For example, Shaun and Tonya Ellis from Tallandoon have a 1100 acre dairy property with 600 acres of native vegetation, of which they wished to clear 300 acres which had been cleared in the past. They indicated that the refusal of permission to clear had reduced the returns from their property for 15 years and was now threatening the viability of their enterprise. In addition, they considered that the environmental value of the land in its current state is minimal:

> The significant financial impact has resulted due to off-farm agistment costs and the need to purchase significant amounts of fodder to feed our stock. These costs would not be incurred if we were able to use this land in a productive manner ...
>
> We respect the preservation of the natural environment and have only ever wanted to clear the area of land, which had previously been milled. The native vegetation in this area is already limited due to the previous milling, with the land being overtaken with blackberries and vermin. These problems are spreading to our productive land, increasing the costs associated with controlling and maintaining our land. (sub. 14, p. 1)

Sally and Gordon Moon of the Wulgulmerang area (NFF, sub. 128, appendix H) were not granted a permit to clear 120 hectares of their property, which had been cleared 50 years earlier. Clearing for pasture would have increased carrying capacity of that land 30-fold from 0.5 dry sheep equivalents to 15 dry sheep equivalents.[8] The clearing was part of an expansion and development program to make the property a viable sheep and grazing property.

8 The conditions that would have been attached to the permission to clear (conserving up to two to four hectares of currently uncleared land for every hectare cleared) were considered too onerous by the Moons.

The VFF (sub. 149) provided a number of case studies outlining significant negative impacts that restrictions on native vegetation clearance can have on individual landholders. Several of these are presented in box D.1.

Gippsland Private Forestry Inc (formerly Gippsland Farm Plantations, sub. 92) considered that uncertainty regarding future directions in native vegetation regulations was discouraging the planting of native vegetation plantations. It argued that private forestry could provide economic and environmental benefits:

> It can represent a means to retain areas under forest (planted or native) on a property as a productive land use whilst also contributing the various property and catchment wide environmental benefits that forested areas so ably generate. (sub. DR250, p. 1)

Similar views were expressed by Timber Towns Victoria, which submitted:

> There is anxiety among landholders, investors and operators that current regulations in Victoria may prevent a landholder from harvesting his/her timber because, under the Native Vegetation Framework (2003), native vegetation in excess of 10 years old is considered to be remnant vegetation. Without clear guidelines for Victoria's Native Vegetation Framework this concern will persist. (sub. DR263, p. 6)

The introduction over time of the no net loss and now Net Gain objectives in implementing the PE Act controls, is likely to have further increased these impacts by reducing the extent of clearing allowed or by imposing other costs (in the form of revegetation requirements) on landholders given permission to clear.

A number of participants commented on inefficiencies and unnecessary costs in the implementation of the regime. West Wimmera Shire Council claimed that some responsible authorities had applied the regime incorrectly:

> In recent publicised cases landowners are being told they cannot clear the trees along fence lines or if they do they have to plant back large numbers of trees to compensate, when in fact this is not a requirement. (sub. 110, p. 4)

Reg Holt (trans., p. 686) was initially required to provide significant offsets for removing branches overhanging fencelines, but these requirements were later withdrawn. He also indicated other significant costs of not being able to clear small amounts of vegetation:

> Agricultural machinery has had to become wider to enable farms to remain viable. Sparse native vegetation may be close enough to prevent the passage of these machines through the paddocks and need to be removed. (sub. 87, p. 2)

Reg Holt's example indicates that some potentially substantial negative impacts on landholders delivered little in the way of environmental benefits.

Box D.1 **Negative impacts on landholders**

John and Lorraine Croft have a 2640 hectare property in north west Victoria (purchased in 1974). They were part-way through long-term clearing plans when clearing controls were brought in. Of the 900 hectares which remain covered in largely regrowth vegetation, they wish to clear about half and in return are willing to maintain and protect 150 hectares of existing mallee species. In addition to lost income (currently in the vicinity of $30 000 per year), the large area of retained native vegetation provides a means for pests and native animals from the adjoining national park to access crops grown on the farm. Council and water rates have to be paid on the uncleared and unused land.

Murray Davis from Dergholm had long-term plans to clear native vegetation on his property in order to raise productivity, but these were prevented by the introduction of vegetation clearing controls in 1989. Current council valuations of the uncleared portion of his land are around $100 per hectare compared to $1000 per hectare for his productive grazing land. Costs of clearing would explain some of this differential, but a large part will reflect the capitalised value of lost potential earnings.

Harry Haralambous purchased a 40 hectare weed-infested property for $1.2 million at Melton on Melbourne's north west fringe in 2000. He planned to develop it as an orchard. However, there are native grasses on the property and these cannot be removed or destroyed without a permit. He was required to provide a large amount of additional information such as a botanist's report in support of his clearing application. He argued that the native grass (which is not the predominant species on his land) will still grow if he develops the land. He has been offered a permit to develop the majority of his property if he enters into a covenant agreement to not develop 10 hectares.

Ron and Margery Beach have owned a 160 hectare beef cattle property in Porepunkah shire since 1966. Around 120 hectares is thick bushland. They wish to clear 48 hectares to improve productivity and offset cost increases. However, they have not applied for a clearing permit because of expectations about the time and expense of the process, and the likely permit requirements to permanently set aside the rest of the farm for conservation purposes. Animals from adjoining public land constantly damage the property fences while the weeds spread from that land are expensive to control. Rates are paid on the unused land.

Tripod Farmers purchased 28 hectares of land to grow lettuce. The property contained 11 scattered mature Red Gums which Tripod wished to remove as they reduced the quality of the lettuce crop. As a compromise to obtain a permit they proposed to remove only three trees and revegetate a 1.2 hectare area. A permit was granted, but on appeal to the Victorian Civil and Administrative Tribunal by the Department of Natural Resources and Environment (and after a government amendment to the local planning scheme) permission was granted to remove one tree in return for assorted offset conservation work. Tripod did not take up this option. The cost of the planning process to Tripod was over $50 000 while delays led to lost gross income of over $2 million.

Source: VFF (sub. 149, trans., pp. 662–717).

The Tripod Farmers' case (VFF, sub. 149) also imposed large costs on the landholder for what appear, on the face of it, to be relatively small environmental benefits (the saving of three trees). J. and M. Boardman (sub. 39) from She Oaks argued that preventing clearance of small areas of vegetation often has a negative effect on farming procedures and can stop development.

The above losses in income and additional costs imposed on landholders by restrictions on clearing vegetation will generally lead to lower property values for affected landholders. Neil Kerr from Drik Drik has 200 acres of his property (purchased before 1989) which, if cleared, could sell for around $2000 per acre:

> So I lose an asset of $400 000 ... This land is difficult to control, vermin and kangaroos proliferate, and cattle have to be handled using horses. Even then, because logs trip horses up, it's not a safe workplace. Meanwhile my neighbours with clear land continue to farm unfettered. (sub. 154, p. 2)

The FFG Act is aimed at particular problems of particular endangered species and their habitats and seems to have had very little impact on most landholders. This may partly reflect the compensation requirements to landholders contained in the Act. It may also indicate that many issues of biodiversity are now mainly handled by planning regulations controlling vegetation clearance, under which no compensation is payable.

Mr Fern Pty Ltd from Wyelangta was concerned about lack of resource security under the FFG Act:

> While we operate our business to a twenty-year plan, the permit to harvest tree ferns from private land issued under the Flora and Fauna Guarantee Act is issued annually and we must re-apply each year. We do not understand why we are not permitted the security of a longer-term permit. The lack of security is stressful. (sub. 46, p. 5)

Similar views were expressed by Steven Lawson (sub. 157) of Lavers Hill.

The VFF considered that the FFG Act had the potential to work well for landholders but had largely been overtaken by restrictions on clearing vegetation:

> The Flora & Fauna Guarantee Act is far less adversarial than much of Victoria's other conservation legislation and regulation, and appears designed around consultation and agreement, rather than command and control. There are also provisions within this Act for payment of compensation to landowners who are required to protect a critical habitat. It is felt that this legislation has been largely usurped by the VPPs, which has no provision for compensation and requires protection of all native species at the cost of the landowner. (sub. 149, p. 7)

Landholders who purchased or expanded their properties since the introduction of the biodiversity regulations and native vegetation clearance controls are likely to have paid a somewhat lower price for land containing native vegetation than they

otherwise would. In this case, at least some of the impact will have been borne by the original owner rather than the current owner. However, the strengthening of the regulations and the implementation of them over time makes it likely that in some cases only part of the impact will have been factored into sale prices.

Positive impacts

Selective retention or expansion of vegetation on a property can often improve productivity and provide aesthetic benefits to landholders.[9] A number of Victorian landholders outlined these benefits. The Mitchell Environment Group from Seymour noted:

> … native vegetation provides so many benefits, that is ecosystem services, eg salinity control, lowered wind velocities, shelter, habitat for pest eating birds and animals and so on. (sub. DR282, p. 4)

However, it could be expected that well-informed landholders would, of their own volition, undertake those actions affecting native vegetation and biodiversity that furthered their own interests. Hence, for these landholders, achievement of such benefits cannot be considered as a benefit of the regulations. Anthony Wait from Western Victoria argued:

> There seems to be an attitude that has developed that we as farmers are not capable of running our farms, and that what is imposed on us is simply done to save us from ourselves. I would argue that those of us who have large amounts of capital invested are in a better position to look after it. After all it is our livelihood, so why would we want to destroy it. Any farms that have been run down in this district have eventually been sold. The next owners have picked up the pieces and started again and have these properties back to their former productive capabilities. This is the free enterprise system. (sub. 43, p. 1)

To the extent that landholders are not well informed about the benefits to them of native vegetation and/or biodiversity, the regulatory process may have benefited them by improving their knowledge. Nillumbik Shire Council (sub. 174), situated in Melbourne's 'green wedge', considered the regimes had created greater public awareness of the benefits of retaining native vegetation. However, it noted that little practical on-ground advice was available to landholders from the State Government and that most assistance came from local government and Landcare. Several local councils (for example, Moyne Shire, sub. DR229 and Corangamite Shire Council, sub. DR236) submitted that they do not have the trained staff to fulfil such a role.

9 This need not be the vegetation type or location currently existing on the property and, indeed, may not need to be native vegetation.

There is little evidence of an educative role in applying the regulations: limited council and departmental resources appear to have been focussed on administration and enforcement of the clearing permit provisions. The negative landholder sentiment expressed to this inquiry about the native vegetation clearing regulations and their enforcement does not suggest a good environment for knowledge transfer. In any case, such benefits do not require regulations restricting clearing or protecting biodiversity. They could be delivered more directly and effectively by programs specifically designed to provide information to landholders.

Benefits of selective native vegetation retention can also accrue to the wider regional landholder community as well — for example, via the prevention of various forms of land and water degradation. Hence, targeted restrictions on vegetation clearing could potentially provide positive impacts for landholders in such circumstances (chapters 2 and 6). However, vegetation retained predominantly for its contribution to wider community conservation objectives is unlikely to provide net benefits to Victorian landholders. The East Gippsland and District Council (VFF) commented:

> We have no objection to the aim of minimising off-site effects — our only concern is to ensure transparency of the decision-making process. We are mindful of the possibility that the government and others might attempt to piggyback other outcomes in the name of minimising significant off-site effects. (sub. 187, p. 1)

The CaLP Act is directed at addressing issues of benefits of vegetation retention and replanting on a regional basis and contains mechanisms for allocating costs among landholders and others who will benefit.

D.7 Impacts on regional communities and other economic activities

Regional impacts

Even in the absence of regulations, annual vegetation clearance rates in Victoria are likely to have been relatively low because of the extent of previous clearing. For a number of regions where extensive clearing has already occurred, the impact of the controls, although sometimes very significant for the individual landholders affected, will be relatively minor for the region as a whole.

However, there are some areas of Victoria where the potential for clearing on private land is more concentrated. The VFF (trans., pp. 663–4) noted that East Gippsland, some of the Mallee, and the south west corner of the State were the only areas where there was likely to be a demand for any large-scale vegetation removal.

West Wimmera Shire Council observed that its shire contained significant areas of native vegetation and extensive wetlands and is also a major cropping and grazing area. As such, there is significant potential for agricultural activities to conflict with conservation objectives (sub. 110). The Council submitted that native vegetation controls were affecting small communities:

> Given the difficulties faced any prospective landowner may be discouraged from investing and existing landowners not undertaking development, which could yield significant economic benefits for the local and regional community as well as assisting to arrest the slide in rural populations. This is a significant social impact upon small communities. (sub. 110, p. 3)

The East Gippsland and District Council (VFF) (sub. 187) noted that East Gippsland had a very high rate of tree cover (83 per cent), much of it in State forests or parks. In view of this, it questioned the rationale for vegetation clearing restrictions which were inhibiting agriculture in an already depressed region.

The requirement for landholders to achieve a net gain in vegetation implies a decline in the area available for agricultural production. For its region, West Wimmera Shire Council (sub. 110) noted that on average, in its region, clearing permits required plantings of new trees close to ten times the number to be removed by landholders.

In examining observed outcomes in rural communities, it is usually very difficult to disentangle the impacts of environmental regulation from that of a range of other influences. In particular, a long-term decline has been occurring in many (but not all) smaller regional communities.

Impacts on other economic activities

The Prospectors and Miners Association of Victoria argued that the high fixed costs for small mining operations of the range of environmental regulations with which they had to comply had led to a serious decline in that sector. It stated:

> For an industry with such an incredibly small footprint we are over-regulated to a degree where any possibility for growth is strangled. The potential productivity of the mining industry is being destroyed by unnecessary red tape.
>
> It is time some reality returned to land use policy decisions particularly those made in relation to the mining industry. The financial return per hectare of land disturbed for mining is extremely high, the mining industry is a very efficient provider of jobs and wealth. (sub. 117, p. 3)

The Bush Users Group also considered that small miners had been significantly affected:

> These regulations range from excessive rehabilitation bonds, compensation for the use of crown land (despite the area being rehabilitated upon completion of work — often to a standard higher than before being worked), flora and fauna surveys, the 'net gain' requirement of the Government in relation to vegetation clearance, etc. (sub. 155, p. 9)

While large mining companies are more able to spread the costs of complying with regulation over greater output and a range of sites, small miners are likely to find the burden more onerous. In some cases, the cost to land users of regulations may be the failure to proceed with an otherwise viable project. The Prospectors and Miners Association of Victoria (sub. 117) considered that native vegetation regulation was one of the major contributors to the large decline since the early 1990s in applications for mining licences for areas of 5 hectares or less.

There are instances of costs to the mining industry associated with the implementation of the FFG Act. For example, in order to protect the habitat of several rare species of butterflies, permits for mineral exploration at Mt Piper have been refused.

DSE is the referral authority when Councils wish to obtain a planning permit to clear native vegetation on roadside reserves. These permits usually involve offset plantings. The Northern Grampians Shire Council indicated that its shire had 2913 kilometres of local roads, half of which had significant amounts of native trees. It pointed out that the majority of trauma on the roadside resulted from accidents involving single vehicles hitting trees. It argued:

> A road's purpose is primarily for public traffic and for another level of government to put restrictions on public safety through environmental controls is not acceptable. Alternatively the roads budget is funding net gain at the detriment to road safety. (sub. 150, p. 1)

Where road maintenance or widening involves clearing of native vegetation, VicRoads or local authorities may be required to make offsets for any permitted vegetation clearance. This additional cost may lead to the project being delayed, altered or cancelled if the benefits no longer justify the costs. If the project goes ahead and the construction authority's budget is fixed, other projects will be deferred. Alternatively taxes or rates would need to be increased to make up the shortfall. VFF (sub. 149) noted that the route of the Craigieburn bypass was altered, at considerable expense, to protect rare species of flora and fauna. Robin Weatherald of Strathbogie Shire (sub. DR271) noted that in the shire's road resealing budget, roadside vegetation management imposed a greater cost than the bitumen used for resurfacing.

Retention of trees close to the side of roads also can create a significant safety risk for occupants of vehicles which leave the road. In some cases, speed limits are being reduced to reflect the increased danger to road users where trees close to roadsides have not been cleared or trimmed.

For some regions in Victoria, native vegetation represents a tourist attraction. The Nillumbik Shire Council (sub. 174) noted that the extensive vegetation cover in its shire assisted in attracting visitors to the region. Conversely, the Bush Users Group (sub. 155) considered that eco-tourism from expanding national parks and reserves created few jobs in central Victoria.

There can be spin-off benefits from the regulatory regime for tourism in some Victorian regions, although generally not all vegetation retention is necessary to provide such benefits.

D.8 Summary

In general, application of Victoria's native vegetation clearance regulations involves relatively small areas of vegetation. In the years immediately before planning controls were introduced, annual woody vegetation clearance rates were about 15 000 hectares. Nonetheless, aggregating even relatively small desired annual clearance rates over a number of years will imply a more substantial impact of regulatory controls, particularly as the costs of regulation usually must be absorbed by landholders. Much of Victoria's agricultural land is highly productive and hence constraints on the area available for production, and on the introduction of new innovations, will tend to generate relatively higher costs for landholders.

There appear to be opportunities for reductions in negative impacts on individual landholders for little or no direct reduction in environmental benefits if higher cost/low gain outcomes were treated more flexibly. The clearing of trees and lopping of branches to maintain fencelines — a routine agricultural practice with apparent exemptions under the regulations — is a case at point. Removal of isolated paddock trees is another.

However, some developments in native vegetation regulation in Victoria appear to be towards greater regulatory control with, for example, new requirements to obtain approval for removal of vermin burrows when native vegetation may be disturbed — imposing high costs on both landholders and regulators.

Because landholders' preferred vegetation clearance mostly relates to small amounts of vegetation, the administrative costs for government and landholders tend to be commensurately higher relative to environmental benefits.

The extent of previous vegetation clearance in Victoria means that vegetation cover varies between regions. Also problems of soil and land degradation vary within and between regions. Hence application at a property level of the Net Gain in vegetation requirement for approval of clearing permits is not likely to result in the most valued revegetation being achieved. The development and implementation of regional vegetation plans may result in better environmental outcomes from clearance and revegetation activities. Government plans currently under consideration to allow required offsets to be made through third parties should also assist in this regard.

The BushTender scheme provides incentives to landholders to manage retained native vegetation and hence offers opportunities for attaining environmental outcomes more efficiently. Because it involves expenditure by government and competitive bidding by landholders, BushTender is likely to better prioritise the achievement of environmental services compared to the vegetation clearing controls in the PE Act, which achieve broad environmental objectives at relatively little cost to government. However, BushTender will only be applied to conservation measures above those required under the PE Act.

The negative effect that the regulations and their administration and the absence of compensation for landholder losses, have had on the attitudes of affected landholders has reduced their effort in providing public benefit conservation services.

Small mining operations in Victoria also appear to have suffered because of a range of regulatory requirements. The costs of this lost economic activity would need to be compared with the environmental and other benefits of the regulations concerned.

E Queensland

E.1 Introduction

For a large part of Queensland, particularly in the north, the relative extent of clearance of native vegetation since European settlement has been much lower than in other States. Of Queensland's total area of over 170 million hectares, an estimated 81 million hectares consists of woodland and forest ecosystems (NR&M 2003a).[1] Over 30 per cent of Australia's remaining woody native vegetation cover is in Queensland and significant areas of the State have extensive native vegetation cover.

Partly reflecting the extent of uncleared land, there has been far greater woody vegetation clearing in Queensland over the last decade than in any other State. From 1991 to 1995, the average annual rate of clearing was estimated to be 289 000 hectares, increasing to 340 000 hectares for 1995 to 1997 and 425 000 hectares for 1997 to 1999.[2] For the latter period, this represented over 80 per cent of the national area of woody vegetation clearance (ACF 2001). Most woody vegetation clearing in recent years has been of land with an over-storey and shrub foliage projective cover of between 20–30 per cent.

During 1999-00 — the year before the proclamation of the *Vegetation Management Act 1999* (VM Act) — estimated vegetation clearance increased by 78 per cent to 758 000 hectares per year. In the years leading up to the VM Act, clearing rates were much higher on freehold land, where clearing was largely unregulated. Around 60 per cent of land clearing was on freehold land (which makes up around 30 per cent of private land tenure).

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1 Data on vegetation coverage in Queensland come from the Statewide Landcover and Trees Study (SLATS), conducted by the Department of Natural Resources and Mines. The SLATS statistics refer to all woody vegetation including: remaining areas of native vegetation; disturbed areas of native vegetation; regrowth; and plantations of native and exotic species and domestic woody vegetation (NR&M 2003a).

2 NR&M (2003a) notes that vegetation change for 1988–91 has been analysed for the entire State, but that further checking is needed before results are reported.

Following the proclamation of the VM Act in September 2000, clearing fell to 378 000 hectares in 2000-01, the bulk of this reduction being on freehold land (NR&M 2003a). This represented around 0.5 per cent of Queensland's remaining woodland and forest ecosystems. However, much of this clearing was concentrated in particular areas (for example, the Brigalow Belt) and for those areas the percentage cleared would be much higher. In 1999-00, around 68 per cent of clearing occurred in areas mapped as remnant. This fell to 58 per cent in 2000-01. The remainder was clearing of non-remnant woody vegetation. The 500 000 hectare cap on the granting of clearing applications after March 2003, and the eventual cessation of broadscale clearing of remnant native vegetation after December 2006, will reduce these clearing rates substantially.

Apart from an initial meeting between departmental staff and the Commission, the Queensland Government indicated that it would not participate in this inquiry. Hence, information regarding the Queensland regulatory regime and the Queensland Government's views on particular issues have been based on published sources such as Hansard, press releases and government publications and websites.

E.2 Description of the regulatory regime

This section outlines the native vegetation and biodiversity regulatory regime that has operated in Queensland in recent years. Submissions to this inquiry have been based on experience under this regime. In March 2004, the Queensland Government introduced the Vegetation Management and Other Legislation Amendment Bill (VM Amendment Bill), which will make significant changes to the regulation of native-vegetation clearing. Some of these changes are noted below.

Queensland has separate regimes specifically targeted at managing native vegetation clearance on freehold land and on State-owned land (including leasehold land), together with legislation to protect native wildlife and preserve biodiversity. In addition, other State government legislation and local government laws and planning schemes also place some restrictions on vegetation clearance.

Prior to 2000, there were no general restrictions on clearing native vegetation on freehold land in Queensland, although a number of Acts imposed piecemeal limitations on land clearing. In addition, local governments were allowed to make vegetation protection orders under local laws in order to protect significant vegetation on freehold land. Since September 2000, clearance of native vegetation on freehold land has been covered by the VM Act in conjunction with the *Integrated Planning Act 1997* (IP Act).

Vegetation clearance on leasehold and other State-owned land is regulated under the tree management provisions (Part 6) of the *Land Act 1994*, which were not proclaimed until 1997.

The *Nature Conservation Act 1992* (NC Act) deals with conserving and managing native animals and plants and declaring and managing protected areas, such as national parks.

The Department of Natural Resources and Mines (NR&M 2001a) stated that the aims of Queensland's native vegetation framework are to achieve:

- the ecologically sustainable use of land;
- the protection of biodiversity and other environmental and social values;
- planning certainty for landholders, industry and the community;
- prevention of land degradation such as salinity and soil erosion; and
- protection of water quality within catchments.

Vegetation clearance on freehold land

In common with a number of other jurisdictions, native vegetation clearing on freehold land in Queensland is primarily regulated under the planning system. The IP Act is used to administer and enforce clearing permit requirements while the VM Act (and Vegetation Management Regulation 2000) provides the policy framework to guide the permit regime.

The purpose of the IP Act is to seek to achieve ecological sustainability.[3] This is to be achieved by:

> (a) coordinating and integrating planning at the local, regional and State levels; and
>
> (b) managing the process by which development occurs; and
>
> (c) managing the effects of development on the environment (including managing the use of premises) … (s. 1.2.1)

The IP Act (Schedule 8, part 1, item 3A) makes the clearing of native vegetation on freehold land assessable development. Hence, generally a permit is required before clearing native vegetation. Most of the IP Act is administered by local government,

[3] Section 1.3.3 defines ecological sustainability as a balance that integrates: protection of ecological processes and natural systems at local, regional, State and wider levels; economic development; and maintenance of the cultural, economic, physical and social wellbeing of people and communities. Section 1.3.6 further explains terms used in the definition of ecological sustainability.

but in the case of vegetation clearance, unless it is part of another sort of development requiring approval, applications are dealt with by NR&M.

Native vegetation is defined as a native tree or a native plant, other than a grass or mangrove. In Schedule 10 'clear':

(a) means remove or cut down, ringbark, push over, poison or destroy the vegetation in any way; but

(b) does not include

(i) destroying standing vegetation by stock, or lopping a tree; and

(ii) removing or cutting down, ringbarking pushing over, poisoning or destroying the vegetation in any way as a forest practice.

Schedule 8 provides a number of exemptions where clearing native vegetation on freehold land is not assessable development and hence a clearing permit is not required.[4] These include:

- clearing associated with building a single residence and associated buildings;
- clearing for 'essential management', including establishing or maintaining certain fire breaks, clearing vegetation that is likely to endanger people or property and clearing to maintain an existing fence, stockyard, shed, road or other built infrastructure; and
- clearing for 'routine management' in an area not deemed to be a remnant endangered ecosystem or not declared to be of high nature conservation value, or vulnerable to land degradation or not an area of unlawfully cleared vegetation. Routine management covers such matters as establishing a necessary fence, road or other built infrastructure that is on less than five hectares, clearing vegetation that is not declared remnant and supplying fodder for stock in drought conditions.

Clearing regrowth native vegetation on freehold land, being considered 'routine management', is generally not assessable development and hence is exempt from permit requirements. However, once regrowth which forms the predominant canopy, covers more than 50 per cent of the undisturbed predominant canopy and averages more than 70 per cent of the vegetation's undisturbed height it will be defined as remnant vegetation (VM Act schedule). As such, it becomes subject to permit requirements. Also, if regrowth is in an area declared as being of high nature conservation value, or vulnerable to land degradation, a permit is required before it can be lawfully cleared.

4 Urban areas are generally exempt unless they are part of an endangered regional ecosystem or are declared as areas of high nature conservation value or vulnerable to land degradation.

Local planning schemes can impose additional requirements on tree clearing applications but cannot remove the need to obtain a clearing permit.

The VM Act provides the policy framework for assessment of applications for permits to clear native vegetation under the IP Act and details the investigation and enforcement provisions for vegetation clearance matters. The Act's purposes are achieved mainly by providing for:

(a) codes for the [IP Act] relating to the clearing of vegetation that are applicable codes for the assessment of development applications under IDAS[5]; and

(b) the enforcement of vegetation clearing provisions. (s. 3(2))

Sections 10 and 11 allow for the development of State-wide and regional guidelines for vegetation management (see below).

After consultation with relevant regional vegetation management committees and local governments, section 17 allows the declaration of areas as being of high nature conservation value or vulnerable to land degradation. Declarations must include a code for the clearing of vegetation in the declared area and are taken to be an amendment to any Regional Vegetation Management Plan (RVMP) covering that area.

For an area to be declared an area of high nature conservation value, the Minister must consider that it is one or more of:

(a) a wildlife refugium;

(b) a centre of endemism;

(c) an area containing a vegetation clump or corridor that contributes to the maintenance of biodiversity;

(d) an area of regrowth vegetation that, if retained, will enhance an endangered regional ecosystem stated in the notice;

(e) an area that makes a significant contribution to the conservation of biodiversity;

(f) an area that contributes to the conservation of a wetland, lake or spring, stated in the notice. (VM Act, s. 19(11))

For an area to be declared an area vulnerable to land degradation, the Minister must consider it is subject to one or more of:

(a) soil erosion;

(b) rising water tables;

(c) the expression of salinity, whether inside or outside the area;

5 The Integrated Development Assessment Scheme is the system detailed in the Act (chapter 3), for integrating State and local government assessment and approval processes for development.

(d) mass movement by gravity of soil or rock;

(e) stream bank instability;

(f) a process that results in declining water quality. (VM Act, s. 19(2))

The Act also defines the status of regional ecosystems prescribed under regulations by the extent of their pre-clearing vegetation that remains.[6] An 'endangered' regional ecosystem is one with less than 10 per cent of its pre-clearing extent or which contains between 10 and 30 per cent of its pre-clearing vegetation, but the remnant vegetation remaining is less than 10 000 hectares. An 'of concern' regional ecosystem contains 10 to 30 per cent of its pre-clearing vegetation, or contains more than 30 per cent, but the remaining remnant vegetation is less than 10 000 hectares. 'Not of concern' regional ecosystems have more than 30 per cent of their pre-clearing vegetation, and the remnant vegetation remaining is more than 10 000 hectares. At August 2002, of 1130 regional ecosystems in Queensland, 369 (33 per cent) were classified as 'of concern' and 96 (9 per cent) as endangered for VM Act purposes. Over half of all ecosystems were 'not of concern'.

Section 21 requires that an application for permission to clear native vegetation on freehold land must be accompanied by a Property Vegetation Management Plan (PVMP) if it is being assessed by NR&M.[7] The Vegetation Management Regulation 2000 requires that as a minimum, a PVMP must contain: the location and extent of proposed clearing; a description of the vegetation involved; the location, extent and description of any existing land degradation on the property and action to be taken to prevent the proposed clearing contributing to land degradation; any remaining remnant vegetation on the property; and any proposed rehabilitation or restoration of vegetation on the property.

Any other information considered useful in assisting the assessment of the application may also be included in a PVMP. NR&M (2002) indicates that further supporting information such as the proposed use of the cleared land, proposed method of clearing, and details of soil types, watercourses and wetlands on the property is likely to be required by the assessing officer.

6 The VM Act defines a regional ecosystem as a vegetation community in a bioregion that is consistently associated with a particular combination of geology, landform and soil.

7 A PVMP is a plan of the area to which a development application relates showing the matters prescribed under a regulation.

The VM Act was passed in October 1999 but not proclaimed until September 2000 after it was amended to remove proposed tight controls on clearing freehold land in 'of concern' regional ecosystems.[8]

Vegetation clearance on Crown leasehold and State land

Vegetation clearance on Crown leasehold land is covered by the Land Act (and Land Regulation 1995), which also governs vegetation management on other State land.[9] A permit is required to clear trees (s. 255) unless the clearing is covered by exemptions under the Act. Trees include bushes and shrubs and need not be native to Australia.

The key exemptions to permit requirements vary depending on the type of lease. If the clearing is for routine management purposes (non-agricultural or grazing lease), or for routine rural management purposes (agricultural or grazing lease not involving a State forest or timber reserve, or a protected area, or forest reserve under the NC Act), a clearing permit is not required (ss 257, 268–70).

The exemptions for routine rural management purposes include to: obtain posts or rails for fences or yards needing immediate repair; establish reasonable access for fence maintenance; remove trees that may fall and cause significant damage to a fence; establish firebreaks around fences, buildings and stockyards; establish a new fence, building, yard or watering facility; protect natural or established pasture; and clear regrowth resulting from initial clearing under a permit issued after 31 December 1989 (Land Regulation 1995, 24J).

Trees must not be cleared under an exemption in an environmentally-sensitive area.[10] Certain tree species prescribed under the Land Regulations can only be cleared under an exemption if NR&M does not object.

Tree-clearing permits must not be for longer than five years, must state the purpose of the clearing, must include any approved PVMP and may state the way the trees must be cleared (s. 264(1)). Section 260 allows for an applicant for a tree-clearing

8 The original Act stopped clearing in 'of concern' regional ecosystems in most circumstances. These controls were significantly loosened following a failure in negotiations between the Queensland and Australian Governments to provide some compensation for landholders affected by restrictions on clearing native vegetation. Tight controls remain on clearing in endangered regional ecosystems.

9 Queensland has 215 national parks covering about 6.5 million hectares or about 4 per cent of Queensland. Additional lands have been bought for nature conservation.

10 These are areas declared under a regulation to be of high nature conservation value or vulnerable to land degradation.

permit to be asked for a PVMP and this is generally required. Section 265 allows conditions to be imposed on the permit and requires compliance with a PVMP included in the permit.

When an approved RVMP exists, the guidelines in that plan will be used to assess clearing applications in the region concerned. Where such a plan does not exist, assessment of clearance applications is carried out under the broadscale tree-clearing policy for State lands (NR&M 2002).

The Land Act also imposes on leaseholders a duty of care to the land:

> All leases, licences and permits are subject to the condition that the lessee, licensee or permittee has the responsibility for a duty of care for the land. (s. 199)

Section 214 allows the Minister to give a lessee or licensee a notice to take remedial action to protect a lease or licence in certain circumstances. In addition, section 133(a) limits eligibility for 'without competition' granting of an additional lease, to those who have demonstrated a duty of care in the management of their land.

The VM Amendment Bill repeals the tree management provisions (chapter 5, part 6) of the Land Act. Clearing on leasehold land will be covered by the VM Act in the same way as freehold land.

State-wide policies for vegetation management

As part of the overall framework for vegetation management on leasehold and freehold land and, in particular, to guide the consideration of applications for clearance permits, State-wide policies for vegetation management have been prepared under both the VM Act and the Land Act.

The VM Act requires the preparation of a State policy for vegetation management on freehold land which must:

(a) state outcomes for vegetation management and actions proposed to achieve the outcomes; and

(b) include a code for the clearing of vegetation. (s. 10)

The Land Act provides for the development of State guidelines for vegetation clearance that must include the issues to be covered in local guidelines, including:

(a) zones for tree clearing guidelines;

(b) native vegetation communities;

(c) maximum slope limitations;

(d) watercourse buffers;

(e) size and configuration of clumps or strips of trees to be maintained;

(f) the proportion of vegetation type that should be kept. (s. 271)

The Broadscale Tree Clearing Policy covering leasehold lands was released in 1997 following several preliminary versions, and has since been further revised to make it consistent with the guidelines for freehold land.

In many respects the State-wide policies for freehold and leasehold land are identical. Clearing of remnant 'endangered' regional ecosystems, areas of high nature conservation value, areas declared as vulnerable to land degradation or where clearing will change the conservation status of a regional ecosystem, is generally not allowed under either policy.

However, several important differences exist. On leasehold land, the guidelines generally protect 'of concern' regional ecosystems, whereas on freehold land these have generally been available for clearance under permit. There are also additional restrictions on clearing on leasehold land in 'core commercial timber areas' and cultural, heritage, scenic, visual and landscape values need to be maintained.

Regional guidelines for vegetation management

Section 11 of the VM Act requires the preparation of RVMPs for vegetation management on freehold land in regions of the State. Section 272 of the Land Act requires the Minister to approve guidelines for broadscale tree clearing applying to areas of the State. Both Acts require public input into the development of these plans.

Regional codes for assessing vegetation clearing applications have been developed progressively by Regional Vegetation Management Committees (RVMCs) established under the VM Act. RVMPs are based on specific objectives for particular regions but reflect State policy on vegetation management. For draft RVMPs to be endorsed by the Minister, they must at least achieve the outcomes set out in the State-wide guidelines. When approved by the Minister, they replace the State-wide policies for assessing such applications.[11]

RVMPs include information on the location, type and status of vegetation (regional ecosystems) within a region, including areas that are of high nature conservation value or those that are vulnerable to land degradation and also identify areas that

[11] To limit duplication, these committees have also considered issues related to leasehold land in their regions.

should be retained and/or managed in a particular way. RVMPs were to facilitate a more targeted assessment of individual applications for permission to clear by placing them in the context of the vegetation and biodiversity situation of the local region.

This process was able to draw on the expertise of existing community-based natural resource management groups. AgForce Queensland (AgForce trans., p. 68) argued that regional variations in soil, vegetation and climate meant that different rules and outcomes were appropriate for different regions, but that this approach needed to be based on accurate information and consistent implementation.

Queensland is partitioned into 24 regions for the development of RVMPs. The bulk of the draft RVMPs have been released for public comment. They integrate the regional planning for both Acts and include an assessment code for freehold land and local tree-clearing guidelines for leasehold land.

NR&M considers the RVMP process was a strength of the Queensland regime. It described the VM Act as:

> The most strategic and sophisticated legislation of its kind in Australia, it takes a landscape approach and provides a safety net for native vegetation on freehold land … the department is committed to involving regional communities in the development of locally relevant, scientifically sound regional vegetation management plans. (NR&M 2003b)

However, the VM Amendment Bill will significantly alter any role for the regional plans as there will be no broadscale clearing of remnant vegetation allowed after December 2006. Hence, the State-wide constraints are now very different from those under which the RVMPs were developed. The draft RVMPs will now be assessed and, after further consultation with stakeholders, will be put before a panel of scientists as part of the process for developing regionally-based codes for land management (Queensland Legislative Assembly 2004, 18 March, pp. 64-7).

New vegetation management arrangements

In May 2003, in response to concerns about the rate of vegetation clearance in recent years, the Queensland Government introduced a moratorium on accepting new applications to clear any remnant vegetation on either freehold or leasehold land. The moratorium was part of an agreement between the Queensland and Australian Governments and was formalised in the *Vegetation (Applications for Clearing) Act 2003*.[12] Clearing applications which had already been lodged were

[12] This Act is repealed by the VM Amendment Bill.

still processed under the existing guidelines. Clearing under permits that had already been granted, or where a permit was not required under the VM Act or Land Act, was able to continue. The Australian Government Minister for the Environment and Heritage indicated that key objectives of the moratorium were the immediate protection of 'of concern' vegetation and the phasing down of broadscale clearing of remnant vegetation to zero by 2006 under a transitional cap of 500 000 hectares (Kemp 2003b).

In March 2004, the Queensland Government introduced the VM Amendment Bill to end permanently broadscale clearing of remnant native vegetation and to make a number of other changes to the regulation of native vegetation clearance. Key features of the new arrangements include:

- broadscale clearing of remnant native vegetation will be phased out under a cap of 500 000 hectares by December 2006. Existing applications (not processed before the moratorium was announced in March 2003) will be assessed under current guidelines. The balance of the 500 000 hectares will then be allocated under a regionally-based ballot and assessed against regional vegetation management codes that are to be developed under the amendments;
- the tree-clearing provisions of the Land Act will be repealed and vegetation clearing on leasehold land will be assessed under the VM Act;
- there will be no more clearing of remnant and 'of concern' vegetation on Cape York peninsula;
- regionally-based codes will be developed 'for landholders to manage their land in a locally relevant and sustainable manner' (Queensland Legislative Assembly 2004, 18 March, p. 64). The codes will provide guidance for vegetation management activities such as thinning, fodder harvesting and weed control and contain provisions for forestry practices and extractive industries. When finalised, they will be used to assess future applications for clearing;
- landholders will be able to develop Property Maps of Assessable Vegetation (PMAV) for their property that identify regrowth vegetation and that, when certified, will replace the regional ecosystem map for that property;
- a tribunal will be set up to deal with native vegetation clearing issues under the IP Act; and
- a structural adjustment package of $130 million over five years will be provided to assist landholders who are significantly disadvantaged by the new vegetation management framework. A further $20 million will be made available for incentives for landholders willing to manage and maintain remnant and high value non-remnant vegetation and to assist rural industry groups in promoting sustainable agriculture.

The new arrangements contain some provisions that are aimed at addressing some of landholders' concerns regarding the negative impacts of the present regulations. However, the complete ban on broadscale clearing will impose a significant new negative impact, albeit partly offset for some landholders by the structural adjustment package.

Local government regulations

The VM Act (s. 7) specifically states that the Act does not prevent local laws or local planning instruments from imposing requirements on native vegetation clearance in local government areas. These local requirements can impose additional restrictions on vegetation clearance but outcomes must be at least equal to, or better than, those required by the VM Act. The State-wide ban on broadscale clearing of remnant native vegetation is likely to make some of these local restrictions redundant.

In many areas, local government land-clearing controls do not appear to have imposed significant costs on landholders. However, particularly in shires with vegetation of high conservation value and significant urban populations, local clearing and biodiversity regulations are often more constraining for rural landholders. Bruce Page (sub. 186) from Peachester on the Sunshine Coast noted that, in his area, local authority environmental laws dealing with matters such as managing land close to a watercourse and harvesting timber, were more restrictive than State-wide requirements. He considered these restrictions affected agricultural landholders quite adversely, for example, by restricting the ability to subdivide land from an agricultural block (sub. DR305).

Conversely, in some environmentally-sensitive areas, the absence of local controls has raised concerns among residents about a failure to prevent serious land and water degradation. Tamborine Mountain Landcare (sub. 5) indicated that control over vegetation clearance in the Beaudesert Shire planning scheme will be strengthened in 2004, but in the meantime clearing in erosion-prone areas was causing loss of habitat and silting of streams.

Protection of biodiversity

The NC Act replaced a variety of other legislation and commenced operation at the end of 1994.[13] Key mechanisms of the Act include the dedication, declaration and

[13] The NC Act replaced the *Fauna Conservation Act 1974, National Parks and Wildlife Act 1975, Native Plants Protection Act 1930* and parts of the Land Act relating to environmental parks.

management of protected areas, protection of native wildlife and its habitat (including by entering into conservation agreements with landholders) and cooperative involvement of landholders in the conservation of nature. Section 6 stresses community participation and requires that the Act be administered, as far as practicable, in consultation with, and having regard to the views and interests of, landholders and interested groups and persons.

The NC Act (s. 29) allows State land to be dedicated as a national park, conservation park or a resource reserve (all protected areas under the Act). Leases can be granted in these areas under the NC Act and the Land Act, but these must be consistent with management principles and plans under the Act.

Section 44 allows the Minister to propose that any area be declared a nature refuge, coordinated conservation area or a wilderness area (all protected areas). Section 45 allows for conservation agreements with landholders on a proposal to declare an area a protected area and on the management intent for the area. Section 46 then allows for the declaration of state land, or any area subject to a conservation agreement, as one of the above types of protected areas.

Section 45 conservation agreements may require the State to provide financial or other assistance or technical advice and may place various conditions on the use of the land and activities of the landholder.

If a section 45 agreement is not reached, section 49 allows for compulsory declaration of an area proposed as a nature refuge if it is considered an area of major interest or a critical habitat. The Minister can also declare World Heritage management areas and international agreement areas and prepare management plans for these areas. Section 67 requires reasonable compensation to be paid to the landholder for the effects of restrictions or prohibitions on existing use of the land under these various declarations.

Section 102 allows the Minister to issue an interim conservation order for the conservation, protection or management of rare or threatened wildlife, a critical protected wildlife habitat, an area of major interest or a protected area under the Act. Among other things, the order may prohibit or control a threatening process. Interim conservation orders may be for a maximum of 60 days with an extension of up to 90 days allowed. Landholders are entitled to ‘reasonable compensation because of the making of the order’, the amount to be reached by agreement or determined by the Land Court (s. 108).

The Acts protecting native vegetation are also important vehicles for protecting biodiversity, particularly on private land. Part of the rationale for native vegetation controls under the VM Act and Land Act is to protect habitat for native animals and

to maintain biodiversity. A criterion used when ruling on a permit to clear native vegetation is the status of the bioregional ecosystem concerned. 'Endangered' ecosystems and areas of high conservation value or vulnerable to land degradation are protected under both the VM Act and Land Act. The Land Act also protects 'of concern' ecosystems, while the VM Act aims to achieve voluntary protection of such ecosystems on freehold land through the regional vegetation planning process.

The VM and Land Acts both give special consideration to areas declared to be of high nature conservation value in assessing clearance applications and in determining exemptions to requirements to obtain a clearing permit. In general, permits will not be given to clear such areas.

Catchment management processes

There are no legislated local catchment management bodies in Queensland. In 1991 the Queensland Government began the Integrated Catchment Management (ICM) program to assist voluntary groups and individuals to address land and water quality issues on a catchment basis. The ICM program aims to develop catchment strategies and policies that link the activities of individual groups and draw on the local knowledge of members.

Under this program, over 30 Catchment Coordinating Committees (CCCs) have been established. Other community groups, such as Landcare and environment groups, also address environmental issues at a local level and, in a number of cases, they or their members also participate in CCCs. While the Queensland Government provides funds to some local projects and CCCs, its main aim is to give strategic direction to community-based groups. Natural Heritage Trust (NHT) funds have been directed to CCCs, although the sometimes disjointed nature of this funding has raised some concerns among CCCs (for example, the Mulgrave Landcare Catchment Group, trans., p. 162).

Other legislation

Several other Acts may have indirect implications for clearing of native vegetation and biodiversity conservation. The New England Tablelands Bioregion Draft RVMP (NR&M 2003c) notes that obtaining approval for tree clearing under the Land Act or NVM Act does not guarantee that such clearing is legal. Depending on the circumstances, separate approvals might also be required under other legislation including:

- *Nature Conservation Act 1992* (discussed above);

- *Environmental Protection Act 1994* (EP Act);
- local laws under the *Local Government Act 1993*;
- *Fisheries Act 1994*;
- *Queensland Heritage Act 1992*;
- *Cultural Record (Landscapes Queensland and Queensland Estate) Act 1987*;
- *Soil Conservation Act 1986*;
- *Water Act 2000*;
- *Beach Protection Act 1968*;
- *Coastal Protection and Management Act 1995*; and
- the Australian Government's *Environmental Protection and Biodiversity Conservation Act 1999*.

E.3 Development of the regulatory regime

The native vegetation clearing controls (both the legislation and its implementation) for both freehold and (particularly) leasehold land have been developed and refined over a number of years. The State-wide policies for assessing applications for vegetation clearing permits on leasehold land were revised several times between 1995 and 1997. In 1995, draft State guidelines for broadscale clearing on leasehold land were produced and, following discussion with stakeholders, a new draft — the Preliminary Tree Clearing Policy — was approved in December 1995. This was further revised as the Broadscale Tree Clearing Policy in 1997 and again when the VM Act guidelines were introduced.

Following the signing of the NHT Partnership Agreement with the Australian Government in 1997, the Queensland Government convened a Regulation Framework Task Force for Vegetation Management including stakeholder representatives to consider issues of native vegetation clearance on freehold land (Dixon 2003). This task force proposed using the IP Act as the means for introducing regulation in this area. In March 1999, a Vegetation Management Advisory Committee was set up which involved stakeholder representatives. The VM Act was passed in December 1999.

AgForce was critical of the failure to assess the likely impacts of the VM Act.

> 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. (sub. 54, p. 40)

Following the passing of the VM Act, further consultation occurred with stakeholders and the Australian Government regarding a funding package for payment of some form of compensation to landholders affected by the controls. As a result of the failure to obtain agreement on this funding the vegetation clearing restrictions imposed by the Act were significantly diluted in September 2000, in line with earlier commitments given to landholders.

The consultation process continued for both leasehold and freehold land with the development of RVMPs for 24 regions of the State. Once approved, these were to guide the assessment of applications to clear vegetation. While these plans were developed within the constraints of the State-wide policies, they potentially provided an opportunity for stakeholder participation in the development of the clearing regulation regimes.

Only draft plans have been produced and landholders and their representatives have argued that, to date, in many cases the RVMP process has not generated meaningful participation in the implementation of the land-clearing regimes. Environmental groups have also often been critical of some of the draft reports that did not meet their environmental objectives. The Australian Conservation Foundation (ACF, sub. 146) was concerned that the draft RVMPs would allow too much vegetation clearance and that many did not adequately address protection of environmentally-sensitive areas.

However, the broadscale clearing ban introduced by the VM Amendment Bill makes much of this regional consultation redundant as the State-wide framework within which the RVMPs were developed has changed significantly. After further consultation with stakeholders, RVMPs will now be put to a panel of scientists as part of the development of regional codes for vegetation management.

A Ministerial Advisory Committee on Vegetation Management advises the Minister and regional vegetation planning groups about vegetation management issues of State-wide significance. Its members include landholders and their representatives, local government, environmental groups and scientists.

The NC Act replaced a variety of other legislation. It commenced operation at the end of 1994. In relation to private land, its procedures focus on negotiations with landholders and compensation for losses as a result of actions taken under the Act.

E.4 Promotion of environmental goals

Objectives of the regime

Vegetation clearing on freehold land

The purposes underlying the VM Act are a combination of environmental and land degradation objectives. They are to regulate the clearing of vegetation on freehold land to:

(a) preserve the following—

(i) remnant endangered regional ecosystems;

(ii) vegetation in areas of high nature conservation value and areas vulnerable to land degradation; and

(b) ensure that the clearing does not cause land degradation; and

(c) maintain or increase biodiversity; and

(d) maintain ecological processes; and

(e) allow for ecologically sustainable land use. (s. 3(1))

The VM Amendment Bill omits the reference to ecologically-sustainable land use but adds objectives for the preservation of remnant 'of concern' regional ecosystems and remnant 'not of concern' regional ecosystems as well as the reduction of greenhouse gas emissions.[14] The Bill also specifies that the decision-making framework for achieving these objectives must apply the precautionary principle.[15]

Vegetation clearing on leasehold land

The objectives of the tree management controls of the Land Act (contained in Chapter 5, Part 6) are:

> … to manage trees on unallocated State land and on reserves, deeds of grant in trust, roads, licences, permits and leases on which the State owns the trees, consistent with the following principles—
>
> (a) to maintain the productivity of the land;
>
> (b) to allow the development of the land;

14 Other minor changes are also made to the Act's objectives.

15 In the VM Amendment Bill (clause 6), the precautionary principle states that 'lack of scientific certainty should not be used as a reason for postponing a measure to prevent degradation of the environment if there are threats of serious or irreversible environmental damage'.

(c) to prevent land degradation;

(d) to maintain biodiversity;

(e) to maintain the environmental and amenity values of the landscape;

(f) to maintain the scientific, recreation and tourism values of the land;

(g) to ensure public safety. (s. 252)

Trees are defined to include bushes and shrubs but not other plants. Trees do not need to be native to Queensland or Australia.

As the Land Act tree-clearing provisions are abolished by the VM Amendment Bill, these objectives will no longer apply to assessment of future clearing applications.

Protecting biodiversity

The overriding objective of the NC Act (s. 4) is the conservation of nature. Conservation is defined as the protection and maintenance of nature while allowing for its ecologically-sustainable use. The Act focuses on conserving and managing native animals and plants and declaring and managing protected areas on public land (for example a national park) and private land (for example, nature refuges) as well as World Heritage and international agreement areas.

Achieving objectives

The environmental goals of much regulation of native vegetation clearance and conservation of biodiversity are usually quite broad and outcomes are often difficult to measure with any precision. Hence, the extent of vegetation clearance is often used as an (albeit imperfect) proxy for the achievement of these goals.

In Queensland, estimated vegetation clearance of 378 000 hectares in 2000-01 was down 11 per cent on the average for 1997 to 1999. However, this decline may have partly reflected the 758 000 hectare clearance rate in 1999-00, in response to the introduction of the VM Act. This clearing would have included a significant amount of pre-emptive clearing, brought forward to avoid having to apply for a clearing permit.

Hence, the extent of the initial impact of the VM Act and Land Act on woody vegetation clearance is difficult to determine. Submissions indicated that a significant number of landholders in Queensland have had their plans for vegetation clearance refused, substantially altered or delayed by the regulations. This suggests that the regulations have lowered significantly the extent of clearing compared to what it would be otherwise.

Since the proclamation of the VM Act, clearance rates (as assessed by using satellite images) have slowed noticeably from the pre-legislation induced peak of 1999-00, but remain broadly similar to rates of the 1990s. However, there remain concerns that some clearing is occurring without a required permit. The *Natural Resources and Other Legislation Amendment Act 2003* was designed to address these concerns by amending the Land Act and VM Act to clarify existing provisions, improve the ability to enforce existing regulations and impose additional enforcement provisions.

There should be a reduction in clearing in the 2004 to 2006 period as a result of the cap of 500 000 hectares on broadscale clearing permits granted after March 2003. After December 2006, vegetation clearance should largely comprise clearing of new or thickened vegetation classified as regrowth or the thinning of thickened remnant vegetation, implying little if any net reduction in the extent of woody vegetation cover.

To maximise environmental benefits related to protecting threatened ecosystems, the focus of the native vegetation clearance controls has been on restricting clearing in endangered regional ecosystems and on those ecosystems on the verge of switching from 'of concern' to 'endangered'. Hence, clearing in these areas will have been significantly reduced by the VM Act and Land Act and should have produced the highest available environmental benefits because of the relative scarcity of the retained vegetation. Nonetheless, Robertson (2003) noted that much of the 2000-01 clearing was concentrated in regions that were already highly cleared such as the Brigalow Belt.

Several submissions noted shortcomings of the regulatory regime in achieving underlying environmental objectives. The Cardwell Shire Council considered that greater conservation had resulted but that environmental outcomes might be further improved:

> There is no doubt that the EPBC Act and Vegetation Management Act are contributing an additional planning control above the Planning Scheme that is resulting in a higher level of conservation. However, the effectiveness of this control particularly relating to the Vegetation Management Act is questionable as when viewing the maps it does not appear that the endangered regional eco-systems form habitat corridors but rather are isolated pockets of vegetation scattered throughout the Shire. (sub. 123, p. 3)

However, it argued that for its shire, existing national parks provided sufficient vegetation cover:

> It is also questionable as to whether the Cardwell Shire requires additional controls to conserve vegetation, particularly when considering that approximately 70 per cent of the Shire is included within National Parks, Wet Tropic Areas, State Forests and World Heritage Areas. (sub. 123, p. 3)

The Gold Coast & Hinterland Environment Council (Gecko) argued that the land clearing controls had not been sufficient to achieve desirable environmental outcomes in the south-east Queensland region and that some previous clearing needed to be rehabilitated:

> Unsustainable agricultural practices, past poor planning allowing rural residential subdivision and hobby farms, and decisions made without the benefits of today's scientific knowledge and awareness of the impacts on our biodiversity and native vegetation, are being carried over into the future due to the Government's unwillingness to reverse these decisions. (sub. 127, p. 2)

In a similar vein, the Inland Burnett RVMC noted that existing (often regrowth) vegetation was sometimes not in the optimal location to improve environmental outcomes:

> The unfortunate legacy of these past practices, specifically in landscapes and land systems in the order of land classes 7 and 8 — highly sensitive and fragile soils susceptible to rapid degradation if unwisely disturbed — is that what is currently classified as remnant vegetation is not always in the preferred landscape location for long-term sustainability and protection of those landscapes and the environmental services they provide. (sub. 139, p. 2)

The ACF (sub. 146) noted that regrowth vegetation can provide similar environmental benefits (for example, reducing salinity) to those from remnant vegetation but received much less protection under current regulations.

There have also been some instances where the regulations may have worsened environmental outcomes, at least in the short term. The initial impact of the announcement and then the passing, but delayed proclamation of the VM Act, was a significant temporary increase in the rate of native vegetation clearance on freehold land. The prospect of having limitations placed on the ability to clear native vegetation provided incentives for landholders to bring forward actions to remove vegetation that they considered would be profitable to clear.

AgForce argued:

> 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. (sub. 54, p. 38)

Noel Whitehead (trans., p. 1057) of Mackay submitted that there had been more clearing in the last two years in the surrounding area than he had seen in 40 years. He attributed this to concern that clearing controls would restrict landholders' future options. Rod Reedman from Pindi Pindi observed that a portion of his land was the only sizable private holding classified as endangered in that region:

> … in the area around my farm there was more clearing done in the 12 months prior to the legislation coming out than there would ever have been if the legislation hadn't been in the wind. So I believe that the legislation has caused more clearing than its saved. (trans., p. 1033)

The ACF (sub. 146), argued that such panic clearing causes short-term increases in clearing but longer-term clearing rates will be lower as a result of the regulation. This would be so if the regulations restricted future clearing to very low levels. However, the pre-moratorium regime still allowed significant amounts of clearing and hence panic clearing could continue in many areas. It is difficult to determine if such ongoing 'panic' clearing in anticipation of progressively stricter restrictions has offset the clearing prevented by the regulations. The proposed ending of broadscale clearing will unambiguously reduce clearing after 2006.

To avoid further problems of panic clearing, the 2003 moratorium on new clearing permit applications was immediately followed by the announcement and then the passage of the Vegetation (Application for Clearing) Act.

In introducing the legislation, the Minister for Natural Resources and Mines noted the balance between the need for consultation and the avoidance of unintended consequences:

> This bill will allow consultation with stakeholders on this very important issue to be carried out without the spectre of panic clearing hindering the proceedings. (Queensland Legislative Assembly 2003, 27 May, p. 2083)

The maximum two-year time limit on the use of permits can provide similar incentives for inefficient clearing. AgForce quoted a submission from one of its members:

> 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. (sub. 54, p. 38)

This time limit may be increased if clearing applications are assessed against local guidelines in a RVMP. In addition, existing permits close to their expiry date can be extended by the NR&M assessment manager.

The VM Amendment Bill deadline of December 2006 for undertaking clearing of remnant vegetation would also encourage premature clearing by those landholders who obtain a permit for clearing that they would prefer to use after 2006.

Some participants have argued that the Queensland regulatory regime can have a detrimental impact on the environment by providing poor incentives for landholders

to retain and manage native vegetation. Canegrowers & CSR Sugar (Herbert River District) argued:

> Currently landholders are motivated to behave inappropriately in regard to management of vegetation cover that has not reached trigger levels for the regulations. This leads to unintended consequences with erosion and water quality whereas greater certainty of the owner's property and usage rights would effectively counter such perverse and unintended effects. (sub. 164, p. 6)

They indicated (trans., p. 613) that premature clearing of regrowth to avoid it becoming defined as critical habitat was an example of such behaviour.

The Queensland Resources Council noted that the possibility of regrowth eventually being declared remnant could lead to mining companies clearing prematurely:

> In the resource industry's case, clearing may not occur until some 20–30 years after the commencement of mining, so this difficult definitional issue could potentially have a major impact on final land use and successful rehabilitation criteria … Thus while companies may wish to retain vegetation while long term mine planning is undertaken, short term decisions may be made to clear areas to preserve future access. (sub. DR311, p. 2)

The Coolum District Coast Care Group (sub. DR252) considered that significant damage to biodiversity was being caused by land clearing and further development in urban areas — often not covered by existing regulatory restrictions. It argued:

> It is clear that in the area of the Sunshine Coast in Queensland that both preemptive clearing and illegal clearing has taken place prior to the stopping of broad scale clearing so that future urban development can occur on both rural and non-rural land. (sub. DR252, p. 1)

The VM Amendment Bill amends the definition of 'urban' for vegetation management purposes. The Minister for Natural Resources Mines and Energy noted:

> These provisions have the effect of removing rural residential zones from the current urban area definition and will prevent the high clearing rates associated with the conversion of land from rural to rural residential (Queensland Legislative Assembly 2004, 18 March, p. 66)

Landholder representatives have also argued that poor implementation of the land-clearing regulations has seriously harmed relations between Government and landholders, often with resultant reductions in the goodwill that might have encouraged greater landholder participation in achieving underlying environmental benefits. The Innisfail Canegrowers Association argued that because of the clearing restrictions landholders were not willing to set aside and manage unproductive land for environmental purposes:

> But the unproductive land, or economically unviable land is not being considered for protection by landholders. … What you want to be able to do is develop the productive land, and that that's not so productive or not quite economically viable you could probably be interested in doing something with it. But because you're told, 'Right that's it' even some good land you can't develop, they back off, they're not even interested. (trans., p. 144)

The extent of tree cover is not always a barometer of desirable environmental outcomes. Bob Katter (trans., p. 118) considered that environmental outcomes such as the level of erosion would be worsened in North Queensland by excessive retention of trees which leads to insufficient grass cover. Wally Peart (sub. DR304) of Injune considered that similar outcomes would arise in his area.

Andrew and Kathy Schmidt (trans., p. 1001) of Charleville felt that biodiversity had increased on their heavily-treed property after some clearing was undertaken. Wally Peart of Injune commented on the impact of clearing trees on his property:

> When I took up this block, 'Sunnyholt', 40 years ago, it had 600 trees per acre on it, no water for many miles and the dingoes had not been controlled for 100 years. Bird life was very scarce because of the distance to water and the dingoes had eaten themselves into starvation; they were so poorly they could hardly get out of your way. Now, birds abound on the property with over 200 species identified and the wildlife is abundant. (sub. DR304, p. 2)

The Inland Burnett RVMC also considered that simple prohibition of tree clearing might not produce the best environmental outcomes:

> Early dominance by several tree species and other primary species could extend for sufficient time to exclude the recovery of some of the original and short-lived species by exhausting seed banks, thereby precluding their regeneration. Thinning these regenerating trees will therefore maintain higher levels of biodiversity and hasten system recovery whilst also maintaining productivity (sub. 139, p. 4)

It further noted the potential of well-conceived regional plans to overcome potentially perverse environmental outcomes:

> The usual practice of tree clearing in for example Perry Shire, is to allow trees to mature to greater than the 'regrowth stage' and then thin, stimulating soil through deep root penetration, providing better quality timber and maintaining a consistent vegetative cover for native fauna. Under the VM Act 1999 (current guise) thinning is not allowed within remnant areas unless the landowner has historically conducted timber harvesting using forestry practices. This dis-incentive actually encourages landholders to clear non-remnant areas and perform no maintenance work in remnant regional ecosystems (REs). The thinning policy developed by planning committees in south-east Queensland has been designed to provide management options and is perhaps singularly the most important recommendation developed by the respective committees. (sub. 139, p. 6)

Mrs V.D. Burnett (sub. DR296) of Avocavale District considered that native grasslands were an integral component of native vegetation and hence should also be covered by clearing controls if environmental objectives were to be achieved.

Some landholders suggested that factors other than tree clearing may pose greater threats to biodiversity in their areas. Joe Galeano from Cardwell Shire argued:

> Rampant feral pigs pose a far greater threat to that species [cassowary] than land clearing on private property. Pigs eat cassowary eggs and cassowary young. However, the government spends only token money on the pig problem. (sub. 35, p. 2)

The East End Mine Action Group (sub. 16) considered that the activities of a nearby limestone mine had resulted in a long-term impact on the water table which had led to a significant deterioration of agricultural productivity and vegetation cover in the surrounding area.

Although neither the VM Act nor the Land Act contain objectives related to greenhouse gas emissions, the Minister for Environment and Energy and Natural Resources and Mines, in his second reading speech for the VM Act, stated:

> This Government has a commitment to help meet Australia's international obligations for controlling greenhouse gas emissions. This legislation will assist in meeting those obligations. (Queensland Legislative Assembly 1999, 8 December, p. 6082)

As noted above, the VM Amendment Bill includes reducing greenhouse gas emissions as an objective of vegetation clearing regulation.

The exact relationship between tree clearing and greenhouse gases is complex. Nonetheless, while the legislation will have reduced woody vegetation clearing to some degree below what would otherwise have occurred, the rate of clearance up to 2001 indicates that this is likely to have had only a limited impact on reducing greenhouse emissions. The 2003 moratorium on new tree-clearing applications seemed to be largely based on concerns about achieving reductions in national emissions of greenhouse gases to approximate the Kyoto Protocol targets. The Australian Government Minister for Environment and Heritage, in announcing broad details of the proposal to reduce broadscale clearing of remnant vegetation in Queensland to zero by 2006, stated:

> It meets the Commonwealth Government's objectives of a substantial reduction in the clearing of remnant vegetation, in greenhouse gas emissions and the additional protection of the biodiversity of ecosystems. (Kemp 2003b)

The VM Amendment Bill has confirmed the post 2006 cessation of clearing of remnant vegetation.

Landholder understanding of the objectives

Although Queensland's pre-moratorium vegetation clearing restrictions have been in force for around six years on leasehold land and three years on freehold land, a number of participants considered that the regulations were not well understood by landholders. QFF (sub. 177) argued that this reflected the large number of natural resource management regulations being introduced by all levels of government. Mulgrave Landcare Catchment Group considered that:

> … the understanding by landowners of the regulations and the implications of those regulations are extremely low, mainly due to the complexity and plethora of various plans and strategies. (trans., p. 159)

The NRM Board (Wet Tropics) (trans., pp. 106–9) also considered that the very large number of inquiries and plans (as opposed to actions) undertaken in recent years that had relevance to natural resource management issues in the wet tropics had left landholders confused.

QFF considered that information provided by government on landholders' obligations and requirements regarding vegetation clearing had been reasonable, but that the reasons for having the regulations had not been accepted by landholders. They argued that this was because of:

> … the emphasis on nature conservation at the expense of production, rather than an emphasis on balancing nature conservation and production. (sub. 177, p. 17)

A common cause of uncertainty about the objectives among Queensland landholders has been the inaccuracy of the vegetation mapping for their areas. A.R. and A.L. Read (QFF, sub. 177, attachment 3) noted that areas identified on regional maps as having no vegetation, in fact had the same remnant vegetation ecosystems as on their land, which had been initially mapped as 'endangered' and had now been revised to 'of concern'. Such errors in mapping can either result in environmental objectives being compromised or in unnecessary costs being imposed on landholders. Russell Turkington of Greenmount commented:

> The level of understanding by many land owners of the Act and proposed biodiversity areas is not good. Inaccuracies in mapping adds to the confusion as to does the classification on existing vegetation (as per herbarium map Queensland Government) versus historical local knowledge including photographic evidence. (sub. 50, p. 1)

He also argued (trans., p. 1104) that in some cases inaccurate mapping inhibited best-practice solutions and resulted in landholders being threatened with prosecution. AgForce (sub. 54) also commented on inaccuracies in vegetation mapping:

> 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. (sub. 54, pp. 43–4)

In some areas, the native woody vegetation existing before European settlement appears to have spread significantly due to agricultural activities and the absence of traditional fire control of vegetation practised by Indigenous communities. In these cases, comparisons of current vegetation cover against that of the relatively recent past would give a misleading picture of the extent of clearing over the last 150 years. This appears to have made it difficult for some landholders to understand and accept the objectives of clearing restrictions.

Compliance levels

While uncertainty regarding the accuracy of estimates based on satellite images makes precise estimates problematic, there appears to have been a significant amount of vegetation clearing without a permit in Queensland in recent years. The Minister for Natural Resources and Mines indicated that SLATS analysis had identified 61 000 hectares of land that had been potentially illegally cleared, of which 25 000 hectares was on freehold land and 36 000 hectares was on leasehold land (Queensland Legislative Assembly 2003, 25 February, pp. 53–4).

This illegal land clearing activity has led to the introduction of a system of infringement notices for illegal clearing of small amounts of land. If not contested by landholders, these notices impose small fines (between $375 and $1500) for clearing undertaken without the required prior approval from NR&M or that fails to meet permit approval. An order for restitution of the cleared area can also be made.

The Natural Resources and Other Legislation Amendment Act clarifies some existing legislative provisions[16] and introduces additional offences and enforcement provisions. The explanatory notes for that Act state:

> … for successful enforcement of the vegetation management legislation, a balance between the rights of the individual and the need for the community to be able to provide an effective deterrent is necessary. (Explanatory Notes for the Natural Resources and Other Legislation Amendment Bill, 2003, p. 10)

16 For example, remediation notices for areas cleared illegally on leasehold land.

The explanatory notes also outline several clauses which raise possible breaches of fundamental legislative principles.[17]

AgForce (trans., pp. 71–2) expressed concern that the approach of harsher enforcement conflicted with attempts to obtain greater landholder involvement through the RVMP process and hence may worsen environmental outcomes. Similarly, Wally Peart (sub. DR304) of Injune considered that the goodwill nurtured by the Landcare movement had been lost because of increased regulation of vegetation clearance and the enforcement of those regulations.

Consideration of economic and social impacts

Decisions on native vegetation clearance are based on the environmental classification of the vegetation concerned and generally do not consider the costs of such decisions on landholders and others. Some of the examples of negative impacts on landholders indicate cases of significant economic impacts for apparently limited environmental benefit. Where land and water degradation are the environmental benefits being achieved through clearing restrictions there will be collateral economic benefits to landholders, but these typically are not the determining factor in the decision to grant a clearing permit.

Exemptions to permit requirements are provided in both the VM Act and Land Act for a range of standard rural management practices. These exemptions, particularly those allowing the clearing of regrowth, provide some allowance for the economic and social impacts of clearing restrictions. If, in general, original clearing was undertaken in the most productive parts of a region and/or a property, then restricting clearance of regrowth would tend to have the highest economic cost.

The NC Act (s. 67) requires that regard be had to the interests of landholders, and in some cases, compensation is payable. This requirement brings some consideration of economic impacts on landholders into the decision-making process when making declarations under that Act.

[17] For example, for charges of unauthorised clearing, the Act removed the defence normally available under the Criminal Code (s. 24) if the person has a reasonable and honest but mistaken belief that led to the commission of the offence. This defence has been used in many prosecutions relating to tree clearing based on mistakes in map interpretation, status of vegetation and errors relating to location on a property. In its place the person is required due diligence before taking action in relation to tree clearing. Also the onus of proof for showing the accuracy of that evidence from instruments or equipment (such as remotely sensed images) is reversed — they are taken to be accurate unless the defendant proves to the contrary.

Both AgForce (sub. 54) and QFF (sub. 177) considered there had been a failure to assess the economic and social impacts of the regulatory regime. QFF stated:

> The lack of accurate, in depth assessment of the social and economic impacts of the regulatory regimes, particularly the VMA has been profound. In the development of the VMA, the lead up to the impending introduction of the Act, and its operational workings, there has been no assessment of the likely economic and social impacts on individuals or regional and rural communities. (sub. 177, pp. 17–18)

The proposed allocation of part of the 500 000 hectare remnant vegetation clearing cap by a regional ballot process will not identify the relative economic costs of refusing various clearance applications competing for this quota.

E.5 Administration and implementation

The effectiveness in achieving regulatory objectives and the impacts of the regulatory regimes on landholders and others will be influenced by the efficiency of their implementation.

Inconsistency

QFF (sub. 177) noted that a long list of Acts was routinely drawn to the attention of landholders who obtained clearing permits under the VM Act. It argued:

> In isolation the EPBC Act and VM Act may not disastrously impact on landholders, however, together and combined with the myriad of other environment natural resource management focused reforms it is the cumulative impacts that may be the cause of most concern at the grass-roots level. (sub. 177, p. 4)

For landholders affected by the native vegetation management and biodiversity conservation aspects of these Acts, the impacts of inconsistencies between the various Acts can be significant and can cover a range of activities.

Canegrowers (sub. 101) referred to a number of impacts on sugar producers from such legislation:

> … the Fisheries Act … potentially impacts on the on-farm management activities of the approximately 700 cane growers with farms adjacent to estuarine areas. Under the Fisheries Act all marine plants are protected and interestingly this includes all plants growing in, or adjacent to fish habitat. Human-constructed drains on cane farms are considered important fish habitat by the Queensland Department of Primary Industries' Fisheries Group. As a consequence a grower mowing a headland that contains salt couch or repairing an on-farm drain that contains native hibiscus risks prosecution. (sub. 101, attachment A, p. 2)

In a number of instances, Canegrowers has been able to negotiate with the responsible government departments whereby area-wide agreements avoided the need for individual farm businesses to apply for permits.

The QFF argued that the absence of coordination within and between departments responsible for regulation of native vegetation and biodiversity conservation exacerbated the difficulty of dealing with a range of legislation:

> The administrative burden in jumping through the many approval 'hoops' is compounded by the lack of coordination between the number of government agencies involved in governing environmental and natural resource management legislation. Liaising across a number of government agencies where landholders often only receive 'one side of the story' and at times conflicting advice makes obtaining an approval an arduous task. Even within Departments, lack of coordination has resulted in much frustration and anxiety for landholders. (sub. 177, p. 12)

William Fritz from Bundaberg (trans., pp. 30–8 and sub. 177, attachment 1) complained of one division (Water Resources) of the Department of Primary Industries advising that a weir should be built on his property while another division (Fisheries) subsequently ruled the weir to be in breach of the Fisheries Act. In a similar vein, Dalrymple Landcare Committee, submitted that the way in which native vegetation regulations had been implemented in its region had significantly hindered attempts to control Parkinsonia (as required under the *Land Protection Act 2002*). It argued:

> Weed management and policy is one of Queensland's Department of Natural Resources and Mines core business activities. Whilst it has provided in-kind support to research best practice management for Parkinsonia, other sections of the NR&M department have put major impediments in the way of controlling weeds. (sub. DR256, p. 2)

Even if clearing is allowed under the native vegetation and biodiversity regulations, the EP Act imposes an overarching general environmental duty — in effect, a duty of care to the environment:

> A person must not carry out any activity that causes, or is likely to cause, environmental harm unless the person takes all reasonable and practicable measures to prevent or minimise the harm … (s. 319)

Maroochy Shire Council used this provision (through the Planning and Environment Court of Queensland) in 2002 to obtain a restraining order on a private landholder preventing the clearing of vegetation that would cause 'serious environmental harm' and requiring remedial work on certain areas already cleared.

Section 436 of the EP Act creates an offence of unlawful environmental harm, which is an act or omission that causes serious or material environmental harm or an environmental nuisance. Unlawful environmental harm does not occur if the

general environmental duty is complied with. Such compliance is deemed to occur if an approved code of practice or a code of environmental compliance applies to the causing of the environmental damage and this code was followed.

Several agricultural industries have developed codes of practice which have been approved by the Minister for the Environment. However, these codes have focussed on reducing pollution from production processes rather than any environmental damage from vegetation clearance or biodiversity loss.

Administrative costs

A number of participants have criticised the implementation and administration of Queensland's legislative vegetation clearing regime. AgForce (sub. 54) noted costs (maps, permit fees and time to develop a PVMP) of $5000 to $10 000 for an application to clear around 2400 hectares on a 23 000 hectare property. QFF considered that the administrative burden was particularly high for landholders having to deal with a number of the government agencies involved in environmental and natural resource legislation:

> The multitude of government regulatory regimes are impacting on agribusiness by creating a legislatively-induced cost price squeeze which has the potential to have a major impact on the Queensland economy. Unfortunately, in many cases, the government is unaware of this progressive cumulative impact because of the lack of coordination and cooperation within government. (sub. 177, p. 14)

It regarded dealing with conflicting advice from different departments as a particular problem in such cases.

Native vegetation regulations can add to the costs of other government environmental programs. The Dalrymple Landcare Committee (trans., pp. 1048–9) commented that a program for eradicating noxious woody weeds (Parkinsonia) required approval under the VM Act because there was a risk that some native trees might be inadvertently poisoned or mechanically eradicated. Approval involved time and cost for the Committee and involved several departments and delays of over four months which further added to costs. The Committee argued that weed eradication posed a very limited threat to the plentiful native vegetation in the region, but failure to control Parkinsonia represented a major threat to the Cape River catchment's productivity and environmental health.

Both landholders and environmental groups were concerned that insufficient resources had been provided to administer land-clearing regulations efficiently. AgForce (trans., p. 69) considered that due to small numbers of staff and/or their

inexperience, responses to requests for advice had often not been timely. The NRM Board (Wet Tropics) stated:

> … the other thing which agencies need to face is that there are less and less people on the ground from an agency point of view to either implement these regulations or to be of assistance to land-holders in developing alternatives, and less and less of the extension-type people, less and less of those sorts of people on the ground. (trans., p. 111)

Roz Burtenshaw (trans., p. 163) from Mount Garnett also noted the recent substantial decline in extension services, and argued for more research and development and professional advice to be provided to landholders. Harry Berger (sub. DR251) of Cardwell submitted that those assessing clearing applications needed to have a good understanding of rural industries. Peter Voller (trans., p. 1021) felt that government agencies needed to give regional staff longer-term tenure in an area to develop their knowledge of local conditions.

Property Rights Australia also considered that significantly more resources were needed to implement the regulations effectively:

> Current natural resource management decision-making processes in Queensland have been constrained by a lack of reliable scientific data and a chronic lack of financial and human resources allocated to support these processes. This should be addressed via a significant injection of resources into the state government's research, mapping and extension services. (sub. 203, p. 3)

NR&M has indicated that in the future SLATS satellite imagery for vegetation management purposes will be undertaken annually rather than every two years. In addition, the VM Amendment Bill allows for the development by landholders of property scale maps identifying regrowth vegetation on their properties. When certified, these maps will replace regional ecosystem maps for the property concerned.

Dispute-resolution procedures

Landholders with freehold properties can appeal to the Planning and Environment Court against NR&M decisions to refuse a clearing permit including the conditions attached to it.

Several participants have considered that in some cases government departments may spend large amounts of money appealing lower court rulings to higher courts. Canegrowers, in discussing the case of William Fritz stated:

> … on the advice of their Barrister and faced with the financial clout of the Queensland Government they decided to cut their losses and plead guilty. (sub. 101, attachment C, p. 5)

With regard to 460 hectares of his property that was added to a National Park, and for which he had previously received a private offer of $2500 per hectare, Roy Dickson (a licensed valuer) of Cardwell stated:

> I was originally offered $250 per hectare by the Government ... Settlement was finally made at $1000 per hectare because I simply could not contest it any longer … The law alternative is available, only providing one has the finance to proceed through the process. (sub. 163, p. 2)

He noted that a recent case involving similar land that was taken to court was decided at a rate close to $2500 per hectare.

While no formal negotiating process exists for making vegetation decisions under the IP Act and Land Act, a number of cases raised by participants indicate that, in some instances, options are discussed and negotiated between officials and landholders (for example, the case of Goshen Station outlined in AgForce, sub. 55).

In cases where landholders have, in NR&M's view, illegally cleared without a permit, infringement notices can be issued for small offences (two hectares for endangered ecosystems and five hectares for of concern ecosystems). Cases involving larger areas of clearing are dealt with in court.

The VM Amendment Bill establishes a tribunal to hear appeals regarding vegetation clearing issues under the IPA. Appeals will only be able to proceed if a landholder has initially obtained an internal departmental review of the decision. The tribunal will include representatives of stakeholder groups and the scientific community. Further appeals of the Tribunal's decisions to the Planning and Environment Court will be allowed.

E.6 Impacts on landholders

This section considers the impacts (positive and negative) on landholders of the major Queensland legislation regulating native vegetation clearance and the conservation of biodiversity. Nearly all submissions received by the Commission from landholders and their representatives have indicated that the impacts of the legislation are significantly negative (box E.1).[18] The Queensland Government did not make a submission.

F South Australia

F.1 Introduction

In South Australia, it has been estimated that 64 per cent of native vegetation that existed prior to European settlement still existed in the intensively-used zone in 1997.[1] Nearly 80 per cent of vegetation within the agricultural regions (which comprise about 18 per cent of the State's land area) was cleared by the late 1970s. This history of clearing is reflected today in the low application rates for clearing permits and the relatively (compared with the 1970s) small amount of vegetation approved for clearing — in 2000, 1600 hectares of land were approved for clearing. Legislative amendments introduced in 2002 are intended to reduce clearing further.

F.2 Description of the regulatory regime

The primary legislation for native vegetation management in South Australia is the *Native Vegetation Act 1991* (NV Act), and more recently, the *Native Vegetation (Miscellaneous) Amendment Act 2002* (NV Amendment Act). However, several other pieces of legislation could potentially affect the management of native vegetation in South Australia: the *Soil Conservation and Land Care Act 1991*, the *Development Act 1993*, the *Pastoral Land Management and Conservation Act 1989*, and the *Animal and Plant Control Act 1986*.

Native Vegetation Act

The NV Act applies to all land except inner metropolitan Adelaide, and it applies to all landholders, both public and private. Native vegetation is defined as any naturally-occurring local native plant, and covers the full range of species from trees to groundcovers, native grasses, wetland plants and marine plants (Smith 2003).

[1] Intensively-used zone refers to the agricultural area of Australia where the predominant land uses are cropping and improved grazing, with introduced grasses and legumes (Hamblin 2001). A map of the intensively-used zone is presented in chapter 3.

The Act establishes the Native Vegetation Council (NVC), which has responsibility for overseeing all issues concerned with vegetation. The NVC is an independent body appointed by the Government. It is responsible for making decisions on a wide range of matters, including making determinations on applications to clear land, and establishing conditions under which clearance may be carried out. The NVC is responsible to the Minister for Environment and Heritage.

The NVC's seven members represent a range of relevant interests. For example, the South Australian Farmers' Federation (SAFF), the Soil Conservation Council, the Conservation Council of South Australia and the Local Government Association nominate one member each. One member is nominated by the Australian Government Minister for the Environment, while the other two are appointed by the South Australian Minister for Environment and Heritage.

The NV Act requires all property owners, in matters not covered by an exemption, to submit a proposal to the NVC seeking approval to clear vegetation. All applications must be accompanied by a native vegetation management plan and any other information required by the NVC (s. 28).

In making its decision, the NVC must consider advice from the District Soil Board and the local council, and assess the application according to the clearance principles outlined in box F.1. The NVC must not make any decision that is seriously at variance with these principles, unless:

- the vegetation involved is one or more isolated plants;
- the applicant is a primary producer; and
- it is the NVC's opinion that the retention of such vegetation would cause the applicant unreasonable expense (s. 29).

If the application to clear is for the primary purpose of managing other native vegetation, the NVC must have regard to the applicant's desire to manage that other vegetation (s. 29). If the primary purpose of clearing is for agricultural production, the NVC must have regard to the applicant's desire to run their farm as efficiently as possible (s. 29).

Where the NVC gives consent to clear native vegetation, there are usually conditions attached. These conditions typically include a requirement to establish native vegetation on land specified by the NVC, or fence-off remnant bush on the farm, such that the NVC is satisfied that after allowing for the loss of the vegetation to be cleared, there is a significant environmental benefit (s. 29).

Box F.1 **Clearance principles under the *Native Vegetation Act 1991***

Native vegetation should not be cleared if, in the opinion of the Council:

(a) it comprises a high level of diversity of plant species;

(b) it has significance as a habitat for wildlife;

(c) it includes plants of a rare, vulnerable or endangered species;

(d) the vegetation comprises the whole, or a part, of a plant community that is rare, vulnerable or endangered;

(e) it is significant as a remnant of vegetation in an area which has been extensively cleared;

(f) it is growing in, or in association with, a wetland environment;

(g) it contributes significantly to the amenity of the area in which it is growing or is situated;

(h) the clearance of the vegetation is likely to contribute to soil erosion or salinity in an area in which appreciable erosion or salinisation has already occurred or, where such erosion or salinisation has not yet occurred, the clearance of the vegetation is likely to cause appreciable soil erosion or salinity;

(i) the clearance of the vegetation is likely to cause deterioration in the quality of surface or underground water;

(j) the clearance of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding; or

(k) (i) after clearance the land will be used for a particular purpose; and

(ii) the land is the subject of assessment under section 35 of the *Soil Conservation and Land Care Act 1989*; and

(iii) according to that assessment the use of the land for that purpose cannot be sustained.

Source: NV Act, Schedule 1.

Recent amendments by way of the NV Amendment Act contain major new provisions to ensure that:

- a person who receives a permit to clear land must contribute to a Native Vegetation Fund (NV Fund), which will be used to offset the environmental impact of their actions by funding native revegetation within the same region (environmental offsets); and
- all applications to clear land are placed on a public register to allow members of the public to comment.

The amendments also have strengthened enforcement and compliance provisions. Penalties for illegally clearing native vegetation, or contravening or failing to comply with a condition attached to a clearing consent, are calculated at a

prescribed rate per hectare of land, or $100 000, whichever is greater (s. 26). Landholders may also be required to restore the property.

Illegal clearing has been changed from a criminal offence under the NV Act to a civil offence under the NV Amendment Act. Under the NV Amendment Act, the Environment, Resources and Development Court (ERD Court) is able to serve an order on a landholder found to have illegally cleared, or breached a heritage agreement (s. 31), that requires them to:

- remove buildings, works or vegetation that may have been erected, undertaken or planted on the land since the clearing occurred;
- establish vegetation, specified by species and number of plants, on certain parts of the cleared land; and
- nurture, maintain and protect the plants until they are fully established, or for the period specified in the order (Smith 2003).

Proceedings may be brought before the ERD Court for an order to remedy or restrain a breach of the Act by NVC, any person who owns or has an interest in land that will be affected by a breach of the Act, or by a party to a heritage agreement (s. 31A).

Exemptions

Under certain circumstances, clearing of native vegetation does not require the approval of the NVC. Exemptions laid out in the Native Vegetation Regulations 1991 (r. 3) apply where:

- vegetation is to be removed to comply with another act or regulation;
- clearing is incidental to enable construction, maintenance or repair of a building or access track, or to allow maintenance or construction of a fence;
- clearing is for the purpose of building a dam to be used in primary production and the remainder of the surrounding land has already been cleared of native vegetation and has been maintained for the previous 5 years for cultivation or pasture;
- vegetation is within 20 metres of a house;
- the sole purpose of clearing the vegetation is to provide a fire break;
- the sole purpose of the clearing is to provide material for fencing or firewood for the owner of the property, and the nature and extent of the clearance is reasonable (however, river red gums cannot be cleared under this exemption);
- clearance involves taking seeds or a specimen or cutting for propagation;

- clearance is incidental to authorised exploratory or mining operations; or
- clearance is required to maintain land so that it can be used for cultivation, pasture or forestry, and the land on which the vegetation is situated was used for cultivation, pasture or forestry within five years immediately before the proposed clearance occurs.

State Revegetation Committee

The State Revegetation Committee (SRC) is South Australia's peak advisory body on revegetation issues. It was established in 1995 as a joint committee comprising members from the SAFF, the Conservation Council of SA, Local Government Association, the NVC, the Soil Conservation Council, Greening Australia, Trees for Life, the Department of Primary Industries and Resources SA (PIRSA) and the Department for Environment and Heritage (DEH).

Key functions of the SRC include:

- revegetation of previously cleared areas for multiple outcomes and balance between revegetation for biodiversity, resource management and economic purposes;
- development of revegetation policies, plans and strategies;
- identifying opportunities for coordination of effort within the revegetation sector;
- providing a mechanism for advancing revegetation in South Australia through grant funding, forums, and publications; and
- seeking funds to deliver revegetation programs and research priorities (PIRSA 2003).

In contrast to the NVC, which has responsibility for revegetation only in relation to specific properties where clearing applications are being considered, the SRC has responsibility for district and regional revegetation plans (PIRSA 2003).

The functions of the NVC and the SRC are therefore complementary, and there are mechanisms in place to ensure close collaboration between the two, and to coordinate monitoring and evaluation to allow for assessment of progress over time.

Other legislation

There is a range of other legislation that may affect landholders' ability to manage native vegetation on their properties.

Soil Conservation and Land Care Act

This Act has four main aims: to ensure that land is used within its capacity; to ensure that land conservation becomes an integral part of land management; to provide for monitoring of the condition of the land; and to encourage implementation of procedures designed to reduce land degradation (s. 6).

The Act imposes a duty on landholders 'to take all reasonable steps to prevent degradation of the land' (s. 8). On the recommendation of the Soil Conservation Council, and with public consultation, the Minister for Primary Industries can establish soil conservation districts and soil conservation boards (s. 22), with the task of increasing awareness of land conservation and of providing advice and assistance to landholders (s. 29).

A soil conservation board must develop and implement a district plan, which assigns land to various classes, outlines the capability and preferred uses of that land, identifies the nature and extent of degradation, and describes land management processes and measures for preventing further degradation (s. 36). The board must form a district plan within five years, in consultation with the community, the Council and various other organisations. The plan must be reviewed every three years (s. 36). The board must also encourage landholders to enter into voluntary property plans outlining their proposed land management procedures over a three year period (s. 37).

If the Council believes that land degradation is occurring, or is likely to occur within its district due to certain land management practices, or failure to implement a property plan, the board may issue a soil conservation order to prevent further activities that could cause land degradation (s. 38). Such an order may require that vegetation be replanted or cleared, or require that some other specific action be taken or not taken.

Contravention of, or failure to comply with, a soil conservation order constitutes an offence (s. 38). If non-compliance with a soil conservation order results in damage to the land of another person, that person may recover damages (s. 44).

Development Act

The Development Act requires the preparation of a planning strategy for South Australia, or parts of the State. The strategy can include planning or development objectives relating to ecologically sustainable development and the management, conservation or use of natural resources (s. 22). Development may only be permitted in a particular area if it is approved under the development plan. A

development can be classified as complying or non-complying, and conditions can be imposed.

The Government or a local council can enter into a land management agreement with a landholder for the preservation of land, and has power to carry out work on that land, as required by the agreement (s. 57).

Under this Act, native vegetation may only be 'damaged' without appropriate authorisation in the event of an emergency, as a means to protect a person or building (s. 54A). The Development Act requires that approval be obtained before damaging any 'significant tree', even if approval has already been granted under the NV Act (s. 54B).

Under the Act, a 'tree-damaging activity' includes: killing, removal or destruction of a tree; severing of branches, limbs, stems or the trunk; ringbarking, topping or lopping; or any other substantial damage to a tree. It also includes any other activity that causes any of the above to occur, but excludes maintenance pruning that will not adversely affect the general health and appearance of a tree (s. 4).

Animal and Plant Control Act

This Act deals mainly with the removal of non-native vegetation. However, it contains a provision that anyone clearing non-native vegetation take all reasonable steps to make sure that they do not unnecessarily destroy or damage native vegetation (s. 64). Fines of up to $2000 may be imposed on anyone not complying with this provision (s. 64).

Pastoral Land Management and Conservation Act

This Act imposes a general duty on pastoral lessees to carry out their agricultural practices in accordance with good land management, to prevent degradation of the land, and to endeavour, within financial constraints, to improve the condition of the land (s. 7). Misuse of pastoral land extends to cutting down, lopping branches or otherwise damaging any vegetation on pastoral land. The maximum penalty for such an offence is $10 000 (s. 57).

If the Pastoral Board holds the opinion that pastoral land has been degraded, or is likely to deteriorate, it may require the lessee to submit a property management plan (s. 41). The property plan must outline how the lessee intends to manage the land over a specified period so as to minimise, arrest or prevent degradation, or to rehabilitate the land to protect it from further damage (s. 41).

National Parks and Wildlife Act

There is no legislation that explicitly pursues biodiversity objectives in South Australia. Biodiversity is indirectly protected by the *National Parks and Wildlife Act 1972*, which provides protection for habitat and wildlife through the establishment of parks and reserves. It also provides for the use of wildlife through a system of permits allowing certain actions, such as keeping, selling, trading, harvesting, farming, hunting and destruction of native species (s. 60). It also contains clauses for the conservation of native plants, including endangered, vulnerable and rare species (s. 49).

In 1997, the Government of South Australia established a program for the preparation of biodiversity plans for each region of the State. These plans guide on-ground activities to conserve biodiversity and identify conservation priorities for the region. These conservation priorities include threatened species, plant communities/habitats and species of significance, and key biodiversity areas and threats. The plans also provide guidance on conservation actions that can be undertaken and may be used to allocate funding to projects. Regional Biodiversity Plans are prepared in consultation with landholders and community groups and include input from experts (Inns, Opperman and Croft 2003). Plans have been published for the South East, South Australian Murray-Darling Basin, Kangaroo Island and Northern Agricultural Districts.

F.3 Development of the regulatory regime

The Department of the Environment, Sport and Territories (DEST 1995) concluded that South Australia's native vegetation has been extensively modified since European settlement. Most clearing occurred in the agricultural area which comprises 18 per cent of the State. In 1975, around 75 per cent of the agricultural area, or about 3 800 000 hectares, had been cleared.

A voluntary scheme was introduced in 1980 to encourage landholders to enter into heritage agreements. The aim of this scheme was to persuade landholders to retain and manage areas of native vegetation on their land by providing financial incentives. The SA Government (2001) reports however that the scheme was ineffective in achieving its objectives, as landholders were unwilling to amend their land clearance practices for the financial assistance on offer. In 1983, only 0.75 per cent of remnant native vegetation in the agricultural zone had been placed under heritage agreement. By 1988, the area of the agricultural region that had been cleared had risen to almost 80 per cent (DEST 1995).

With the introduction of clearing controls under the *Planning Act 1983*, (brought in without public consultation to prevent panic clearing), vegetation clearance was defined as a land-use change requiring planning approval. There was significant backlash in response to these new regulations, particularly from landholders whose clearance applications were refused.

After extensive consultation, the *Native Vegetation Management Act 1985* (NVM Act) was introduced, with clearance controls managed by the Native Vegetation Authority. This Act allowed for compensation, subject to areas being placed under a heritage agreement (s. 27). Farmers were entitled to receive as compensation an amount equivalent to the diminution in the value of the land as a result of a clearing permit being denied (s. 28).

With the introduction of the current NV Act, these explicit compensation provisions were removed. Some financial assistance still remains for heritage agreement areas, as noted under the section on the Heritage Agreement Scheme (SAFF 2000).

Under the NVM Act, the maximum fine for landholders found in breach of the Act was $40 000 — an amount small enough for some landholders to integrate into the cost of clearing for agricultural production. In contrast, the new Act requires landholders who have cleared vegetation without permission to revegetate the area, and to face fines of up to $100 000 (SA Government 2002).

F.4 Promoting environmental goals

Objectives of the regime

The objectives of the NV Act are described in box F.2. In summary, the Act is designed to protect, enhance and restore native vegetation for biodiversity, habitat and land degradation reasons.

Aims of the Development Act include enhancing conservation, use, development and management of land; and facilitating and encouraging sustainable development and environmental protection. These aims contribute to the broader goal of achieving orderly and efficient planning and development in South Australia (s. 3).

The Pastoral Land Management and Conservation Act aims to ensure the good management and use of all pastoral lands; to manage renewable resources to improve their yield; and to prevent the degradation of the land and its indigenous flora and fauna (s. 4).

Box F.2 **Objects of the *Native Vegetation Act 1991***

The objectives of the Native Vegetation Act include:

(a) conservation, protection and enhancement of the native vegetation of the State and, in particular, remnant native vegetation, in order to prevent further –
   i) reduction of biological diversity and degradation of the land and its soil;
   ii) loss of quantity and quality of native vegetation in the State; and
   iii) loss of critical habitat;

(b) provision of incentives and assistance to landowners to encourage the commonly held desire of landowners to preserve, enhance and properly manage the native vegetation on their land;

(c) limitation of the clearance of native vegetation to clearance in particular circumstances, including circumstances in which the clearance will facilitate the management of other native vegetation or will facilitate the sustainable use of land for primary production;

(d) encouragement of research into the preservation, enhancement and management of native vegetation; and

(e) encouragement of the re-establishment of native vegetation in those parts of the State where native vegetation has been cleared or degraded.

Sources: NV Act, s. 6; NV Amendment Act, s. 6.

The Soil Conservation and Land Care Act has four main aims: to ensure that land is used within its capacity; to ensure that land conservation becomes an integral part of land management; to provide for monitoring of the condition of the land; and to encourage implementation of procedures designed to reduce land degradation (s. 6).

Consistency

The NV Act makes provision for avoiding the duplication of procedures and compliance requirements where the clearance of native vegetation requires consent under this Act and approval under the Australian Government's *Environment Protection and Biodiversity Conservation Act 1999* (s. 29A).

There is very little overlap in the South Australian legislation that influences native vegetation management, and no obvious inconsistencies that would compromise achievement of the objectives.

However, under section 54B of the Development Act approval is required to damage a significant tree, even if the activity is permitted under the NV Act. The regulatory regime involving multiple acts, may therefore make permit approvals more difficult to obtain than under a system where only one act regulates clearance.

Although the NVC delegates some clearance decisions to DEH, as provided for under section 15 of the NV Act, the NVC has a Review and Audit Sub-Committee to review all decisions made under delegated authority. This review process ensures that decisions made by DEH are consistent with NVC policies (NVC 2002).

The NV Act provides that the NVC must have regard for the clearance principles outlined in box F.1, which may promote consistency between decisions regarding permit approval. Another clause states that, where native vegetation is in a soil conservation district, the NVC must, before giving its consent to clear, consult the soil conservation board in that district, and have regard to any recommendations it might make in relation to the application (s. 29). Where native vegetation is on pastoral land, the NVC must consult the Pastoral Board before granting permission to clear (s. 29).

Where a soil conservation board or the Pastoral Board has been consulted by the NVC, the NVC may request that the owner of the land submit a property plan as required under the Soil Conservation and Land Care Act or the Pastoral Land Management and Conservation Act. The relevant board may recommend to the NVC that it refuse consent to clear on the basis that a property management plan has not been submitted (s. 29).

Inconsistencies between various government documents regarding definitions of remnant native vegetation may be causing unwarranted additional administration costs. This problem may stem from the inaccurate nature of the State's mapping resources. Sally McKay (trans., pp. 465–6) asserted that the maps held by the Department of Planning SA are incorrect, in that they depict a watercourse running through her property when in fact there is none. Inaccuracies such as this could potentially have implications for the assessment of any clearing permit submitted, creating unnecessary costs for the landholder and also the administrative authorities.

Support for objectives

In 1999, the Australian and New Zealand Environment and Conservation Council (Griffin 1999) reported that the SA Government displays a strong commitment towards community engagement in the conservation of native vegetation, evidenced by:

- strong public debate over the clearing of native vegetation in the 1980s;
- community involvement in preparation and implementation of Regional Biodiversity Plans;
- a Property Management Planning Program inclusive of conservation modules; and

- extension services promoting conservation of native vegetation by landholders.

However, Jim McDowall disputed the assertion that there was strong public debate over native vegetation clearing in the 1980s. He argued that:

> I don't think there really was any strong public debate. They had no chance. The debate was settled before the question was asked. The legislation was brought in under cover of darkness, so after that all you had was basically more of what we've heard today, where people are complaining about something that they haven't got. (trans., p. 1688)

Griffin (1999, p. 73) also reported, however, that there are still significant issues in communication and capacity building to be achieved in South Australia. It noted that particularly in Adelaide, community engagement processes are 'ad hoc and lack a strategic focus'. Communication with landholders, currently undertaken through separate extension services run by the Department of Environment, Heritage and Aboriginal Affairs (DEHAA) and PIRSA, requires more integration and coordination to ensure consistent objectives and approaches.

The broad nature of many of the objectives may result in uncertainty and confusion and this may hinder the achievement of environmental objectives. Scott Donner (SAFF) argued that:

> … you need clearly defined goals and outcomes of what you want. This is always what has been lacking. Nobody quite knew what they wanted … Well you actually have to be very clear and quite scientific so that things are achievable, otherwise it doesn't help biodiversity and it certainly antagonises farming communities. (trans., p. 1708)

According to Griffin (1999), South Australia needs to:

- develop and target community education programs about the role of native vegetation in achieving sustainable natural resource management;
- support Natural Heritage Trust (NHT) coordinators in their role of promoting the objectives of regional strategies and programs; and
- train extension officers in both sustainable agricultural management and on-farm nature conservation.

The Pastoral Program was established under the Pastoral Land Management and Conservation Act to provide protection for South Australia's rangeland resources whilst facilitating ecologically sustainable use. Key program activities include:

- monitoring of rangeland condition on pastoral leasehold lands;
- systematic assessment of land condition;
- enforcement of lease conditions, particularly in relation to land condition;
- providing information and support to the Pastoral Board;

- tenure administration;
- lease rental administration; and
- providing a network of public access through pastoral lands.

Effectiveness of the regulatory regime

Ongoing monitoring

Under the NV Act, the Minister appoints authorised officers to inspect land for the purpose of administering and enforcing the Act, and for determining whether landholders are in compliance with heritage agreements (s. 33). However, the Act seems to allow for random and intermittent monitoring, rather than comprehensive or extensive monitoring and enforcement.

South Australia does, however, have several programs that monitor the general state of the natural resource base, and some of these include components that specifically track changes in native vegetation cover.

State of the Environment Report

In South Australia, the *Environment Protection Act 1993* (EP Act) requires the Environment Protection Authority to produce a State of the Environment (SoE) report, tabled in Parliament, at least once every five years.

The SoE report provides a framework for recording progress towards sustainable development. The reports include environmental indicators and performance measures for land-use and soil condition, as well as loss of biodiversity. The indicators are expressed in terms of changes in land-use, the area of land affected by acidic and saline soils, the area of land with potential for wind and water erosion, and the extent and condition of remnant terrestrial vegetation.

It is chiefly the Soil Conservation and Land Care Act that is monitored for performance against its objectives (DEHAA 1999).

Biological Survey

The Biological Survey of South Australia is a program of systematic surveys, developed and implemented in 1971 to provide a baseline inventory of the State's flora and fauna. The program is overseen by the Biological Survey Coordinating Committee, which is an interdepartmental State government body.

It is estimated that surveying and mapping will be complete in about a decade. Once complete, the biological survey could be used to monitor the status of native vegetation cover in the State, and to determine where illegal clearing may be occurring.

In conjunction with the biological survey and vegetation mapping program, a complementary program exists to map pre-European vegetation in the intensive zone. The south-eastern region (from the South East to Murray Mallee and Mid North) will be completed within the next three years, while the northern Mid North, Eyre and Yorke Peninsula do not yet have completion dates. Once complete, the information from this program may be used to provide options for revegetating farms with indigenous flora. The use of pre-European vegetation mapping is also used for determining whether revegetated areas qualify for heritage agreement status under s. 23 of the NV Act.

Transparency

Elliott argued that greater accountability and openness were required in the implementation of the NV Act and in the operations of the NVC (Legislative Council 4 August 1999). The NV Amendment Act, accordingly, contains clauses to ensure that the process of permit approvals for native vegetation clearance is more transparent. The NVC must now advertise its meetings to allow public comment in relation to the granting or refusal of consent to an application to clear (s. 29).

It was also suggested that the composition of the NVC should be revised to increase the level of scientific expertise. Elliott proposed that the NVC be reconfigured to provide for the membership of a trained ecologist or botanist (Legislative Council 4 August 1999). However, the NV Amendment Act does not provide for alterations to the composition of the NVC.

A lack of transparency in the assumptions used by the authorities when mapping vegetation has also created problems for some landholders. Sally McKay and Jim McDowell claimed that there is a widespread problem associated with definition of remnant vegetation in South Australia, and with some of the assumptions made regarding the state of forest resources prior to the use of aerial photography:

> I think that my discussions with farmers across the breadth of South Australia and [with] other landholders who have significant historical knowledge going back two, three generations or more — and a lot of it is backed with photographic evidence — [indicate] the database is flawed and probably seriously so. To some extent, that's proved by the misstatements in various documents, or variations in statements. Quite often you will read that Mount Lofty has only 4 per cent remnant vegetation. You will

> pick up another government document and it will have 12 per cent remnant vegetation. That's a lot of area, so there's a problem of definition. (trans., pp. 466–7)

In Sally McKay's (sub. 78) case, problems with mapping, and a lack of transparency have contributed to the landholder being unable to clear vegetation planted as a tree crop a generation ago.

Perverse outcomes

Until recently, provisions existed under the NV Act for the NVC to allow clearance in contravention of the clearance principles if the vegetation in question comprised one or more isolated plants (s. 29). This section has resulted in some perverse outcomes involving significant numbers of 'isolated plants' as the Act was open to individual interpretation, and was one of the reasons cited by Elliott for the necessity for the NV Amendment Act (Legislative Council 4 August 1999).

In another instance of broad interpretation of the NV Act, a landholder cleared a number of mature trees by erecting a fence that weaved its way around the trees, and then by cutting down all the vegetation either side of the fence, citing exemptions under the Native Vegetation Regulations 1991, which allow clearance without a permit for purposes of fence construction (Legislative Council 4 August 1999). A related exemption, which allows the clearing of trees for fence posts, has also been used inappropriately, and has resulted in a significant level of tree clearing (Legislative Council 4 August 1999).

Under the Animal and Plant Control Act, landholders are obliged to control or destroy pest plants on their land (s. 57). If the landholder fails to ensure that pest plants are controlled or destroyed, the Animal and Plant Commission, or a control board, has the authority to serve a notice on the landholder requiring them to remove the plants. If the landholder fails to comply with the notice, the Commission or the control board has the authority to undertake the work and to bill the landholder for the cost of removal (s. 58).

However, Sally McKay (sub. 78) claimed that local council requirements insist that some pest plants, such as Bridal Creeper, be removed by hand, rather than sprayed, since spraying may result in poisoning of native vegetation. Sally McKay claimed, however, that hand weeding is ineffective, as it results in the plant spreading.

It was suggested that the requirements under the Animal and Plant Control Act to destroy pest plants have been used as an excuse for destroying native vegetation that has become infested with pest plant species (South Australian Legislative Council, 4 August 1999).

SAFF (sub. 140) claimed that the current regulatory regime is causing confusion in relation to the clearance of regrowth. The legislation prevents clearance after 10 years for grazing and after 5 years for any other clearance activity, such as cropping and maintaining pasture. However, poor communication has resulted in confusion in the community.

This approach to managing regrowth has a significant impact on landholders, particularly because the timeframes enforced are arbitrary and do not reflect the financial realities of farming enterprises:

> To manage a property within the required time frame would require a landholder to thoroughly clear any regrowth on a property on a strict schedule or risk prosecution if the time guidelines are broken … Few landholders would normally pursue clearance in such a rigorous manner — pasture improvement plans for large (and commercially viable) properties would typically run over decades, not a five (or even a ten) year cycle. (SAFF, sub. 140, p. 8)

The upshot of these restrictions is that landholders clear regrowth far more rigorously than they otherwise would, for fear of losing their capacity to develop their farms. This outcome is perverse in that it fails to encourage landholders to maintain native vegetation on their properties for long-term benefit.

Water use inefficiency is another perverse outcome potentially stemming from inflexibility in vegetation regulations. Bryan Paech (trans., p. 444) from the Tatiara District Council suggested that centre pivot irrigators are far more water-efficient than flood-irrigation. Yet in some cases, landholders have been prevented from implementing this technology because it would have involved the removal of 'one or two trees'. This has been enforced even when landholders were prepared to plant many trees in offsets, or to fence-off other areas for placement under heritage agreement.

It would seem from evidence given by Bryan Paech (trans., p. 443) that often approval to clear these trees is refused not on the basis of the clearance principles under the native vegetation regulations, but on the basis that they contribute to the amenity values of the area. This type of assessment relates to section 23 of the Development Act, which provides for a tree to be classified as 'significant' if it contributes to the character or amenity of an area.

The considerable amount of time — in some cases as long as two years — often taken to obtain an assessment on clearance applications imposes significant costs on landholders (Bryan Paech, trans., p. 445).

In extreme circumstances, Tatiara District Council believes that landholders may take matters into their own hands and clear illegally:

> Our refusal to [allow clearance of] the native vegetation, which is often the case, may have an impact on the future viability of the farm. Unfortunately it seems that no consideration is given to the future viability of the farm in any decision made by the authority, and I think probably that's another thing that landholders are frustrated with … when landholders become frustrated … these trees will disappear — I don't think that's the way they really want to do it but they will do it by illegal means to clear it, and that becomes a fight between the native vegetation people and the landholders and the council. (trans., p. 445)

Applications for clearance

In the period 1995-96 to 1999-00, 22 applications for broadacre land clearance were assessed by the NVC. Approval was granted for about 2000 hectares of clearance, while applications for about 1100 hectares were refused. Conditions on clearance applied to approximately 1000 hectares (SA Parks and Wildlife 2002).

Over this period, most permits were for vineyard construction or extension. A significant proportion of permits were also requested for clearing associated with irrigation, farm management and miscellaneous developments.

In 2000-01, 94 applications for clearing were assessed by the NVC. However, only two of these applications fell into the broadacre category; both of which were regrowth only. Four applications, covering about 40 hectares, were made for brushcutting, woodcutting and clearance for research. These are considered to have high prospects of recovery, and consent was granted by the NVC for all applications. Ninety applications were made for clearing which would result in no prospect of vegetation recovery. The applications involved about 1000 hectares of land, and approval was granted for clearing about 300 hectares (NVC 2001).

Conditions on approval included that:

- 108 hectares of remnant vegetation be placed under heritage agreements;
- 355 hectares of land be permanently set aside for natural regeneration to complement naturally occurring vegetation;
- 150 hectares of land be permanently set aside and planted with about 17 000 trees and shrubs to enhance existing vegetation; and
- 104 hectares of land be permanently set aside and planted by direct seeding in areas containing little or no existing vegetation (NVC 2001).

In 2001-02, nine applications for clearing associated with high prospects of recovery were determined over 41 hectares. Consent was granted for all applications. Eighty-seven applications were processed for clearance with no prospect of recovery over 559 hectares of land. The NVC refused clearance for about 1000 trees with a canopy area of 56 hectares (NVC 2002).

Conditions on approval included that:

- 82 hectares of remnant vegetation be placed under heritage agreements;
- 1042 hectares of land be permanently set aside for natural regeneration to complement naturally occurring vegetation; and
- 45 hectares of land be permanently set aside and planted with 5700 trees and shrubs to enhance existing vegetation (NVC 2002).

Level of compliance

The Resource Protection Section of SA National Parks and Wildlife is responsible for undertaking investigations of suspected breaches of the NV Act. Over the period 1998 to 2002, reports of alleged illegal clearing, which have been investigated, fluctuated between 120 and 152 per year. The majority of illegal clearing was reported to have occurred in the Adelaide, Yorke Mid North and Kangaroo Island regions, with fewer reports from the South-East, Murraylands, Western and Outback regions (NVC 2001 and 2002) (table F.1).

Table F.1 **Number of reports of illegal clearing by region**

Region	*1998-99*	*1999-00*	*2000-01*	*2001-02*
Outback and the ranges	2	2	8	13
West	6	10	3	13
Murraylands	35	19	16	10
South-East	9	32	17	23
Adelaide, Yorke Mid North, Kangaroo Island regions	69	78	76	93
Total	**121**	**141**	**120**	**152**

Sources: NVC (2001; 2002).

The NVC (2001) reported that in 2000-01, the number of incidents of alleged illegal clearing in the South-East region halved from the previous year, and that the number of reports from the Western region had been reduced. However, statistics reported in 2001-02 suggest that these reductions were only temporary, and may represent annual fluctuations in clearing. In 2001-02, 117 cases were submitted to the Legal Officer within the Investigations and Compliance Unit. This represented a

significant increase on the 26 breach reports lodged in 2000-01 and the 42 breach reports lodged in 1999-00.

Adjudication outcomes relating to matters referred to the Investigations and Compliance Unit are provided in table F.2.

Table F.2 **Adjudication outcomes on breach reports**

Legal action taken	*Number of cases 2000-01*	*Number of cases 2001-02*
Prosecution	7	20
No further action	2	6
Warning letters	16	21
Outstanding	na	17
Settled out-of-court	1	13
Total	**26**	**85**

Sources: NVC (2001; 2002).

Most prosecutions resulted in fines (ranging from $100–$3500) and/or good behaviour bonds.

The Investigations and Compliance Unit recently launched a satellite imagery pilot called ‘Operation Crusoe’, which involves the use of satellite imagery to detect instances of illegal clearing on Kangaroo Island (NVC 2002). Using this trial method, 21 anomalies were detected and investigated. The program has since been refined and another 144 anomalies in vegetation cover have been detected and are in the process of being investigated.

However, Tatiara District Council (sub. 60) indicated that enforcement and monitoring are an ongoing concern due to lack of resources. Rather than directing additional resources to making more legislation, the Council suggested that resources should be directed to providing on-ground staff and education to build better relationships with landholders to achieve the desired outcomes.

Economic and social impacts

The District Council of Elliston (sub. 120, p. 5) claimed that under the approval process for clearance, the main criteria for consideration are the potential impacts on flora and fauna, rather than economic or social impacts.

The SA Government observed that under the NV Act, the NVC ‘now considers the circumstances under which the applicant operates their property and the extent to which their decision may affect its viability’ (sub. DR324, p. 37) The social and economic interests of the community are considered under the Development Act.

The EP Act states that both short and long-term social, economic, environmental and equity considerations should be taken into account to uphold the principles of ecologically sustainable development.

F.5 Administration and implementation

Administrative costs

Some of the costs of administering the NV Act may be obtained from the financial statements of the NV Fund. For example, in the year ended 30 June 2001, the NV Fund spent almost $1 million on assistance payments, research and other expenses. This figure does not take into account the cost of salaries or expenditure by government departments in administering the various acts that relate to native vegetation and biodiversity. This figure also neglects the costs associated with monitoring and enforcing the NV Act.

Dispute resolution procedures

The main avenue for dispute resolution under the NV Act was provided by section 30, where an applicant who was dissatisfied with the NVC's ruling on their application to clear, could request that the NVC refer the application to a conciliator for assessment. The conciliator would submit a report to the NVC with a recommendation to either uphold, vary or revoke the original determination. The reasons for the conciliator's decision were laid out in a report. Where the conciliator recommended that the determination be varied or revoked, the NVC had to reconsider the application, taking into account the conciliator's recommendation. The conciliator had no powers to overturn a decision of the NVC.

In 2001-02, seven conciliator reports were prepared in relation to determinations questioned by dissatisfied applicants. Upon reviewing the reports, the NVC resolved to uphold its original decision in every case, reputedly because the applications involved intact blocks of vegetation or scattered trees with high habitat value (NVC 2002).

Under the NV Amendment Act, the provision for conciliators has been repealed. However, section 33F provides for persons who have applied to clear native vegetation to appeal to the ERD Court against a refusal by NVC to grant permission to clear.

The ERD Court may either affirm, or rescind the decision and refer the matter to the NVC for further consideration. However, the ERD Court may not overturn the ultimate discretion of the NVC to refuse to grant a consent to clear, or to impose conditions associated with a consent to clear.

F.6 Impacts on landholders

Impacts on farming practices

Tatiara District Council (sub. 60) stated that many of the impacts on farming practices occur because the current regulations fail to take into account, or fail to achieve a balance between, the economic, social and environmental impacts of native vegetation regulations. The Council believes that when assessing applications for vegetation clearance, there is no consideration given to best farming practices and the impact on the capacity for farms to be sustainable. The impacts on farming practices may be an inability to control for weeds, vermin or soil erosion, or simply a matter of time and convenience — in one case, a landholder was required to drive 17 kilometres between his two properties instead of the 900 metres necessary if the clearing permit for his access track had been approved (Tatiara District Council, sub. 60).

As raised earlier, SAFF (sub. 140, p. 8) noted that due to the provisions under the NV Act that implement five and ten-yearly exemptions for clearance of regrowth, landholders are clearing their regrowth far more rigorously than they otherwise would in order to ensure that they do not lose their rights to use their farm land as previously.

Sally McKay (trans., p. 468) also referred to the incentives for landholders to ensure that their native pasture is never left for more than five years without being cultivated. This may not be the best environmental outcome, for example, because it means paddocks cannot be minimum tilled or pastured using broadcast seed. It is also likely to mean that landholders are less willing to maintain native pasture on their land, since exotic species do not attract the same scrutiny.

According to Sally McKay (trans., p. 470), the current regulations also act as a disincentive to planting trees, because there is no guarantee that landholders will be able to remove them later, either for profit or convenience reasons. This disincentive has been strengthened by the NV Amendment Act, since it has reclassified illegal clearing as a civil offence, meaning it is now up to the landholder to prove that they planted the trees, rather than the onus of proof being on the authorities to prove that trees are remnant native vegetation.

Regulations that do not allow sufficient clearing on road verges pose potential hazards to people. This has a direct economic impact through landholders employing less farm labour:

> I can barely drive without scratching my tractors. I used to have three people working for me on the farm. Now, my son and I do the lot, because … if I did have anyone helping me … you've only got to have a person, a labourer, drive somewhere and collect one of those trees through the windscreen and my occupational health and safety would just go through the roof. So unfortunately, certainly where we are, it's just a long, sad litany of problems. Not me personally, but in this whole area. (Sally McKay, trans., p. 463)

Sally McKay (trans., p. 463) also referred to some of the possible hazards to livestock associated with having trees too close to fence lines. In particular, there is an issue with liability if stock from the farm were to escape and cause damage if council trees fell on the shared boundary fence. Sally McKay has previously encountered problems with livestock injuring themselves on low-hanging branches that cannot be removed due to vegetation regulations.

Impacts on property values and returns

Sally McKay (sub. 78, p. 2) indicated that an inability to obtain permission to clear trees that her family planted on her farm 40 years ago has cost thousands of dollars in legal advice, $250 000 in lost income potential from harvesting the trees for firewood, the opportunity cost of lost land productivity, and potential future losses from not being able to re-employ the land in new enterprises.

Kevin Parker noted:

> In our case we've got a property which, if it was allowed to be cleared to the conditions of the deeds, today's value would be around $3 million, and at the moment I think if we put it on the market it might bring $600 000 … (trans., p. 433)

He further noted that based on his observation of land sales in his area:

> … a property with a heritage agreement on it brought around about $60 an acre for cleared arable land. The one with no heritage agreement on, all cleared, brought three hundred and something dollars an acre — similar condition. (trans., p. 433)

Gary Anderson (sub. 194) argued that as a direct result of the NV Act, his family was unable to clear regrowth on 75 per cent of their farm. This resulted in a decline in the value of the property amounting to one-tenth of the value of cultivated land, and one-quarter of the value of the land as it was in its partly-cleared state. Gary Anderson also claimed that the potential annual income generation of this property had been significantly affected — the Anderson farm grosses $15 000 to $30 000 per year, while nearby cleared farms of similar size gross $300 000 to $380 000 per

year. In addition, the scrubland on the property 'provides negligible income, and would create no profit at all if we were to carry out the desired level of weed and feral animal control' (Gary Anderson, sub. 194, p. 13).

The SA Government (sub. DR324) referred to research that demonstrated that application of Heritage Agreements either reduced or had no effect on property prices, depending on the location of the property and its agricultural use.

Impacts on attitudes of finance providers

The Commission has received very little evidence from South Australia in relation to the impacts of the regulatory regime on the attitude of finance providers and any associated impacts on landholders' investment decisions.

One instance involves the refusal of banks to mortgage a property with a registered heritage agreement. Kevin Parker stated:

> This heritage agreement we have on our property stopped us having a mortgage on it … We have not been able to find a financial institution to mortgage it. If it didn't have a heritage agreement … it would be valued at about $3 million. (trans., p. 432)

Gary Anderson (sub. 194, p. 7) also indicated that once clearing was denied on his property, the banks and stock firms refused finance because the property was deemed 'not potentially viable'. He claimed that nearby properties of similar size and topography, that have arable areas fully cleared are able to access overdraft facilities of $80 000.

Government measures to mitigate negative impacts

South Australia spent around $85 million in financial assistance after the introduction of clearing controls under its NVM Act.

The NV Act, introduced in 1991, provides for the establishment of heritage agreements over areas of native vegetation in order to preserve or enhance them (s. 23). A heritage agreement is a contract between a landholder and the State Government for the protection in perpetuity of a particular area of native vegetation. These agreements attach to the land, and are binding on the current owner of the land, whether or not that owner was the person who entered the agreement (s. 23). A heritage agreement may restrict the use of the land, require specific work to be carried out, or require management plans to be agreed periodically (s. 23A).

Heritage agreements are designed to encourage and assist landholders to conserve native vegetation on their properties, and the NVC provides financial assistance for

this. For example, a landholder who has signed an agreement may become eligible for financial assistance to manage the land, a rate rebate on the heritage agreement land, an amount of money equal to the devaluation of the land and/or fencing assistance if required (s. 23).

As of 2002, the South Australian Heritage Agreement Scheme had 1266 heritage agreement landholders protecting 560 000 hectares of native vegetation (SA Parks and Wildlife 2003). Over $80 million has been allocated since the Scheme commenced (SA Parks and Wildlife 2003). NVC (2002) report that, during 2001-02, it provided $84 000 from the NV Fund for supporting heritage agreements. This was supplemented by an additional $95 000 from the NHT.

There is evidence to suggest that heritage agreements have not always been entered into voluntarily, but have on occasion, been entered into under pressure. Helen Mahar (sub. 40 and DR238) claimed that the NVC initially offered clearance consent over regrowth, subject to signing a large heritage agreement. Helen Mahar objected and consent was refused. Subsequent negotiations for such a trade-off failed to reach an agreement. Helen Mahar exercised an exemption to maintain grazing, which was eventually recognised by the NVC. The NVC recommended that a 'hardship payment' be made in recognition of income losses caused by delays in acknowledging the exemption. The NVC then linked the receipt of the payment to Helen Mahar signing a heritage agreement. Helen Mahar claimed that this heritage agreement was signed under pressure and without the clearing consent being issued. This process took five years. Helen Mahar claimed that the NVC was acting unlawfully from the start requesting that a heritage agreement be signed for land that was not in the application to clear. Helen Mahar also claimed that the NVC was acting unlawfully in linking reimbursement of income losses to signing a heritage agreement.

Kevin Parker (trans., p. 431) also stated that the heritage agreement that he and his family signed on their property was 'forced':

> We were forced to sign a heritage agreement because it had taken five years and the only way we could get compensation was to sign a heritage agreement. (trans., p. 431)

In addition, the Coorong Local Action Plan (LAP) offers incentives to landholders for revegetation projects and actions that protect existing native vegetation and wetlands. A bonus is given for projects that generate an added biodiversity benefit. The LAP is jointly funded (both cash and in-kind) by the NHT and the Coorong District Council (Bateson 2000).

Incentives provided for fencing remnant vegetation are determined by several factors, including the health, size, location and intactness of the vegetation, as well as whether it protects endangered species (Bateson 2000).

F.7 Impacts on regional communities and other economic activities

Gary Anderson (sub. 194, p. 15) stated that the restrictions placed on the use of his farm by the regulations have reduced farm spending within the local community by $80 000 per year, as he is no longer able to employ shearers, shed hands, farm labourers or tradespeople.

The District Council of Elliston (sub. 120) reported that the regulation of native vegetation, particularly through heritage agreements, has negative consequences for local government and consequently, the local community more generally. The Council pointed out that land that carries heritage agreements is valued at zero for the purpose of rates assessments, which results in a significant loss in the total revenue recouped by local government. In order to fund this 'shortfall', Council must raise the rate at which it assesses the remaining valued properties in the District. Thus, the costs associated with heritage agreements are manifested in the additional burden that the landholders of cleared properties in the District have to pay in rates (District Council of Elliston, sub. 120).

Where potentially productive agricultural land is prevented from being cleared by regulations, this has impacts for local economic activity and population drift, as marginal farms are sold to neighbours and the local population shrinks. In turn, declines in regional populations affect schools and other regional facilities (District Council of Elliston, sub. 120). SAFF noted:

> Whilst regional economic decline cannot be wholly blamed upon one set of prescriptive regulations, the rapid decrease in farm numbers in South Australia in recent years (9 per cent 1993 to 1999) is the clearest indicator possible of the pain felt in rural communities as ever increasing numbers of farms become unviable. It is impossible to argue that the inability to fully develop farm businesses as a result of the South Australian native vegetation legislation has not had a part to play in this drawn out drama. It is simply exceedingly difficult to quantify its contribution to agricultural and regional decline. (sub. 140, pp. 5–6)

Gary Anderson (sub. 194) referred to the social costs that may be (indirectly) associated with the impacts of native vegetation regulations. In particular, he referred to the decline in health suffered by his family as a result of stress, anxiety and poverty brought on by lower income and by battling with bureaucracies. He also stated that his children no longer participate in local sports or social activities because the family cannot afford transportation costs to and from such activities. Such impacts undoubtedly affect the individuals concerned, and extrapolated to a broader scale, could potentially have significant impacts on the social fabric of regional communities.

Benefits to the community associated with intact areas of native vegetation include tourism, lower risk of salinity, higher biodiversity, ecosystem services such as water filtration and pollination.

F.8 Summary

Clearing regulations are not as widespread an issue in South Australia as in some other States, probably because only a small portion of the state is suitable for clearing and much of this was cleared prior to 1980. The major issue in South Australia is one of equity.

The main problems with the legislation focus around lack of flexibility in its implementation. In addition, a failure to take into account the economic and social costs when assessing clearance applications, may mean that high costs are imposed on some landholders.

G Western Australia

G.1 Introduction

The legislative framework regulating the clearing of native vegetation in Western Australia is about to change significantly. The *Environment Protection Amendment Act 2003* (EP Amendment Act), which sets out a new process for assessing clearing proposals and enforcing compliance, was passed by Parliament on 20 October 2003 and part of the Act came into operation on 19 November 2003. However, the sections of the Act which relate to clearing controls and prosecutions for environmental harm have not yet been proclaimed.[1] Throughout this appendix the new legislation is referred to as the 'proposed' arrangements; the current legislation is referred to as the 'current' regulatory arrangements.

The new legislation will change the current system of land clearing notifications, where notifications are submitted to the Commissioner for Soil and Land Conservation, to a system of clearing permits processed through the Environmental Protection Authority (EPA).

G.2 Description of the regulatory regime

Under the current regulatory arrangements in Western Australia, several pieces of legislation directly affect native vegetation management: the *Soil and Land Conservation Act 1945* (SLC Act), the *Conservation and Land Management Act 1984* (CALM Act), the *Environmental Protection Act 1986* (EP Act), the *Land Administration Act 1997* (LA Act) and the *Country Areas Water Supply Act 1947* (CAWS Act). The ways in which these regulations currently relate to land clearing are described in box G.1. The *Wildlife Conservation Act 1950* (WC Act) also affects native vegetation management in WA.

[1] These are sections 37, 54(2), 55, 72(2) and (4), 75(3) and (4) and Part 9. These provisions are expected to come into operation during 2004. The WA Government (sub. DR290) indicated that clearing regulations that will underpin the new regime are currently being developed.

A landholder wishing to clear native vegetation is required to lodge a notice of intent (NOI) with the Commissioner for Soil and Land Conservation. The Commissioner has 90 days in which to object to a notification of clearing.

Box G.1 **Regulation of land clearing in Western Australia**

Soil and Land Conservation Act 1945

Section 28 relates to activities that injuriously interfere with the land in any soil conservation reserve.

Section 35 requires compliance with a Soil Conservation Notice.

Soil and Land Conservation Regulations 1992

Regulation 4 — a landholder who wishes to undertake clearing (more than 1 hectare) that will result in a change in land use, must notify the Commissioner for Soil and Land Conservation at least 90 days before commencing clearing.

Regulation 5 — an owner or occupier of land who proposes to drain or pump water from under the land surface because of salinity and to discharge that water onto other land, or into other water or a watercourse, must give 90 days notice to the Commissioner for Soil and Land Conservation.

Land Administration Act 1997

Section 109 — a pastoral lessee must not remove trees or clear land under the lease except if it is permitted under the lease, it is necessary for construction of improvements as permitted under the lease, or if a permit has been issued.

Section 110 — pastoral land must not be sown with non-indigenous pastures without a permit.

Section 111 — a pastoral lessee must control declared animals and declared plants in compliance with the *Agriculture and Related Resources Protection Act 1976* and to the satisfaction of the Board.

Section 267(2) — a person who clears, cultivates, causes or allows stock to graze on Crown land without the permission of the Minister or reasonable excuse, or removes from Crown land any plant (whether alive or dead), commits an offence.

Country Areas Water Supply Act 1947

Section 12B — clearing without a licence in a controlled catchment area is an offence.

Environmental Protection Act 1986

Section 41A — if the EPA has set a level of assessment for a proposal and this has been set out in the public record, a person who implements a proposal before a final decision is published by the EPA commits an offence.

Source: DEP (2002a).

The Commissioner is limited to considering land degradation issues that may result from clearing (Bennett 2002). Following assessment by the Commissioner, proposals that may have a significant impact on the environment usually are referred to the EPA for assessment. EPA involvement may be necessary to ensure that the impacts of clearing on biodiversity are taken into account. If the environmental impact assessment process is invoked, the Environment Minister consults with interested Ministers and decision-making authorities and considers economic and social factors raised by these parties before making a decision (WA Government, sub. 151, p. 6).

The assessment of economic and social impacts differs depending on the nature of the decision. The Western Australian Government (sub. 151, p. 6) noted that in respect of rural clearing proposals, environmental considerations generally are not balanced against economic and social considerations. The WA Government (sub. DR290) further noted that the Commissioner for Soil and Land Conservation does not have the authority to consider the social and economic benefits of a clearing proposal.

Soil and Land Conservation Act

The Department of Agriculture (AgWA) has primary responsibility for the administration of the SLC Act, but is supported by a number of State and regional structures in this responsibility, including the Soil and Land Conservation Council (SLCC)[2] (box G.2), the Rural Adjustment and Finance Corporation of Western Australia Board, and over 140 Land Conservation District Committees.

Under the Act, the Minster for Agriculture can recommend to the Governor that certain tracts of land be designated as soil conservation districts (LCDs) (s. 22) or soil conservation reserves (s. 26). The Minster may regulate to restrict land use within LCDs, but this power has not been generally used (WA Government, sub. DR290).

Where private land is taken for a soil conservation reserve, it is acquired as per acquisitions for public works under the LA Act (s. 26). The Minister is required to manage soil conservation reserves so as to minimise potential degradation and prevent impacts on other land. Land within designated soil conservation reserves may be leased by the Minister for any use she/he deems fit (s. 30). Classification of land as a soil conservation reserve may be revoked at any time by the Governor on

[2] The Soil and Land Conservation Council is an inter-agency group, which includes representation from local government, the Conservation Council, WA Farmers' Federation and the Pastoralists and Graziers Association.

the recommendation of the Minister. Anyone disturbing soil or vegetation within a soil conservation reserve may incur a penalty of up to $2000 (s. 28).

Box G.2 **Functions of the Soil and Land Conservation Council**

The Soil and Land Conservation Act 1945 establishes the Soil and Land Conservation Council. Functions of the Council under the Act include:

- to advise the Minister as to the condition of soil and land resources;
- to make recommendations to the Minister as to land use, soil and land conservation policy, and programs for the implementation of that policy;
- to coordinate, monitor, and review soil and land conservation programs and activities;
- to coordinate and advise on the implementation in the State of soil and land conservation programs funded by the Australian Government;
- to supervise soil and land conservation programs undertaken by the Government of the State;
- to promote awareness of land degradation and conservation; and
- to coordinate the establishment of, and activities within, land conservation districts.

Source: Soil and Land Conservation Act 1945, s. 16.

A Soil Conservation Notice may be placed on private property, where it is the Commissioner's belief that land degradation has occurred, or may foreseeably occur, due to the failure of any person to take adequate precautions to prevent or control soil erosion, salinity or flooding (s. 31).

A Soil Conservation Notice may be placed on land in order to:

- prevent further degradation on that property or elsewhere;
- aid regeneration of vegetation; and
- require the landholder to undertake any activities that may be required to address land degradation concerns (Native Vegetation Working Group 2000).

Where a landholder contravenes or fails to comply with a soil conservation notice, a penalty of $3000 applies (s. 35). If a landholder causes damage to the property of any other person, and that damage would not have occurred had the landholder complied with a soil conservation notice, then the owner of the damaged land has a right of action against the landholder. If a landholder fails to comply with actions required by a conservation notice, then persons authorised by the Commissioner may enter the land and undertake the required actions, and the costs incurred will be debts due to the Crown (s. 35).

The Commissioner has power under the Act to prevent the removal of individual paddock trees, where this is deemed detrimental to the future use of the land (although this power has never been exercised in Western Australia). However, unless more than one hectare is to be cleared, the removal of such trees is not notifiable under the Act, provided their removal would not alter the existing land use (Native Vegetation Working Group 2000).

The SLC Act does not provide compensation for landholders adversely affected by land clearing regulations. However, there are six controlled catchments in the south-west of Western Australia where special arrangements are in place under the CAWS Act to prevent clearing in 'declared' catchments. In these catchments, where an application to clear is refused, claims may be lodged with the Water and Rivers Commission[3] for compensation. As at January 2000, more than $36 million had been paid to settle such claims (Native Vegetation Working Group 2000).

There are additional clauses in the SLC Act that establish the potential for the Commissioner to enter into conservation covenants with private landholders (s. 30). Another clause in the Act creates the Landcare Trust (s. 40).

In 1991, an amendment to earlier regulations incorporated a clause that introduced a timeframe on 'no objection' notices from the Commissioner for Soil and Land Conservation. This means that landholders must commence clearing within two years of receiving such a notice, or else be required to lodge a new NOI if they propose land clearing in the future (Native Vegetation Working Group 2000).

Environmental Protection Act

The EP Act is administered by the Department of Environment Protection (DEP) and EPA. These agencies are responsible for environmental impact assessment processes within the State, including proposals that may impact on vegetation and biodiversity.

There are very few guidelines in the Act itself to describe the role and position of the EPA in relation to land clearing. However the EPA's position statement on clearing of native vegetation (EPA 2000) reflects several National and State policies, including: the *National Strategy for the Conservation of Australia's Biological Diversity 1996*; the *Natural Heritage Trust Partnership Agreement 1997*; the *ANZECC National Framework for the Management and Monitoring of Australia's Native Vegetation 1999*; the *Memorandum of Understanding for the*

3 The Water and Rivers Commission and the Department of Environmental Protection are to be merged to form the Department of Environment.

Protection of Remnant Vegetation on Private Land in the Agricultural Region of WA 1997; and the *Native Vegetation Working Group Final Report 2000*.

If a proposal appears likely to have a significant environmental effect, the local decision-making authority should refer the proposal to the EPA for assessment as soon as the proposal comes to the attention of that authority (s. 38). However, where the proposal does not fall into the category of an assessed scheme, the proposal may be referred to the EPA by either the proponent or any other interested person (s. 38). The Minister may also refer any proposal to the EPA if it appears that there is public concern about the likely environmental impacts of a given proposal (s. 38).

The Act provides for statutory environmental protection policies (EPPs) to protect a particular region by regulation (s. 71). For example, EPPs are in place to protect nominated wetlands and their fringing vegetation in the south-west agricultural area and the Swan Coastal Plain (Griffin 1999).

Conservation and Land Management Act

The Department of Conservation and Land Management (CALM) is created by the CALM Act. CALM's role is to administer the CALM Act and the WC Act. CALM is responsible for the management of Western Australia's terrestrial conservation reserves, state forests, marine parks and marine nature reserves, and for the protection of biodiversity. CALM operates through a structure of nine regions. It works with the Conservation Commission of Western Australia (in which terrestrial conservation reserves, State forest and timber reserves are vested) and the Marine Parks and Reserves Authority (in which marine parks and marine nature reserves are vested).

The CALM Act provides for conservation agreements over private and pastoral leasehold lands (s. 16). CALM may also purchase, in whole or in part, pastoral leases, freehold remnant vegetation and wetlands that are required for conservation purposes (s. 15) for future addition to the conservation reserve system.

Land Administration Act

On pastoral leasehold lands, stocking rates are regulated by the LA Act, and administered by the Pastoral Lands Board. The Act explicitly requires land to be managed on an ecologically-sustainable basis (s. 95).

A pastoral lessee is required to maintain all indigenous pasture and vegetation on the land (s. 108) and cannot clear or disturb vegetation unless it has already been approved under the terms of the lease (s. 109). The penalty for illegal clearing of

pastoral land is $10 000 (s. 109). It is an offence under the Act to sow pastoral land with non-indigenous pastures without a permit (s. 110). The Native Vegetation Working Group (2000) found that the main threat to native vegetation in pastoral regions is grazing, despite the provisions of this Act.

Country Areas Water Supply Act

The Board of the Water and Rivers Commission has responsibility for managing the water resources of Western Australia. Its charter requires community consultation in planning and implementation, supported through local Catchment Coordinating Groups and Waterways Management Authorities. Under this Act, any person who clears vegetation without a licence in a controlled catchment commits an offence (s. 12B). A person committing such an offence may be liable to pay a fine of up to $2000 and may be required to restore the vegetation (s. 12B).

Wildlife Conservation Act

The principal Western Australian legislation relating to biodiversity conservation is the WC Act, which is administered by CALM. All native flora are protected under the WC Act.

It is the Minister who declares flora to be rare. Declared rare (threatened) flora may not be removed by any person without the consent of the Minister, even on private land. There are no guidelines in the legislation as to conditions the Minister might set in regard to such takings. The maximum penalty for removing protected flora without consent is $10 000 (s. 23F).

If a private landholder has been refused consent, and can satisfy the Minister that they will suffer loss of use or enjoyment of the land by reason of that refusal, the landholder will be paid compensation for up to five years, so long as the loss continues. If compensation has been paid for a period of five years, the Minister must not refuse an application to take rare flora from that part of the land for which compensation has been paid (s. 23F).

Regardless of whether compensation has been paid for the loss of use or enjoyment of land or not, any land in the State that is private land may be acquired by the Minister for Planning and Infrastructure under the LA Act (s. 9) for any purpose listed under the LA Act. The Minster for the Environment has no compulsory acquisition powers.

Programs of assistance

In addition to schemes which provide technical advice and training to landholders, the WA Government has a number of assistance schemes to promote and achieve environmental objectives (box G.3). Several of these schemes are discussed in more detail below.

Box G.3 **Financial assistance schemes**

- Community Conservation Grants
- Nature Conservation Covenant Program
- Wetlands Conservation Program
- Regional Parks Community Grants
- Native Vegetation Trust Fund
- Swan Alcoa Landcare Program
- Priority Projects and Devolved Grants Schemes
- Envirofunds Grants
- Landcare Australia
- Fishcare WA
- Denmark Conservation Appeal
- Auction for Landscape Recovery Pilot Project
- Busselton Biodiversity Incentive Strategy
- Conservation Zone Rates Rebate
- Biodiversity Conservation Grants

Source: WA Government (sub. DR290).

Natural Resource Adjustment Scheme

The Natural Resource Adjustment Scheme (NRAS) was developed primarily to assist landholders disadvantaged by land-clearing restrictions. The program is funded by the State Rural Assistance Fund. Under the Scheme, landholders who register conservation covenants on their land may be eligible for several types of assistance such as:

- payments to retain bushland based on the current market value at the time of commencing negotiations with the applicant;
- payments to meet subdivision costs where this is needed to place the bushland on a separate title; and

- assistance in the coordination and negotiation of the sale of the land, should the landholder wish to sell the land.

The Scheme is only available to rural landholders who have had a NOI to clear rejected in full by the Government after 17 May 1995 and prior to 31 December 1999. In addition, the land must be more than 20 per cent bush at the time of submitting the NOI.

Remnant Vegetation Protection Scheme

This scheme ceased operation in the 1999-00 financial year. It had operated since 1989, providing grants to landholders for the fencing ($1200 per km) and protection of remnant native vegetation that had been protected by 30-year conservation covenants. Similar funding is now available under the Natural Heritage Trust (Bushcare).

AGWEST Farm Planning Programs

AGWEST manages a number of assistance and training programs including State Landcare Program and schemes overseen by the Rural Adjustment and Finance Corporation (RAFCOR).

Schemes overseen by RAFCOR include the South Coast Productivity Grants, Progress Rural WA and FarmBis. The South Coast Productivity Grants scheme was the final regional initiative under the Rural Adjustment Scheme. It provided grants of up to $10 000 to landholders or businesses for property development, enterprise diversification, property build-up and amalgamation, and professional advice for the development of appropriate enterprises relevant to the South Coast region. The scheme ceased in February 2002 after outlaying around $3.3 million.

Bush Brokers

Bush Brokers is a collaborative program developed by the World Wildlife Fund, the Real Estate Institute of Western Australia and the SLCC, with support from the AgWA. The program has been developed as a means to promote private investment in bushland for conservation.

Bush Brokers aims to increase the market value of bushland and improve land-planning processes to facilitate a new market in bushland blocks. By creating a commercial market for bushland, Bush Brokers aims to preserve biodiversity, improve land and soil quality, and reduce the gap between private and public conservation values to help promote sustainability.

The WA Farmers' Federation (WAFF) argued that the Bush Brokers scheme has value in urban and near urban areas but noted that:

> … in the broadacre agricultural areas of the state this scheme will be of little value to landholders prevented from clearing because the demand for native bush is very low and as a consequence so is the price commanded. (sub. DR287, p. 2)

G.3 Proposed regulatory arrangements

Under the proposed regulatory arrangements, native vegetation management in Western Australia will be dealt with directly through the EP Amendment Act. The new legislation seeks to integrate assessment of land degradation and biodiversity conservation concerns within the same approval process, bringing Western Australia in line with other jurisdictions.

The new Act repeals the legislation under which a NOI to clear is required and replaces it with a system of clearing permits issued under the EP Act. The system therefore will change from one under which it is permissible to clear unless the Commissioner for Soil and Land Conservation objects, to one in which it is an offence to clear without a permit. Permits will be issued by the Chief Executive Officer of DEP (WA Legislative Assembly 2002, p. 12301).

Environmental Protection Amendment Act 2003

Among other things, the stated purpose of the EP Amendment Act is to ensure more effective protection of native vegetation by incorporating sustainability principles, providing for more effective post-approval monitoring of major projects, and improving the impact assessment process to address cumulative and regional impacts (WA Legislative Assembly 2002). DEP (2002b) suggests that the advantages of the new system include:

- broader assessment — the EP Amendment Act will allow for the assessment of clearing applications for all forms of environmental degradation;
- stronger penalties — new penalties include large fines and the power to direct landholders who have illegally cleared to revegetate;
- equality between city and country — both urban and rural clearing proposals will be assessed on the same basis; and
- equality between Government and private applications — the legislation will be binding on both Government and private landholders.

The new legislation will enable strategic environmental impact assessment to be undertaken by the EPA, as well as retaining the existing provisions for referral of significant proposals. This will enable the EPA to become involved in proposals from an early conceptual stage, with the aim of generating more environmentally-friendly project designs. However, only the proponent can refer a strategic proposal for assessment by the EPA, and this referral is voluntary (WA Government 2002).

Under the new legislation, the WA Government is pursuing a 'no net loss' policy, in an attempt to maintain and increase the quality and quantity of native vegetation in Western Australia. All proposals to clear native vegetation will require an assessment and permit from DEP. However, exemption may be granted, for example, where vegetation was intentionally planted for harvest, where clearing is required for firebreaks not more than five metres wide, or to construct a lawful building or road.

In assessing applications for permits, the DEP must consider a range of clearing principles (to be listed in proposed Schedule 5 of the Act), which may only be departed from with good reasons that are made public. The clearing principles are based on principles that have been used by South Australia for the past 10 years and are designed to ensure that consideration is given to the value of remnant vegetation (WA Legislative Assembly 2002).

Inter-agency consultation will be retained in assessing permit applications. Site evaluations will be carried out by government officers to assess the environmental impacts of a proposal, using criteria based on biodiversity, water and soil, salinity and other impacts. In addition, all applications must be advertised to allow public comment on the impact of the proposed clearing. Only the most complicated clearing applications, involving potential impacts that cannot be considered under the permitting process, will be referred to the EPA for impact assessment.

Under the EP Act, unauthorised clearing of vegetation is not considered to be 'pollution'. The new Act introduces the concept of 'environmental harm', to allow for prosecution of deliberate or negligent activities that result in environmental degradation outside the approval process.

There are two levels of environmental harm offence. Environmental harm is defined under the Act as any activity that kills or damages native vegetation, including flooding or draining the land, burning vegetation, or grazing stock (DEP 2002c). The lower level environmental harm offence is 'material environmental harm', where the harm must be 'more than trivial or negligible or result in loss, damage, or costs (of prevention or making good) of more than $20 000' (WA Legislative Assembly 2002, p. 12304). 'Serious environmental harm' applies when the harm is 'high impact, irreversible, broad-scale, significant, in an area of high conservation

value or special significance, or when damage costs exceed five times the threshold amount, or $100 000 as currently provided' (WA Legislative Assembly 2002, p. 12304).

The maximum penalty for serious environmental harm, where the harm was deliberate or negligent is $500 000 plus five years imprisonment for individuals, and $1 million for corporations (DEP 2002b). Where intent cannot be proven, the maximum penalty for serious harm is $250 000 and three years imprisonment. This penalty also applies to criminally negligent material environmental harm. Material environmental harm without intent carries a penalty of $125 000 for an individual. Clearing in breach of a permit, or before the completion of the EPA's assessment process, incurs a maximum penalty of $62 500 (WA Legislative Assembly 2002, p. 12304).

The Act also includes a retrospective clause that requires landholders who clear land without authorisation after 26 June 2002, to restore the vegetation at their own expense.

Incentive and assistance measures for protecting native vegetation will increase under the proposed legislation. The Government has established a new incentive package to assist landholders in protecting and managing native vegetation, including:

- an initial $1 million for a Native Vegetation Trust Fund to facilitate a range of measures including fencing, revegetation, weed and feral control for bushland under voluntary protection;
- $350 000 for the Land for Wildlife program; and
- a further $1 million to support industry adjustment through land purchase (DEP 2002b).

Biodiversity legislation

The WA Government is in the process of developing a Biodiversity Conservation Bill to replace the WC Act. The primary objectives of the proposed Act will be to provide for the protection and restoration of biodiversity, and the sustainable use of native plants, animals and other organisms. Another goal is to meet criteria for accreditation to allow State implementation of relevant parts of the Australian Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (CALM 2002).

It is envisaged that the proposed Act will be wider in its application than the WC Act, more open to community input and processes, contain more effective

decision-making and enforcement mechanisms, incorporate mechanisms to facilitate community conservation efforts, and attempt to address the processes threatening the conservation of biodiversity.

In particular, it is proposed that new provisions under the Bill will:

- strengthen special protection for identified threatened species, and extend this protection to threatened ecological communities;
- ensure that decisions to protect species and ecological communities are made in accordance with clear statutory criteria and on the basis of advice from the independent, expert Threatened Species and Communities Scientific Committee;
- place special restrictions on the circumstances in which licences to harm threatened species or ecological communities can be granted;
- include enhanced and more effective enforcement mechanisms, including increased penalties and the power for the Minister for the Environment to issue conservation orders to ensure site-specific protection of threatened species or ecological communities;
- include controls on environmental pests and weeds and more effective controls on the importation of species that may become pests or weeds;
- provide the Minister with the power, on the recommendation of the Threatened Species and Communities Scientific Committee, to list key threatening processes and regulate threatening processes where they impact on biodiversity conservation; and
- provide statutory backing for nature conservation covenants, under which landholders can voluntarily protect the biodiversity on their land in perpetuity. Covenanting provisions might include obligations to manage land in accordance with a management plan (CALM 2002).

All decisions involving significant conservation risks must be authorised by the Minister, but more general cases of authorisation will continue to be administered by CALM. Any actions that could result in extinction or destruction of a species or ecological community must first gain the approval of the Governor (effectively Cabinet) and be tabled in Parliament to ensure that the government of the day is held accountable (CALM 2002).

Under the proposed Act, protection of the three tiers of biodiversity (genetic, species and ecosystem diversity) will be strengthened by:

- applying protection to all of Western Australia's native biota, to assist species diversity;

- giving strong protection to distinct populations and specified sub-species where the Minister believes they are eligible for listing, to assist genetic diversity within species; and
- giving the Minister the power to list and protect threatened ecological communities, to assist ecosystem diversity.

The proposed Act will prohibit the killing, harming or detrimental disturbance (without authorisation) of species protected by the Act. Enforcement provisions under the new Act are likely to increase significantly the fines associated with offences. The Minister may also be empowered to serve conservation orders, requiring landholders to protect, conserve or manage threatened species or ecological communities. A person convicted of an offence may be required to repair the damage they have caused at their own expense (CALM 2002).

Conservation offset conditions may be introduced, for example, where takings do not seriously endanger the species.

The Minister may approve bioregional plans, which would need to be recognised under the Act in any decisions made in relation to biodiversity management. Recovery plans for a native species, ecological community or critical habitat may form part of the bioregional plan, while wildlife management plans would be used to guide licensing decisions to ensure the ecologically sustainable use of resources. All such plans would need to be factored into the operations of public authorities.

G.4 Development of the regulatory regime

Given that most of the existing legislation regulating native vegetation clearance and biodiversity conservation in Western Australia is relatively old, the legislation pre-dates any requirements to undertake regulation impact statements.

The Commission, in the time available, could not gain access to information on the community consultation processes that were undertaken prior to implementation of all land-clearing regulations in Western Australia. The WA Government (sub. 151, p. 8) indicated that due to the number of different policies that make up the current regime, it would take considerable time to outline the community consultation processes that were carried out in developing all of those policies.

The level of public consultation has varied depending on whether changes to clearing legislation have been incremental or major (WA Government, sub. 151, p. 8). For example, the introduction of tougher criteria for considering clearing applications in 1995 was cited as a shift in approach that does not require broad public consultation. In contrast, the current Biodiversity Conservation Bill heralds a

clear change in regime and is therefore undergoing a detailed public consultation process involving a consultation paper and a draft Bill.

In addition, as part of the consultation process, CALM is undertaking several consultative sessions with interested groups such as Indigenous, conservation and industry bodies, and Government agencies, on how the objective of biodiversity conservation can best be achieved. The consultation paper expressly requests suggestions that would help promote biodiversity conservation and sustainable resource use, and on the possible roles that the Conservation Commission and Marine Parks and Reserves Authority could be given.

The closing date for public submissions on the consultation paper was 5 March 2003. A total of 157 submissions were received and were reviewed by CALM for possible inclusion in the drafting of the Biodiversity Conservation Act (WA Government, sub. DR290).

The WA Government has established a Natural Resource Management Council to provide advice to Government on natural resource management issues and to 'foster a consultative approach that ensures broad community involvement in NRM policy development' (WA Government, sub. 151, p. 9).

However, the WA Government has not always used a consultative approach in developing new legislation. The clearing provisions to be inserted into the EP Act were not published for public comment prior to their reading in Parliament because the 'Government wanted to move quickly to solve obvious problems with existing land clearing laws' (WA Government, sub. 151, p. 8). The WA Government does, however, intend to consult with the peak farming bodies in regard to the details of exemptions from the new clearing permit provisions.

There is also some evidence that consultation with landholders may be lacking at the regional level. Peter Wren submitted that:

> The West Australian State Planning Strategy, and in particular the Leeuwin-Naturaliste Statement of Planning Policy … arbitrarily reclassified our land use categories from rural and farming to reflect nature conservation and landscape values. Consultation with private landowners was available only after the maps were drawn and new land use categories set. No consideration whatsoever was granted as to the financial implications of losing the choice to determine the future use of our private freehold land. It seems that the West Australian Planning Commission engaged in 'a comprehensive process of community consultation' that somehow excluded the party most affected – the private landowner. (sub. 119, p. 1)

The WA Government, however, disputed Mr Wren's claim that private landholders were excluded from consultations over the Leeuwin-Naturaliste Statement of

Planning Policy. The WA Government stated that community consultation in relation to the statement involved:

> … arguably the most comprehensive public involvement achieved to date in Western Australia over a regional land use policy. Consultation included workshops for the general public, interest group meetings, publication and responses on issues papers, a social assessment survey, public meeting, information days, panel hearing and individual meetings with landowners affected by recommendations … (sub. DR290, p. 26)

The Shire of Gingin also expressed some frustration over a perceived lack of consultation, explanation and transparency with which the Government applied native vegetation and biodiversity legislation:

> It is considered incumbent upon Government, if it wishes to ensure native vegetation and biodiversity protection into the future, that it do so in a more consultative manner with the community so that there is an understanding at a broader community level of the necessity for such legislation. The current environmental management ethos is very much 'top-down', which is perceived by the majority as a draconian bureaucratic process introduced without reason or justification. It is the reasoning and justification which needs to be more clearly enunciated if the community is to embrace the concept of, and need for, sustainable management of native vegetation and biodiversity. (sub. 37, p. 6)

The Shire of Dandaragan (sub. 191) claimed that a lack of transparency and community consultation also characterised the introduction of the 1997 Memorandum of Understanding, which was a key document that guided the actions of the six agencies involved in assessing land-clearing applications.

G.5 Promotion of environmental goals

Objectives of the regime

None of the existing Acts that make up the native vegetation and biodiversity regulatory regime in Western Australia contain objectives. However, the WA Government (sub. 151, p. 1) indicated that, in general, there has been a trend for native vegetation and biodiversity regulations to be tightened over time, in response to greater recognition of the benefits of protecting native vegetation and biodiversity.

The WA Government agreed that the legislation contained no explicit objectives, but noted that:

> … the need for the legislation was widely debated by industry and community groups for several years prior to the legislation being proclaimed … Therefore, it could be

> argued that since the introduction of clearing controls in Western Australia, for both the gazetted water supply catchments and the general agricultural areas in the 1970s and 1980s, the avoidance of additional secondary salinity impacts on public water supplies and agricultural land has always been clearly articulated as the prime focus. (sub. DR290, p. 6)

Nonetheless, monitoring of the effectiveness of the regime is difficult because there are no stated objectives against which to judge outcomes. There are also very few monitoring programs in place, and where they do exist, they tend to monitor improvement or decline in native vegetation relative to the status quo. This is despite the fact that the SLC Act lists monitoring as one of the key functions of the SLCC.

Western Australia produces its own State of the Environment Report, which provides information on the key environmental problems facing the State. Although it is indicated in the report that clearing of native vegetation can cause environmental problems such as salinity, erosion, waterlogging, eutrophication and biodiversity loss, no monitoring or comment is made directly on the level of land clearing.

The Western Australian Rangelands Monitoring System is a program designed to monitor trends in rangeland conditions in the shrublands of Western Australia. It monitors sites at five-yearly intervals, and uses a Normalised Difference Vegetation Index to put the collected data into the correct seasonal context, so as to allow a better interpretation of the nature of any rangeland changes.

The monitoring system has shown that there has been an improvement in perennial vegetation and range condition over the last few years in the Southern Rangelands. While a sequence of good seasons has contributed to these results, it is also thought that the outcome reflects good management over most areas (Department of Agriculture 2002).

Applications for clearing

Table G.1 indicates the trend in clearing applications processed without objection over the period 1986-87 to 2000-01. There is a significant downward trend in the percentage of clearing applications that were approved without objection, particularly from around 1995-96 onwards. While an explanation for this trend is unclear, it may be the result of the Government's shifting philosophy on land clearing and the coinciding introduction of the NRAS.

Table G.1 **Clearing applications under the Soil and Land Conservation Act (1986–2002)**

Year	*Area notified (ha)*	*Area without objection (ha)*	*% without objection*
1986-87	34 632	30 467	88
1987-88	43 259	35 624	82
1988-89	78 030	61 541	79
1989-90	48 041	39 356	82
1990-91	36 137	22 953	63
1991-92	12 640	7 342	58
1992-93	5 967	5 110	86
1993-94	13 078	9 443	72
1994-95	10 587	6 916	65
1995-96	21 504	5 624	26
1996-97	17 132	2 258	13
1997-98	9 214	965	10
1998-99	9 572	1 377	14
1999-00	3 039	378	12
2000-01	2 722	1 034	38

Source: WA Government (sub. 151).

Agreements to protect vegetation

Table G.2 outlines the area of vegetation protected under the SLC Act between 1999-00 and 2001-02, through both conservation covenants and soil conservation notices. The Commissioner for Soil and Land Conservation reported that during 2001-02, six agreements involving 73 hectares of native vegetation were registered as reserve on certificate of title. One agreement to reserve nine hectares was discharged, and eleven conservation covenants on certificate of title were registered, involving the protection of 374 hectares of native vegetation (Commissioner for Soil and Land Conservation 2002).

Table G.2 **Area of vegetation protected under the SLC Act**

Component	*1999-00 ha*	*2000-01 ha*	*2001-02 ha*
Soil conservation notices	1 394	2 900	3 323
Agreement to reserve lodged	2 125	2 362	64
Conservation covenants (Remnant Vegetation Protection Scheme) lodged	1 382	10 223	0
Conservation covenants (Non-Remnant Vegetation Protection Scheme) lodged	736	868	374
Total area protected	**5 637**	**16 353**	**3 761**

Source: Commissioner for Soil and Land Conservation (2002).

All nine soil conservation notices issued during 2001-02 were issued to prevent notified land clearing or in response to land clearing complaints, but two were later discharged. Five soil conservation notices that had been issued in previous years were also discharged, and a further three were varied (Commissioner for Soil and Land Conservation 2002).

Level of compliance

During 2001-02, the Commissioner for Soil and Land Conservation reported that four summonses were issued for failure to notify clearing, and one summons was issued in relation to breach of a soil conservation notice. The Commissioner also reported that around 3000 hectares of land had been illegally cleared in Western Australia since July 2001, and that these complaints are currently being investigated (Commissioner for Soil and Land Conservation 2002).

The Wildflower Society of WA (sub. 33, p. 4) stated that illegal land clearing has historically been a problem in rural Western Australia. The Society suggested that the backlog of illegal clearing complaints has increased in recent years as the Government has moved towards a more stringent legislative stance and permits have become harder to obtain. Many cases are yet to be investigated, and so offenders remain unprosecuted due to a lack of resources and legislation that makes prosecution difficult. At the same time, the Society claimed that penalties are inadequate for discouraging illegal clearing of native vegetation.

Under the SLC Act, the maximum penalty for illegal clearing is $2000. However, the penalty may be multiplied by up to five times for corporations (Department of Agriculture 2002).

To date, the largest fine that has been imposed for illegal clearing in Western Australia is $6000, which was imposed on a corporation for unnotified clearing of native vegetation at Badgingarra in 2001. The Commissioner for Soil and Land Conservation indicated that this penalty reflects increasing community concern about uncontrolled clearing and its possible effects on land degradation (Department of Agriculture 2002).

The WA Government noted that the introduction of harsher penalties was intended to address the problem of illegal clearing:

> It is acknowledged that the penalties for illegal rural clearing (a maximum $2000 fine for individuals failing to notify proposed clearing) have been inadequate, and that illegal clearing in the order of 1000 ha per year has reduced the effectiveness of clearing controls in rural areas. This problem will be addressed by proposed amendments to the *Environmental Protection Act 1986*, which will substantially increase the penalties for illegal clearing. It should be noted that the amendments to the

> Act include retrospective provisions announced by the State Government on 25 June 2002, under which a person undertaking illegal clearing between the date of that announcement and the date on which the amendments come into effect can be required to revegetate the land. This is intended to reduce the risk of illegal clearing increasing in the period leading up to the enactment of the new laws. (sub. 151, p. 5)

Perverse environmental outcomes

The Commission has received evidence from several parties to suggest that significant pre-emptive clearing in both urban and rural settings has been an unintended consequence of announcing proposed clearing regulations. The Wildflower Society of WA noted that:

> In metropolitan Perth, pre-emptive clearing occurred when *Bush Forever* (2000) (formerly *Perth's Bushplan 1998*) was released and documented proposed 'Bush Forever' sites earmarked for bushland conservation on the Swan Coastal Plain. (sub. 33, p. 4)

Anthony Witham also made reference to pre-emptive clearing in anticipation of the EP Amendment Act, which was before the State Parliament:

> … farmers by and large perceive the new legislation as creating the legal power to stop clearing, so as has occurred in the past, the scale and rate of paddock tree clearing has been greatly increased. This response has occurred even before it is clear whether or not permits or some other exemption will be able to be obtained for such activity. (sub. 34, p. 1)

T. Price (sub. 38) indicated that the scale and rate of paddock tree clearance has greatly increased in anticipation of the passing of the EP Amendment Act.

G.6 Administration and implementation

Administrative costs

The costs of administering Western Australia's native vegetation and biodiversity regulations currently fall predominantly on AgWA, which has primary responsibility for the administration of the SLC Act. AgWA is supported in this function by the SLCC. It has not been possible to establish the portion of AgWA's budget that relates to regulation of native vegetation.

Other agencies that bear administrative costs in relation to native vegetation and biodiversity regulations include:

- the EPA, through its role in undertaking environmental impact assessments for applications referred by the SLCC;
- the Water and Rivers Commission, which oversees the CAWS Act;
- CALM, which is responsible for the CALM Act (and any associated conservation agreements entered into under this Act) and the WC Act; and
- the Pastoral Lands Board, which is responsible for administering the LA Act, and monitoring and enforcing regulations on pastoral leasehold lands.

The Serpentine–Jarrahdale Land Conservation District Committee (SJLCDC) (sub. 66) stated that administrative costs borne by landholders are high in terms of the time commitment required for developing suitable management plans, surveying and monitoring. These costs are particularly high if landholders are attempting to obtain or maintain a conservation covenant. The other significant administrative cost for landholders is associated with undertaking development applications.

Consistency

The WA Government did not consider that there are any problems with overlap between the Australian Government's EPBC Act and the State's native vegetation and biodiversity conservation legislation. The usual practice is for the Commonwealth to accredit the State's assessment process on a case-by-case basis to avoid any dual assessment (sub. 151).

A bilateral agreement between the Australian Government and WA Government will formalise this process once the EP Amendment Act is proclaimed. Under this agreement, environmental impact assessment (for activities in Western Australia) will be carried out by the State for matters requiring approval under Part 9 of the EPBC Act.

Dispute-resolution procedures

In the past, there does not appear to have been a standing dispute-resolution process in place. Each appeal against a decision of the Commissioner for Soil and Land Conservation is dealt with by a separate Appeals Committee established by the Minister for Agriculture. The Committee advises the Minister and the Minister's decision is final (WA Government, sub. DR290).

The Commissioner for Soil and Land Conservation (2002) reported that during the 2001-02 period, one landholder lodged an objection to a soil conservation notice

with the Minister. During the same period, the Minister quashed one notice and varied one notice, and had one decision pending on appeal at 30 June 2002.

Proposed dispute-resolution procedures

An appeals process is provided for in the EP Amendment Act. Under the proposed permit system, a landholder may appeal to the Minister in writing within 21 days of receiving notification of a decision. The Minister refers the appeal to the Office of the Appeals Convenor.

The Office is independent of the DEP, and is responsible for administering the appeals inquiry process and recommending an 'appropriate action' to the Minister. The rationale for the Convenor's recommendation is to be made public, as are the reasons for the Minister's final decision.

G.7 Impacts on landholders

Native vegetation and biodiversity regulations appear to have had a negative impact on a minority of landholders in Western Australia. The WA Government acknowledged that:

> … the progressive tightening of clearing controls during the 1990s has affected land values, albeit not in a uniform way. The Valuer-General's office advises that in the more remote wheat and cropping areas the value of uncleared land has been significantly discounted, but in the higher rainfall and more populated areas land values are being sustained by non-agricultural buyers.
>
> The rural real estate market has been adjusting to the tighter clearing controls introduced in the past decade. The landowner who has held bushland for more than a decade with the expectation of future development prospects is most affected. The proportion of landowners in this category is small. (sub. 151, p. 3)

However, the impacts on individual landholders have, in some cases, been significant. Impacts on landholders have been mitigated to some degree by limited compensation, but the eligibility criteria for assistance schemes historically have been quite narrow.

The SJLCDC (sub. 66) outlined several potentially negative impacts on landholders resulting from native vegetation and biodiversity regulations, including:

- a reduction in the potential carrying capacity of the land;
- limits on the subdivision potential of land;

- loss of faith in government/leadership to deliver outcomes, since much of the remnant vegetation is there due to the foresight of the landholders; and
- inequality between the requirements of private landholders and government agencies — government agencies are often perceived to be operating outside of the legislation with poor environmental performance.

The Western Australian Conservation Council (WACC) argued that the positive impacts of these regulations are difficult to detail and are unlikely to be presented by landholders in the context of this inquiry:

> One can predict that the Commission will be pointed in the direction of specific examples of supposedly harsh penalties for unlawful clearing, or significant delays for the processing of clearing applications. Unfortunately, the Commission is very unlikely to hear from landholders where the retention of native vegetation further up their catchment has reduced salinity on their farm, but there is no question that these (less obvious) positive impacts are being felt. We know this because the corollary is true – clearing or modification of native vegetation can often have adverse impacts on neighbouring properties and/or the local region. (sub. 189, p. 3)

Of course the Commission has not argued or implied that there are no downstream beneficiaries of clearing controls. The question is the extent to which costs are imposed on the few, for the benefit of the majority, and whether beneficiaries should pay.

The SJLCDC (sub. 66) noted that potentially positive impacts resulting from existing native vegetation and biodiversity regulations include:

- a reduction in the negative impacts associated with vegetation clearance, such as lower nutrient loads in waterways, less salinity, erosion and habitat destruction;
- an increased focus on conservation and landcare, which has led to and is likely to continue to lead to the development of healthier, sustainable farming systems;
- funding opportunities to help manage natural areas, which also helps community empowerment and involvement; and
- positive environmental benefits from the maintenance of natural habitat.

Impacts on farming practices, property values and returns

The Commission received submissions from a number of landholders claiming financial losses and other detrimental impacts associated with the Western Australian regulatory regime (subs 9; 19; 38; 44; 77; 119; 137; 143; 182; and 202).

The section below outlines some of the landholders concerns in more detail. A response to some of the cases from the WA Government is presented in box G.4. In

addition, several participants, including the Pastoralists and Graziers Association of Western Australian (sub. DR313) and David Western (sub. DR318) made submissions critical of the WA Government's submission (sub. DR290).

Box G.4 **WA Government's response to evidence by 'affected landholders'**

The WA Government argued that there were a number of discrepancies and inaccuracies in some of the evidence presented to the Commission by some Western Australian landholders.

Collins' case

The WA Government indicated that Ron Collins purchased his property in 1989 after clearing regulations were in place. Further, they argued that Mr Collins has never notified the Commissioner for Soil and Land Conservation of his intention to clear the land. As no notification has been made, no soil conservation notice has been issued which would have restricted clearing on the land.

The WA Government therefore disputes Mr Collins' claim that clearing restrictions led to the unplanned and premature sale of his land.

Harris' case

The WA Government noted that Mr Harris had not submitted formal notification of intent to clear. Mr Harris had advertised in the local newspapers that he intended to clear but no formal application was submitted to the Commissioner for Soil and Land Conservation. Mr Harris therefore cleared his land without notification, and without an assessment of the proposed clearing being undertaken by the Commissioner for Soil and Land Conservation.

The Commissioner subsequently investigated the 'un-notified' clearing and decided the area was at risk of salinity. A soil conservation notice was subsequently placed over the land to prevent further clearing and to permit the regeneration of the cleared areas.

Beckingham's case

Mr Beckingham claimed that changing regulations prevented him from clearing parts of his farm. However, the WA Government noted that there had been no change in regulations over the period in question and all clearing notifications were assessed under the same guidelines.

Wren's case

Mr Wren claimed that his property, although having significant biodiversity values, was not considered worthy of purchase under the Natural Resource Adjustment Scheme. However, the WA Government stated that to be eligible for purchase under the scheme the land must have had a notice of intent to clear rejected. Mr Wren has never submitted a notice of intent.

Source: WA Government (sub. DR290).

In extreme cases, landholders may have been forced to sell their land at a loss (Ron Collins, sub. 182). In other cases, landholders have expressed concerns over their ability to sell their property as a result of the regulatory arrangements. Augusta Saunders' situation was not atypical:

> My husband would like to retire from hard broadacre farming after a fifty-year working life, but we cannot sell the farm with the bush as part of it. No one is going to buy a farm with 910 ha of bush in the middle of it and emus and kangaroos in plague proportions. No one will buy a farm where they pay 30% extra rates on land they can't use. (sub. 19, p. 3)

Len Beckingham (trans., p. 277) indicated that the large proportion of land covered in bush has made his property almost unsaleable. At the same time, however, the Valuer General's valuation of the farm has increased 30 per cent, and it is this valuation that is used to determine the rates that are paid on cleared and uncleared land alike.

Landholders who purchased land prior to changes in native vegetation and biodiversity legislation are affected particularly. Ron Collins (sub. 182) gave evidence that clearing restrictions imposed on 1700 acres of their 3700 acre farm, resulted in an unplanned and premature sale of part of their farm. Mr Collins stated that he and his wife have been significantly affected both financially and emotionally:

> Everything my wife and I earned over the years has gone into this property, with many years of very hard work on and off the property … This has now been taken from us unjustly, as we are now told we no longer have a say as to what happens to the land we worked so hard to purchase and develop, and we get the impression the government wants to take this away from us to do with what they like, even though it belongs to us. This land has a freehold title! (sub. 182, p. 4)

Mr Collins noted that prior to purchasing the property he had sought advice on whether clearing would be permitted. He stated that:

> Before we went ahead and purchased the property with such a large portion of bush on it, we wanted an assurance that we would indeed be able to clear it, and this is why we approached the Ag Dept. with our enquiry, and it was on this proviso that we purchased the property, only after written assurance that we would be able to clear in the future. And this was the reason we went ahead with the property purchase … (sub. DR321, pp. 1–2)

The WAFF (sub. 94) argued that native vegetation and biodiversity regulations have had major economic impacts in relation to farming practices. The WAFF highlighted the fact that bush areas on properties are typically rated as having no commercial value, which affects landholders' equity and their capacity to borrow. However, these areas are often associated with considerable maintenance cost, especially in regard to feral pest, weed and fire controls.

There could also be potential impacts arising from provisions in the regulatory regime relating to clearance of paddock trees. Such regulation could affect the ability of some landholders to engage in efficient large-scale cropping enterprises, due to the presence of paddock trees that have historically been maintained in the landscape for alternative grazing operations (Anthony Witham, sub. 34).

Evidence suggests that a number of properties that have become subject to clearing restrictions in Western Australia have become uneconomic to maintain in agricultural production. As a result, landholders have sought alternative options to generate income, and several have approached CALM to acquire their bushland for conservation purposes. Such applications require subdivision of the vegetated land from the cleared land under Development Control Policy 3.4[4], to create stand-alone conservation lots under the care, control and management of State agencies (Gingin Shire, sub. 37). Gingin Shire stated that:

> Council, whilst sympathetic to the excision of conservation areas from traditional broad-acre agricultural lots if such conservation areas are to be amalgamated into existing conservation reserves or national parks, is reluctant to support ad-hoc subdivision of rural land for conservation purposes merely on the basis that current clearing restrictions limit agricultural land use opportunities. (sub. 37, p. 3)

Peter Wren (sub. 119) indicated that his pursuit of transferable subdivision rights, to cede 35 hectares of native vegetation from adjoining cleared land, cost over four years in time and more than $20 000. In order to recoup some of the value of the uncleared land, he attempted to sell the bushland to CALM, which manages the adjoining nature reserves. However, CALM considered that the conservation values of the land were not high enough to warrant purchase and that the land should be ceded to the Crown at no cost:

> Our Department [CALM] would prefer that the bushland (ie lot 24) be ceded to the Crown without cost for addition to the adjoining nature reserve. This option is highly favoured over covenants which have a high, often complex, and on-going requirement for Departmental input. If there is an opportunity for some transferable development right that would allow additional subdivision/development of lot 23 equivalent to the present value of lot 24, our Department considers the exploration of possible acceptable options to facilitate ceding of the land would be worth while. (sub. 119, attachment 1)

Several landholders have provided evidence of the negative impacts associated with soil conservation notices. They claim that not only do such notices lock-up land that would otherwise have been agriculturally productive, but that such orders often have environmentally-detrimental consequences as well.

4 Development Control Policy 3.4 allows landholders to excise a portion of vegetated land, of not less than 40 hectares, from their commercial agricultural enterprise in order to obtain rate relief and working capital.

Ken Harris (trans., p. 275) submitted that a soil conservation notice has had significant impacts on returns to the family farm. Five hundred acres of land owned and cleared by his son (12 months after advertising his intent to clear) was placed under soil conservation notice. An agronomist estimated the loss in income at $80 000 over two years, in addition to the sale of livestock to stay out of financial trouble.

Len Beckingham (trans., pp. 276–7) also submitted that the changing nature of the clearing regulations has prevented him from clearing a significant proportion of his farm. He stated that 3000 acres of bush on his property is not only uneconomic, but harbours large numbers of kangaroos, eagles and emus; which last year were responsible for a 50 per cent loss of crops from the cleared land on his property.

The Wildflower Society of WA (sub. 33) suggested that while Land Conservation District Committees (LCDCs) have had a positive impact on sustainable farming practices, they have had a limited effect on biodiversity and native vegetation conservation. The SJLCDC (sub. 66) indicated that potentially positive impacts on property values arise from the developing market for bush blocks and lifestyle properties in certain areas.

Impacts investment patterns

Evidence received on the impacts on investment patterns resulting from native vegetation and biodiversity regulations in Western Australia relates to the intensification of agriculture and the exacerbation of debt spirals.

Gingin Shire (sub. 37) indicated that as a result of land-clearing restrictions inhibiting large-scale developments, agricultural intensification is occurring within the Shire. In particular, developments such as broiler farms, piggeries, egg-laying facilities and market gardens are becoming more common. The Council suggested that while some of these types of development require substantial on-site buffers, they can be located on existing heavily-vegetated properties with a minimal requirement for clearing. However, it was claimed (Gingin Shire, sub. 37) that proponents of intensive agricultural developments are facing increasing difficulty in obtaining the support of State agencies, in particular, the DEP.

Impacts on the attitudes of finance providers

Len Beckingham (trans., p. 277) indicated that limits on clearing his property have led to financial hardship, culminating in a necessity to request an overdraft from the bank to cover running costs. However, the banks will only lend on the value of the

cleared land, since they deem the uncleared land to have no value. Since the total area of cleared land on his property is 'small', the value of the overdraft is significantly less than it would otherwise have been, and his equity in the property is greatly reduced.

Government measures to mitigate negative impacts

The WA Government stated that it supports the application of polluter or impacter pays in native vegetation and biodiversity conservation. The Shire of Dandaragan submitted that:

> The Western Australian Government supports the application of the 'impacter pays' principle in the area of native vegetation and biodiversity conservation and is satisfied that the current distribution of costs for managing land clearing is acceptable. This is so because the Western Australian Government is not paying for it and it is left to a select few landowners to meet the burden of costs. (sub. 191, p. 3)

However, the WA Government recognises that in some instances, there may be a need for short-term financial adjustment assistance where landholders have been required to increase their obligations significantly, and these new responsibilities could not have been reasonably anticipated (WA Government, sub. 151, p. 5).

Assistance may be available under the Biodiversity Adjustment Scheme for landholders who have been significantly affected by land-clearing restrictions, that is, landholders who are required to maintain more than 20 per cent of their property under native vegetation, and who purchased their land before they could have reasonably expected strict restrictions to be introduced (prior to 17 May 1995) (WA Government sub. 151). Under this Scheme, the State Government will purchase rural land for conservation at the pre-clearing control price, where applicants meet a significant set of conservation and hardship criteria.

Incentives

The WA Government perceives that there is widespread public appreciation of native vegetation and its role in maintaining stable and productive landscapes. The Government believes that this appreciation is also strongly held by most landholders, who understand the importance of, and gain enjoyment from, maintaining significant areas of bush on their farms (WA Government 2000).

Disincentives to landholders maintaining native vegetation on their properties include present arrangements for calculating local government rates and land tax. Rates and taxes are seen to apply inequitably to landholders that manage their land largely for conservation purposes because they are based on the unimproved value

of the land, yet landholders with uncleared land are unable to generate any income from it in most instances.

Although the WA Government runs covenanting programs that supply some local government rate relief, the SJLCDC (sub. 66) stated that these programs do not mitigate the full costs of the negative impacts from native vegetation regulations. Moreover, to be eligible, landholders must enter into a conservation covenant that is binding in perpetuity on their bushland.

Incentives for conservation are generally insufficient to meet the costs of maintaining conservation values for the public good. This evidence is backed by the SJLCDC (sub. 66), which indicated that costs are only partially met by many funding bodies such as Envirofund and Natural Heritage Trust. For example, these bodies fund around $1000–$1500 per km for fencing costs, yet the actual costs are around $3500 per km.

The NRAS was available from 1997 to 2000 to eligible rural landholders who applied to clear remnant vegetation on their land and had their applications rejected by the Government. In order to be eligible, the property had to be zoned rural, and it had to be able to be subdivided so the remnant vegetation could be made into a separate bush block. The Government coordinated and met the costs of subdivision and placed a conservation covenant on the block. The block was either sold, or a payment of compensation was made to the landholder (WA Government, sub. 151).

Payments to landholders were determined based on the decline in the value of the land resulting from the landholder being unable to clear, with a cap of $100 000 per property. Over the life of this scheme, however, fewer than 100 landholders were deemed eligible for such payments — around 25 per cent registered interest and fewer than 15 per cent received offers of grants (WA Government, sub. 151).

Graham Davies (sub. 9) indicated that the assistance he received under the NRAS to place 1000 hectares of native vegetation under two separate conservation covenants amounted to only a fraction of the decline in the value of his land. Moreover, although he accepted the offer of NRAS assistance in early 2002, he reported that:

> … the process of surveying the 800 ha and 200 ha blocks of bush onto separate titles has progressed at a snail's pace. Currently we are almost at the point of getting the separate titles for the bush blocks and the balance of the farm. When this occurs we will get the 'assistance' offered under the scheme, which falls well short of compensation for what we have lost. (sub. 9, p. 2)

Peter Wren (sub. 119), in reference to the Shire of Augusta's Remnant Vegetation Strategy, noted a lack of funding to support incentive programs for conservation on private land. Mr Wren claimed that although the SLCC found that clearing was

unacceptable on parts of his land that had high biodiversity values, it did not warrant purchase under the NRAS:

> Whilst the conservation values of Lot 24 are deemed to be of a high enough nature to thwart any sustainable development aspirations, the values apparently are not ranked high enough on a state wide priority basis to warrant purchase. (sub. 119, p. 3)

G.8 Impacts on regional communities and other economic activities

Although there is little hard information available on the direct impacts of native vegetation and biodiversity regulations on regional communities in Western Australia, the following effects have been reported:

- native vegetation regulations have had impacts at the farm-level, and some landholders have had to leave their properties because they became economically unviable (Ron Collins, sub. 182), while others have suffered depression (Augusta Saunders, sub. 19). Both of these impacts have flow-on effects for the wider regional community; and
- local Councils are concerned that provisions in the EP Amendment Act will impact on their capacity to carry out normal activities, such as road maintenance, where native vegetation is involved. Local councils are also concerned that their rate bases will be impacted by rate reductions or rate exemptions on privately-held land that cannot be cleared (Shire of Dandaragan, sub. 191).

Native vegetation loss is a major cause of salinisation of inland waterways and dryland salinity, and currently, 10 per cent (or 2 million hectares) of Western Australia's agricultural land is affected. By 2030, 25–35 per cent (6.1 million hectares) could become salt-affected (Wildflower Society of WA, sub. 33). The Wildflower Society of WA reported:

> The economic costs from the impacts of land clearing are significant. An estimated $2 billion is required over the next 30 years to implement a salinity management strategy in the agricultural wheatbelt of WA. Lost agricultural production in WA attributable to salinity now exceeds $130 million annually and potentially could rise to nearly $1 billion/annum. In some areas, salinity is reducing the life of roads by 75 per cent and affecting rail lines and buildings from rising damp in at least thirty WA towns. Infrastructure costs such as these are estimated to cost the community around $100 million per year. The State Government faces either heavily subsidising a town or the ramifications of closing it down. (sub. 33, p. 3)

The Shire of Gingin noted that while intensification of land-use as a result of clearing restrictions has so far been beneficial for the local economy, further

restriction by way of land purchases for the conservation estate may prove to be detrimental to the Shire's future prosperity:

> In 1997, it was estimated that 36% of the Shire of Gingin was either National Park, State Forest or Crown Reserve, with that figure now estimated at 38%. If this trend continues, economic and social investment opportunities within the Shire will be stymied, and opportunities for accommodating the projected State population growth will be curtailed. (sub. 37, p. 4)

The WAFF alluded to the fact that there needs to be a broader consideration of criteria for sustainability and stated that:

> … the State Sustainability Strategy is already beginning to be unravelled through a lack of commitment by bureaucrats intent on maintaining their environmental focus at the expense of the economic and social wellbeing of rural communities. It is generally accepted that rural communities benefit from a multiplier effect of between 6 and 8 on income generated by farming activities. This is rarely afforded consideration by the current generation of environmentalists. (sub. 94, p. 4)

G.9 Summary

There is some degree of consensus that while the impacts of the native vegetation and biodiversity regulatory regime are not widespread in Western Australia, where there have been impacts on landholders, the effects have been significant and generally have not been compensated, although special compensation arrangements exist in some catchments.

As with most jurisdictions, Western Australia progressively has introduced a more stringent land-clearing regime. Recently-introduced legislation imposes a 'no net loss' objective, and harsher penalties for non-compliance.

Consultation has been an issue in the past and more recently with the introduction of the EP Amendment Act. Failure to consult may reflect a deliberate decision to minimise pre-emptive clearing.

H Tasmania

H.1 Introduction

In Tasmania, the focus of native vegetation regulation is on the management and conservation of forest communities. The Regional Forest Agreement (RFA), signed by the Tasmanian and Australian Governments in 1997, provides the overall policy framework for forest vegetation management in the State. Clearing of native forest is regulated under the *Forest Practices Act 1985* (FP Act).

There is no legislation dealing directly with the conservation of non-forest native vegetation. However, there are provisions for the regulation of both non-forest and forest native vegetation through the State's planning scheme, the Resource Management and Planning System (RMPS). In 2001, the Tasmanian Government endorsed:

> … a broad strategy for the management of native vegetation that placed a strong emphasis on facilitating conservation on private land through incentives, conservation plans, education and awareness whilst strengthening some of the policy and statutory levers. (sub. 201, p. 8)

More recently, in June 2003, the Government agreed, via a bilateral Natural Heritage Trust (NHT) agreement, to a range of initiatives to strengthen the regulation of non-forest native vegetation clearing.

Tasmania has been assessed to have around 80 per cent of its pre-1800 native vegetation remaining (NLWRA 2002a).[1] Around half of Tasmania's total land area is covered by native forest and about 30 per cent of forested areas are available for wood production. Between 1997 and 2001, around 15 000 hectares of native forest vegetation were cleared each year; the majority of clearing was for forestry purposes, with most cleared areas replaced by plantations.[2]

Approximately 27 per cent of land in Tasmania is under agricultural management. Agricultural production accounts for a relatively small proportion of clearing of

1 Native vegetation in the intensively-used zone (IUZ) — see figure 3.1.

2 These areas are based on gross areas approved for clearing by the Forest Practices Board and will overestimate the actual amount of clearance (RPDC 2002).

native vegetation. In 2001-02, around 1500 hectares of native forest a year was cleared for agricultural and infrastructure purposes, or approximately 12 per cent of the total area cleared. Due to a lack of comprehensive mapping of non-forest vegetation communities, the extent of the impact of agricultural practices on non-forest native vegetation is not clear.

H.2 Description of the regime

In 2001, the Tasmanian Government released the *Natural Resource Management Framework* as a mechanism for integrating the various natural resource management systems across the State (Tasmanian Government 2001). The objective of the Framework is to provide an administrative system through which the Tasmanian Government can coordinate and integrate the wide range of entities that are involved in natural resource management, with the aim of ensuring consistency and efficiency in natural resource outcomes.

The Framework is intended to encompass all legislation pertaining to natural resource management, several pieces of which are directed to, or have implications for, the management of native vegetation and biodiversity conservation, including the FP Act.[3]

A sub-group of natural resource planning instruments and functions together comprise the State's planning system, the RMPS. Within the RMPS, the most important legislation in terms of native vegetation and biodiversity regulation is the *Threatened Species Protection Act 1995* (TSP Act) and the *Land Use Planning and Approvals Act 1993* (LUPA Act).

Forest Practices Act

The harvesting of timber and the clearing of trees (clearing, cutting, pushing or otherwise removing, or destroying in any way) is regulated under the FP Act.[4] The FP Act was introduced to achieve 'sustainable management of public and private forests with due care for the environment'. To do this, the FP Act establishes the Forest Practices System. The Forest Practices System applies to 'trees', defined as:

> … any woody plants with a height or potential height of 5 metres or more, whether or not living, dead, standing or fallen, that are: (i) native to Tasmania; or (ii) introduced into Tasmania and used for the processing or harvesting of timber … (FP Act, s. 3)

3 A full list of major State policy instruments relevant to natural resource management in Tasmania is contained in Tasmanian Government (2001).

4 The FP Act also applies to tree ferns.

Under the FP Act, landholders require permits — Forest Practices Plans (FPPs) — to undertake certain forest practices, including the harvesting and removal of timber. The system relies on self-regulation to an extent, with the industry given some responsibility for the development and certification of FPPs. The FP Act was amended in 2001 to:

> … clarify that non-commercial clearing of forests for the purposes of agriculture or other land use is subject to the same environmental regulation that currently applies to the commercial harvesting and clearing of forests. (Tasmanian Legislative Assembly, 1 November 2001, p. 41)

This amendment was intended to remove a perceived 'loophole' whereby some landholders had considered that they could clear a forest without a FPP, if the operation did not involve 'commercial' harvesting. Wilkinson (2001) considered that very little clearing was conducted in a 'non-commercial' manner, because of the strong market for Tasmanian forest products — although, in a small number of cases, landholders have used the provision to clear stream-side reserves and other areas of retained forests for 'non-commercial' reasons.

Forest Practices Code

The Forest Practices Code (the Code) 'prescribes the manner in which forest practices are to be conducted so as to provide reasonable protection to the environment' (FP Act, s. 31). The Code is issued by the Forest Practices Board (FPB), after a process of community consultation (box H.1).

The Code applies to the following practices:

- the establishment and maintenance of forests including standards to be complied with in the restocking of land with trees;
- the harvesting of timber or the clearing of trees;
- the construction of roads and other works connected with the establishment of forests, the clearing of trees or the growing or harvesting of timber. (FP Act, s. 31).

The Code is intended to provide a practical set of guidelines and standards for the protection of environmental values in forest operations, including soils, water quality, flora, fauna, visual landscape and cultural heritage (FPB 2000). Certified FPPs are to be consistent with the guidelines established under the Code. In most cases, the Code sets the minimum standards that are to be achieved. In cases where further protection of environmental values is required, these measures may be specified in an individual FPP.

Box H.1 **Forest Practices Board**

The Forest Practices Board (FPB), established under the *Forest Practices Act 1985*, is required to: best advance the objective of the State's Forest Practices System; and foster a co-operative approach towards policy development and management in forest practices matters.

The FPB consists of: the Secretary of the Department responsible for administering the *Environmental Management and Pollution Control Act 1994*; the director of Private Forests Tasmania; a representative of local government in an area where forestry is a major land use; and a person having expertise in the timber industry.

One of the FPB's functions is to issue and maintain the Forest Practices Code. The Act requires the FPB to consult with Private Forests Tasmania in developing a draft Code. The draft Code is open to submissions from the public over a period of 60 days. After consulting again with Private Forests Tasmania, and considering any public submissions received, the FPB issues the Code.

Source: FP Act.

The Tasmanian Government (sub. 201) considered that an important aspect of the Code is that it defines a duty of care with regard to forest activities. Specifically, the Code provides that sustainable management of natural and cultural values within production forests under the Forest Practices System will be determined in accordance with a range of State legislative and policy instruments. Landholders' duty of care includes:

- all measures that are necessary to protect soil and water values as detailed in the Code;
- the reservation of other significant natural and cultural values. This will be at a level of up to 5 per cent of the existing and proposed forest on the property for areas totally excluded from operations. In circumstances where the partial harvesting of a reserve area is compatible with the protection of the values, the level will be up to 10 per cent. The conservation of values beyond the duty of care is deemed to be for the community benefit and should be achieved on a voluntary basis or through compensation mechanisms where available. (FPB 2000, p. 52)

Applications to clear native vegetation

Generally, landholders planning to remove forest vegetation are required to obtain a certified FPP. There are a number of exemptions from this requirement (box H.2), which are intended to allow for small-scale operations to proceed on land where the potential for environmental harm is low (Wilkinson 2001).

Box H.2 **Exemptions from the need to obtain a Forest Practices Plan**

Exemptions from the need to obtain a Forest Practices Plan include:

- the harvesting of timber or the clearing of trees on land that is not 'vulnerable' if (whichever of the following is lesser) —
  - the volume of timber harvested is less than 100 tonnes each year; or
  - the total area of land on which the harvesting occurs is less than one hectare each year;
- the harvesting of timber or the clearing of trees on vulnerable land, if necessary to protect public safety or to maintain existing infrastructure (if the volume of timber harvested or trees cleared is less than 5 tonnes for each 'area of applicable land', or where clearing is less than one hectare for each year); and
- the harvesting of timber or clearing of trees for easement of powerlines, gas pipelines, and public roads.

Source: Forest Practices Regulations 1997.

The information required to be provided as part of a FPP depends on the nature of the site. Factors that need to be considered when drawing up a FPP include:

- location and land ownership, with legal covenants noted;
- period of planned operations;
- basic features of the area, including information on topography, geology, soil type, erodability and landslide potential, rainfall and drainage characteristics, type of forest and existing access;
- management requirements to ensure adequate protection of values such as soils, water, flora, fauna, apiary resources, cultural heritage and visual landscape;
- management objectives, including harvesting prescriptions, and reforestation prescriptions where the landholder wishes to restock with trees;
- measures to ensure efficient timber harvesting and to sustain site productivity;
- local government planning schemes, where applicable; and
- potential off-site impacts of plantation development on adjoining land and potential measures to address these impacts (FPB 2000).

FPPs are required to meet certain community consultation requirements:

- consultation with local government is required prior to certification of some FPPs, for example, those operations that potentially affect water quality in a specified catchment area; or where the development may have significant implications for the use of local government roads;

- local government and landholders within 100 metres of the boundary of the planned practices must be notified; and
- information relevant to the FPP should be made available to interested parties in an effective and efficient manner.

FPPs are required to be certified by an authorised Forest Practices Officer prior to the commencement of operations and at the completion of operations.

Private timber reserve

A landholder may apply to the FPB to have land declared as a private timber reserve (FP Act, s. 5). Reserves are to be used only for 'establishing, or growing or harvesting of timber' in accordance with the Code. Forestry operations conducted in a private timber reserve are exempt from the provisions of the RMPS.

> The [FP Act] provides that forestry activities on [private timber reserves] are subject to a single, consistent, State-wide system of planning and regulation … rather than to variable systems that may be applied under different planning schemes through the [LUPA Act]. (FPB 2002a, p. 13)

The FP Act (s. 16) provides for the payment of compensation in some instances when an application to have land declared as a private timber reserve is rejected.

Resource Management and Planning System

The RMPS was established in 1994 with the aim of promoting sustainable development in Tasmania by integrating resource management with the State's planning system. The RMPS has a wide scope and can influence development through planning schemes, create legally enforceable policies, and provide incentives and enforcement provisions.

Land Use and Planning Approvals Act

The principal legislation underpinning the RMPS is the LUPA Act. Broadly, the LUPA Act provides for: the making and amendment of planning schemes; the assessment of planning directives; agreements between planning authorities and landholders and appeals into specific development control matters (Tasmanian Government, sub. 201).

Under the LUPA Act, local governments are designated as planning authorities. They have responsibility for, among other things, the preparation and administration of planning schemes; the assessment and approval of applications for planning

permits for the use and development of land; and the enforcement of planning scheme provisions.

Through planning schemes, restrictions can be imposed on the clearing of both forest and non-forest native vegetation. The planning schemes come into effect when an application is sought for certain development activities — including in some cases, proposals for changes to land use in the case of the agricultural industry. Other planning instruments implemented under the LUPA Act include planning directives and special planning orders.

The Huon Valley Council (sub. DR230) considered that the role of local government in implementing native vegetation and biodiversity regulations in the State was significant, with councils required to assess all development applications for land not contained within State Forests or private timber reserves. The Council stated that:

> In considering … land clearing development applications, the local Council must … work within the State legislative and policy framework that protects priority vegetation communities …
>
> How the Councils are implementing these regulations is critical to the long-term protection of the actual priority vegetation communities themselves. This relates to both land clearance proposals that require [FPPs] … and other development activity such as land subdivisions, residential or building development and new agricultural ventures that do not attract the need for such [FPPs] — but will require varying degrees of vegetation removal. (Huon Valley Council, sub. DR230, p. 2)

Although planning schemes are developed by local governments, before taking effect, they need to be assessed and approved by the Resource Planning Development Commission (RPDC), a statutory body established to, among other things, ensure consistency in the development of planning instruments.

Other statutes covered by the RMPS of relevance to native vegetation and biodiversity conservation include the TSP Act, the *Environmental Management and Pollution Control Act 1994* (EMPC Act) and *Resource Management and Planning Appeal Tribunal Act 1993* (RMPAT Act). However, some development activities are excluded from the RMPS, including forestry activities, marine aquaculture and mineral exploration, which are governed by their own legislation.

Threatened Species Protection Act

The TSP Act establishes a Threatened Species Protection System, with the primary objective to 'ensure that all native flora and fauna in Tasmania can survive, flourish and retain their potential for evolutionary development in the wild' (TSP Act, Schedule 1, Part 2, s. 3).

The Act provides for listing and de-listing of flora and fauna on various schedules (endangered (Schedule 3), vulnerable (Schedule 4) and rare (Schedule 5)). A Scientific Committee is established, which is responsible for advising the Minister on which species should be included on the schedules. The Scientific Committee is also responsible for identifying 'threatening processes'[5] and criteria for the determination of 'critical habitats'.

The Act provides for a number of mechanisms to meet the objectives of the Threatened Species Protection System. These include:

- *species recovery plans*, which specify the objectives for the conservation and management of the species listed on the plan, and the ways in which those objectives are to be achieved;
- *threat abatement plans*, which specify the process that threatens a listed species and details procedures to be implemented to manage the process;
- *land management plans*, which are voluntary agreements between the Government and landholders allowing certain conservation measures to be implemented on land identified as significant to the particular threatened species or groups of threatened species; and
- *interim protection orders*, which may be implemented by the Minister in order to conserve the habitat, or part of the habitat, of a listed species on private land or Crown land not subject to a public authority agreement.

The TSP Act contains provisions for compensation to be paid to landholders in certain circumstances. For example, a landholder is entitled to compensation for financial loss resulting directly from an interim protection order or a land management agreement (TSP Act, s. 45). The Minister is responsible for determining whether compensation is warranted and, in cases where it is, the amount to be paid. The Minister is required to consider the impact on property values and on the loss (or profits) associated with compliance with the Act (TSP Act, s. 45).

The TSP Act has a number of implications for native vegetation management. For example, provisions of the TSP Act need to be taken into account in the development of planning instruments under the RMPS. Provisions of the TSP Act are also taken into consideration in forestry policy in areas such as the development and certification of FPPs and in the development of the Comprehensive, Adequate and Representative (CAR) reserve system (see below).

5 Threatening processes are defined as any action that poses a threat to the natural survival of any native taxon of flora or fauna (TSP Act, s. 3).

Environmental Management and Pollution Control Act

The objective of the EMPC Act is to provide for the management of the environment and the control of pollution in the State. The Act provides for the control of all activities that may lead to environmental harm. The objectives of the EMPC Act are required to be taken into consideration by planning authorities when carrying out environmental assessment of new planning schemes, amendments to existing planning schemes and when assessing and approving applications for planning permits (RPDC 2003).

Resource Management and Planning Appeal Tribunal Act

The RMPAT Act establishes the Resource Management and Planning Appeal Tribunal (RMPAT) as an independent statutory body to hear appeals against a wide range of administrative acts and decisions, including decisions under the LUPA Act, the TSP Act and the EMPC Act. The Tribunal can also make orders protecting environmental or planning rights and values.

Tasmanian Regional Forest Agreement

The RFA, signed by the Tasmanian and Australian Governments in 1997, established a framework for the management and conservation of forest native vegetation over a 20-year period. A key element of the RFA was the establishment of a CAR reserve system for native forest vegetation. The CAR reserve system provides mechanisms for the identification of native forest vegetation to be included in reserves, as well as legislative instruments that allow the establishment of reserves. Under the RFA, the Permanent Forest Estate Policy was also established (discussed below).

The CAR reserve system comprises a formal reserve system of native forest on public land and a voluntary reserve system for private land. The design and magnitude of the reserve system is 'informed by the comprehensive regional assessment of environmental heritage values and the national forest reserve criteria, sometimes referred to as the JANIS criteria' (RPDC 2002, p. 14).

On public land, the CAR reserve system comprises formal reserves (those dedicated by the Tasmanian Parliament), informal reserves managed to protect CAR values and any other areas protected by management prescription under the Code or Forest Management Plans (Tasmanian Government, sub. 201). The system has been implemented through legislative changes (such as the *Regional Forest Agreement*

(Land Classification) Act 1998) to create new categories of reserves and through parliamentary and administrative actions.

In the RFA it was noted that many of the elements of the CAR reserve system could not be adequately reserved on public land because some elements are (substantially or exclusively) found on privately-owned land (RPDC 2002). To meet CAR reserve elements on private land, the Private Forest Reserve Program (PFRP) was established. Under the PFRP, funds are provided to secure CAR reserves on private land through the negotiation of voluntary agreements with landholders. The most common form of agreement is a perpetual covenant, which places restrictions on the use of reserved land (box H.3).

Box H.3 **Private Forest Reserve Program**

The Private Forest Reserve Program (PFRP) was established in 1998 as a mechanism to establish Comprehensive, Adequate and Representative (CAR) reserves on private land through the procurement of voluntary agreements with landholders. Thirty million dollars in funding was made available through the Natural Heritage Trust and a special Australian Government grant. Land is assessed for the program by the CAR Scientific Advisory Group. Priority is given to:

> … protecting rare, vulnerable and endangered vegetation communities; rare and depleted old growth forests; Regional Forest Agreement priority species (fauna and flora) and National Estate values on private land. (PFRP 2002, p. 13)

The program aims to protect native vegetation on private land through the negotiation of covenants in perpetuity with landholders. However, there are provisions for other mechanisms to be used, including purchasing of properties and long-term management agreements (for fixed periods until 2017). Reserves can have multiple land-use options. Activities that may be permitted include firewood collection and grazing. The level of financial incentives is proportional to the level of security obtained.

The PFRP makes available a range of incentives to encourage landholders to place a perpetual conservation covenant on their forested land. These include:

- payment of an up-front 'consideration' to secure CAR values in perpetuity;
- payment of recurring stewardship fees for cooperative management;
- assistance with the cost of fencing and other management actions;
- exemption from State land tax; and
- annual local government rate rebates.

The initial target for the PFRP was to secure long-term conservation of around 100 000 hectares of targeted ecosystems on private land. As of March 2004, 167 properties had been secured (146 covenanted, 19 purchased and two through management agreements) representing a total of 27 641 hectares.

Source: PFRP (2002).

The CAR reserve system on public and private land in Tasmania currently exceeds 2.7 million hectares. Within the reserve system, about 1.3 million hectares of forested land, or approximately 40 per cent of Tasmania's native forests, are protected in formal reserves. This represents an increase of 30 per cent on the area of forest reserved in 1996 (FPB 2002b).

Permanent Forest Estate Policy

As part of the RFA, the State Government agreed to adopt a broad policy framework to maintain an extensive and permanent native forest estate. This 'permanent forest estate' comprises areas of native forest managed on a sustainable basis both within formal reserves and within multiple-use forests across public and private land. Among other things, the Policy is intended to provide the framework for sustainable forestry operations in the State, and its provisions underpin the operation of the Forest Practices System. The Tasmanian Government noted that:

> The [FPB] has, in accordance with the above provision of the Code, proactively implemented the Permanent Forest Estate Policy through its consideration and certification of Forest Practices Plans and Private Timber Reserve applications. This has included placing a moratorium on the further conversion of certain forest types within some bioregions. (sub. 201, p. 23)

The Permanent Forest Estate Policy is currently under review. However, as part of negotiations with the Australian Government for the extension of the NHT in April 2003, the Tasmanian Government agreed to implement a number of changes to the Permanent Forest Estate Policy, which are outlined below.

Threatened species and communities

Both the Tasmanian and Australian Governments also made a number of commitments to threatened species conservation under the RFA. Commitments were made to the development and implementation of the Threatened Species Protection Strategy, recovery plans and threat abatement plans for species and forest communities listed under either Australian Government or State legislation (RFA clauses 30–38 and 70).[6] For example, signatories agreed to jointly fund and prepare any new or revised recovery plans for threatened species listed under both Acts. Commitments were also made to the protection of priority species (RFA clauses 68–71).

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6 At the time the RFA was signed, the relevant Australian Government legislation was the *Endangered Species Protection Act 1992*, which has since been replaced by the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The relevant Tasmanian legislation is the TSP Act.

Natural Heritage Trust Bilateral Agreement

Under the bilateral agreement with the Australian Government for the extension of the NHT in June 2003, the Tasmanian Government agreed to introduce a number of initiatives that have implications for the Permanent Forest Estate Policy and the regulation of non-forest native vegetation. Commitments to the management of forest communities include to:

- prevent the clearance and conversion of all rare, vulnerable and endangered *forest communities* on private and public land, subject to the exercise of discretion by the Forest Practices Board to approve conversion of these communities in exceptional circumstances where the conversion will not substantially detract from the conservation of a community or conservation values within the immediate area …
- maintain at least 95 per cent of the 1996 native forest estate that is currently on *public land*; and
- amend the [FPA] to require the [FPB] to implement the Permanent Forest Estate Policy in certifying [FPPs]. (Tasmanian Government, sub. 201, p. 24)

Commitments for the management of non-forest communities include to:

- prevent the clearance and conversion of rare, vulnerable and endangered *non-forest vegetation communities* associated with forestry operations, except in exceptional circumstances where the conversion will not substantially detract from the conservation of a community or conservation values within the immediate area. (Tasmanian Government, sub. 201, p. 24);
- prevent the clearance and conversion of rare, vulnerable and endangered non-forest vegetation communities on public land, except in exceptional circumstances where the activity will not substantially detract from the conservation of the non-forest vegetation communities or conservation values within the immediate area;
- prevent the clearance and conversion of rare, vulnerable and endangered non-forest vegetation communities associated with forestry operations through amendments to the Permanent Forest Estate Policy;
- support Local Government in giving adequate consideration to the conservation of non-forest vegetation communities through the provision of information identifying the conservation status of non-forest vegetation communities, together with new information products and specific advice on rare, vulnerable and endangered non-forest vegetation communities;
- work with Local Government to develop and implement suitable planning scheme provisions to conserve rare, vulnerable and endangered non-forest vegetation, including through capacity building within Local Government to deal with vegetation assessments and advising on such assessments; and
- pursue, within 30 months of the signing of the agreement, a Planning Directive under the [LUPA Act] to require any Council that has not made provision for its planning scheme to prevent the clearance and conversion of rare, vulnerable and

> endangered non-forest vegetation communities, to implement a standard set of planning provisions. (Tasmanian Government, sub. 201, pp. 9–10)

The details of how the commitments made under the NHT bilateral agreement are to be implemented through the Tasmanian regulatory framework are yet to be made clear. The Tasmanian Government (sub. 201, p. 12) indicated that 'regulation through the development approval process will be a vital component of this protection for non-forest vegetation'. As such, the commitments may be expected to result in a significant strengthening of regulation of native vegetation in the State.

H.3 Development of the regulatory regime

The overall policy framework for native forest vegetation in Tasmania has its basis in the RFA signed in 1997. The environmental guidelines and objectives, expressed in the Permanent Forest Estate Policy and the CAR reserve system were developed through an extensive consultation and assessment process, including a public inquiry and a 'comprehensive regional assessment' process (AFFA 2003).

Legislative changes resulting from the RFA process included changes to the FP Act. The FP Act was amended in 1999 to give the FPB responsibility for auditing and monitoring FPPs to ensure that clearance of native vegetation did not exceed the targets established under the Permanent Forest Estate Policy. Under the amendment, changes were made to the composition of the FPB with the aim of improving its transparency and independence (Tasmanian Legislative Assembly 1999, 25 March, p. 82).

Threatened Species Protection Act

Development of the Act initially involved consultation limited to those with a direct interest in the legislation, such as the Tasmanian Farmers and Graziers Association (TFGA). A regulatory impact assessment does not appear to have been undertaken.

However, considerable public comment was sought in the development of the draft Threatened Species Conservation Strategy (DPIWE 1999). The development of a draft Strategy was a requirement under the Act (TSP Act, Part 3). In the Second Reading speech for the Act, the Minister highlighted the importance of public participation in the development and implementation of the Strategy:

> A key feature of the bill is public education which is seen as an essential prerequisite to effective community involvement in the protection of threatened species. Public participation is provided for in the preparation of the threatened species strategy through community education programs, the listing process and the preparation of

> recovery plans and threat abatement plans. (Tasmanian Legislative Assembly 1995, 21 June, p. 71)

In terms of the operation of the regulatory regime established under the TSP Act, the RPDC (2002) noted some concerns about the transparency and extent of community consultation in the development of some management prescriptions. The RPDC expressed the view that while:

> … consultation has occurred on what is essentially a technical scientific issue with a limited number of interested stakeholders, it appears that the process for community consultation on changes to prescriptions for management of Priority Species has not always been full and open to the public. (RPDC 2002, p. 51)

A number of participants questioned the adequacy of the processes used to determine listing of species on the various schedules of the TSP Act. The Northern Midlands Council emphasised the need for a listing process that is:

> … robust, vigorous and clearly understood with community input sought into the methodology to be used in the preparation and definition of that list. Clearly, greater use should be made of the knowledge and willingness … of landowners and local communities in the compilation of this list; thus better ownership and outcomes will be achieved, if locals have input. (trans., p. 1432)

Other participants who expressed similar concerns over assessments of threatened species included Don McShane (trans., p. 1406), Peter Inness-Smith (trans., p. 1447), the TFGA (trans., pp. 1429–30) and Denise Swan (trans., p. 1467).

H.4 Promoting environmental goals

As noted above, the overarching environmental goals for native forest vegetation are stipulated in the RFA. The FPB, for example, is required to pursue the objectives of the Permanent Forest Estate Policy in administering the Forest Practices System. Environmental objectives for non-forest native vegetation and biodiversity conservation tend not to be explicitly stated, but are expressed in the more general objectives of the RMPS and the TSP Act.

Objectives of the regimes

Broad environmental objectives are specified in the FP Act, the TSP Act, and the RMPS. In some instances, more specific environmental targets pertaining to native vegetation and biodiversity objectives are contained in the instruments established under the legislation.

Forest Practices Act

The objects of the FP Act centre on the need to achieve sustainable management of Crown and private forests 'with due care for the environment' (FP Act, Schedule 7). While environmental objectives are prominent in the Act, they are not the primary focus of the legislation. Among other things, the FP Act is to:

- [have] an emphasis on self-regulation;
- [provide for] delegated and decentralised approvals for forest practices plans and other forest practices matters; [and]
- … through the declaration of private timber reserves — [provide] a means by which private landholders are able to ensure the security of their forest properties. (FP Act, Schedule 7)

However, specific targets for native vegetation retention are contained in the Permanent Forest Estate Policy. Native vegetation targets take the form of minimum threshold percentages of forests that must be retained. All forested land in Tasmania has been classified according to the type of forest community it contains, where it occurs in the State, and how much existed in 1996. The minimum thresholds are set for three levels: State, regional and forest community. Eighty per cent of the State's native forest that existed in 1996 must be retained, and at least 50 per cent of the native forest present in regions must be retained. The percentage of each forest community that is to be retained varies from 60–80 per cent, though in some small communities 100 per cent of the community must be retained (TSBC 2002).

Resource Management and Planning System

As noted above, the RMPS provides the overarching legislative framework for natural resource management and development control in the State. As such, the RMPS contains broad objectives to be pursued across a range of functions and statutes. The objectives are:

- to promote the sustainable development of natural and physical resources and the maintenance of ecological processes and genetic diversity;
- to promote the fair, orderly and sustainable use and development of air, land and water;
- to encourage public involvement in resource management and planning;
- to facilitate economic development in accordance with the objectives set out above; and
- to promote the sharing of responsibility for resource management and planning between the different spheres of Government, the community and industry in the State. (Tasmanian Government 2001, p. 30)

Threatened Species Protection Act

The TSP Act contains a number of objectives focused on biodiversity conservation outcomes, including:

- to ensure that all native flora and fauna in Tasmania can survive, flourish and retain their potential for evolutionary development in the wild;
- to ensure that the genetic diversity of native flora and fauna is maintained; and
- … to assist landholders to enable native flora and fauna to be conserved … (TSP Act, Schedule 1(3))

As the TSP Act forms part of the RMPS, its implementation is required to be consistent with the objectives of the RMPS. Broadly interpreted, this requires that the TSP Act be implemented with the principles of sustainable development in mind. More specific environmental targets may be provided in instruments such as threat abatement plans, and species recovery plans.

Comparing objectives

The focus of the objectives of the FP Act and the RMPS is on achieving the sustainable development and use of natural resources — specifically, forestry resources under the FP Act, and resources more generally under the RMPS. While the TSP Act has specific conservation objectives, these are pursued in the context of the broader objectives of the State's RMPS.

The similarity of objectives across the regimes suggests a level of consistency. Where there is some potential for conflicting objectives across regimes, for example, between the explicit environmental objectives of the TSP Act and the 'development' objectives of the RMPS, it is interesting to note that provisions are made in the objectives of both instruments for 'cost-sharing' measures between the community and government to be implemented to achieve sustainable outcomes.[7]

Understanding of objectives

Generally, it appears that the information and processes in place adequately inform landholders about the requirements of individual regimes. The Code, for example, contains information for landholders on the objectives of the Forest Practices System and guidelines for the development of FPPs. Processes used in the

[7] Although not contained in the objectives, the FP Act also has provision for the payment of compensation in some instances when a landholder's application to have land declared as a private timber reserve has been rejected.

development and implementation of the Code can be expected to aid public understanding of the regime.

Similarly, the objectives of the RMPS are well publicised through guidelines, such as those published by the RPDC (2003), which provide information about obtaining development approval under the LUPA Act.

However, the amount of information required to effectively understand how the various regimes interact, and to determine when a particular activity is subject to regulation, was raised by some participants. For example, Reserve Design Management observed that the amount and complexity of legislation made it difficult for local governments to ensure that their planning instruments complied with the relevant State and Australian Government legislation. They stated:

> … that there was a very limited understanding and an enormous amount of confusion in the community about the responsibilities of individuals, the requirements that are placed on organisations by legislation, regulation and the opportunities that exist for them to achieve funding. (trans., p. 801)

The issue was also raised by the Huon Valley Council:

> Local Councils must be fully informed and understand how this framework is administered in order that the Council's role as a planning authority is able to be fulfilled. Councils must not only ensure that the regulations are being met in regard to new development applications but also must monitor compliance in regard to existing activities …
>
> This complexity is an issue in itself. A regulatory framework that is overly complex will not be effectively implemented and this has been an ongoing concern for local government within Tasmania. (sub. DR230, p. 2)

In some cases, a lack of understanding may lead to issues regarding compliance. With respect to the introduction of a native vegetation policy by the local government on King Island, Reserve Design Management said:

> … no-one on the island knew anything about the [*Environment Protection and Biodiversity Conservation Act 1999*] or the forest practices legislation which was in place or the recent changes to the forest practices legislation. There were people actively going about doing things on the island which they believed they had every right to do but which were clearly illegal. (trans., p. 801)

The issue of compliance on King Island may have been aggravated by the fact that many operations may have only recently become subject to the provisions of the FP Act (due to the recent amendment that made removal of forest vegetation for non-commercial activities subject to the FP Act).

Achieving objectives

The effectiveness of the regime established under the FP Act can be measured, to an extent, against the native vegetation targets outlined in the Permanent Estate Forest Policy. The FPB reported in 2003 that:

> … Tasmania's native forest estate has been maintained at a level equivalent to 97.5 per cent of the native forest area that existed in 1996 … the current native forest area is well in excess of the minimum thresholds within all bioregions. The [FPB] notes that the level of conversion of some communities is approaching the thresholds. Action to maintain all communities in accordance with the Permanent Forest Estate Policy is being undertaken by the Board. This Action includes the imposition of an interim moratorium on the clearing of any further rare, endangered or vulnerable forest communities (FPB 2003, p. 7)

In a recent inquiry into the implementation of the RFA, the RPDC noted that:

> During the last five years, maintenance of native forest across Tasmania has occurred in accord with the bioregional thresholds, based on the proportion of native forests in reserves, as specified in the policy on maintaining a Permanent Forest Estate.
>
> The data also indicate that all forest communities are well within the 50 per cent threshold. While the level of conversion of some communities is approaching the threshold, the [RPDC] acknowledges that action being undertaken by the [FPB] should ensure that these communities are maintained in accord with the policy on maintaining a Permanent Forest Estate. (RPDC 2002, p. 62)

There seems to be broad agreement that the objectives of the RFA (as currently specified) are being effectively achieved. However, there is some debate about whether the current native vegetation retention targets are appropriate and whether the system is providing adequate protection to certain classifications of forest communities.

For example, the Tasmanian State Biodiversity Committee, expressed the view that:

> While the Permanent Forest Estate Policy provides protection for forest communities, there is increasing concern that the levels of protection are too low … increasing the minimum threshold levels for all three criteria … would mean that additional areas of significant native forest would be excluded from clearing. (TSBC 2002, p. 33)

The RPDC observed that:

> Although no additional forest communities have become endangered, there has been a reduction in the areal extent of some endangered forest communities in the last five years … A number of vulnerable communities have also been depleted, to a greater extent, during this time. In its current form, the policy on maintaining a Permanent Forest Estate does not differentiate between the forest communities classified as non-threatened and those classified as rare, endangered and vulnerable under the RFA. (RPDC 2002, p. 63)

The Permanent Forest Estate Policy is currently under review (FPB 2002a). A number of initiatives agreed to by the Tasmanian Government through the recent NHT bilateral agreement are intended to strengthen the operation of the Permanent Forest Estate Policy (section H.2).

Some participants criticised the operational aspects of the Forest Practices System. The Tasmanian Conservation Trust (TCT) questioned whether rare and endangered forest types were being accurately identified and mapped in the development and certification of FPPs. The TCT suggested this inadequacy, in part, was attributable to relying on a self-regulating system for the approval and certification of FPPs (TCT 2002).

More generally, the TCT (sub. 84) expressed concerns that the Forest Practices System was exempt from the more generic provisions that applied to resource planning in other industries in the State, namely the RMPS. As such, it was argued, the Forest Practices System was subject to less effective environmental controls than provided for under the RMPS, nor was it bound by the same standards of transparency and independence.

The Huon Valley Council noted that there was a:

> … need to ensure that there was no (or minimal) exclusions from the RMPS and that it constituted an integrated, comprehensive and holistic regulatory framework for the State. It is an ongoing concern that some aspects of vegetation management fall outside of the RMPS. (sub. DR230, p. 2)

In a recent inquiry into the implementation of the RFA, the RPDC considered that concerns that the forestry industry was exempt from the provisions of the TSP Act were unfounded:

> Threatened species habitat, on land subject to forestry operations, is managed through application of the relevant management prescriptions and procedures under the [Code]. Changes made to the [TSP Act] in 2001 amended the administrative arrangements under which forestry operations operate. These recognise that the [Code] requires that threatened species in forestry areas are managed in accord with the requirements of the Act, and management prescriptions endorsed by the Threatened Species Unit. (RPDC 2002, pp. 51–2)

Threatened Species Protection Act

The TSP Act contains broad objectives that make assessment of the effectiveness of the Act in meeting environmental objectives difficult. Of the more than 600 threatened species currently listed on the schedules of the TSP Act, only about 40 are presently covered by recovery plans. Most funding for the implementation of

these plans has come from the Australian Government with in-kind support from the State Government (RPDC 2003). The RPDC noted that:

> At current rates of preparation it would appear unlikely that Recovery Plans could be prepared for all those species for which it would be desirable for many years. (RPDC 2002, p. 46)

While recovery plans have not been developed for the majority of listed species, DPIWE is currently preparing listing statements for all threatened species in Tasmania. Listing statements contain information about the species, its distribution, threats, management issues and recovery actions needed — in effect, simplified recovery plans (RPDC 2002).

Since the RFA was signed, there has been an increase in the number of species listed on the schedules of the TSP Act, and some species have been moved to a higher risk category (RPDC 2002). The RPDC (2002) considered that, in the main, the increase in the number of listings can be attributed to increased knowledge about the listed species. However, a range of causal factors were also identified as contributing to the increase in the risk status of forest dwelling species. These factors included:

- the effects associated with mining;
- the effects associated with clearing for agriculture;
- introduced species … and
- fire and drought. (RPDC 2003, p. 50)

The RPDC also noted that many species are also potentially threatened by forestry activities (RPDC 2002).

Regulation of non-forest vegetation

The lack of a specific native vegetation management regime has led to concerns that certain types of vegetation, particularly non-forest native vegetation, are not being adequately protected in Tasmania. As mentioned above, the FP Act initially only applied to forest practices undertaken for commercial purposes. This ‘anomaly’ was addressed when the FP Act was amended in 2001, so that the Act now clarifies that non-commercial clearing of forests for the ‘purposes of agriculture or other land use’ is now subject to the Act.

In certain circumstances, the clearing of non-forest vegetation may be subject to regulation through planning schemes under the LUPA Act, and the TSP Act. The TSBC observed:

> Native vegetation such as heath, grassland, saltmarsh and wetland have few protection mechanisms. In fact, there is no auditing or regular monitoring of the rates of clearing. This lack of regulatory mechanisms reflects a serious gap in protection as many of these non-forest vegetation communities are poorly reserved and are among the most heavily impacted and threatened in the State. (TSBC 2002, p. 33)

The lack of a comprehensive mapping system for non-forest vegetation makes it difficult to assess the extent to which agricultural and forestry practices are affecting non-forest vegetation in the State. The State Government's vegetation mapping system, TASVEG, is currently focusing on mapping non-forest vegetation communities to complement the forest mapping completed during the development of the RFA.

Compliance levels

The FPB reports annually on compliance and enforcement activity under the FP Act. There are a number of different enforcement provisions available under the FP Act, including written and verbal notification informing landholders that they must comply with the legislation, notices to stop work and prosecution in cases where operations have been undertaken without an approved FPP. In 2002-03, 30 notices to stop work were issued, fines were imposed in seven instances, one breach resulted in prosecution.

Under the FP Act, it is a requirement that a certificate of compliance be lodged by a landholder with the FPB within 30 days of the completion of operations prescribed. The FPB noted that:

> … a reasonable level of compliance is being reported through certificates lodged … by applicants upon expiry of Forest Practices Plans. The Board notes that there has been a substantial improvement in the rate of lodgement of certificates but that the lodgement of certificates, particularly by the non-industrial private sector is still not acceptable. (FPB 2002a, p. 7)

The Commission received little evidence to suggest that non-compliance with the legislation was a significant issue. However, the TCT considered that application of the compliance and enforcement provisions of the FP Act was likely to be undermined by the self-regulatory nature of the monitoring and enforcement provisions (TCT, trans., p. 750).

In its review of progress with the implementation of the RFA, the RPDC noted that:

> … though there is significant disquiet about the self-regulatory nature of the Forest Practices System, an independent review of compliance auditing procedures has found that it is appropriately structured and operated at an appropriate level. (2002, p. 37)

The Tasmanian Government (sub. 201) has recently announced that it will introduce legislation to make the FPB more independent and skills-based.

Consideration of economic and social impacts

The requirement for the consideration of the economic and social impacts of decisions made under the regimes is either stated directly, or strongly inferred in the supporting legislation.

One of the objects of the RMPS is to facilitate economic development in accordance with the other objectives of the Act. In developing a planning scheme under the LUPA Act, a planning authority must, among other things, seek to further the objectives of the RMPS, and must 'have regard to the use and development of the region as an entity in environmental, economic and social terms' (RPDC 2003, p. 10).

However, the Southern Midlands Council considered that:

> … most decisions within the RMPS certainly and generally in Tasmania do not adequately take into account economic and social values as well as natural values. They certainly take into account natural values and in fact most of the decision-making in this sphere seems to be centred on assessing the natural values and the economic and social values are add-ons, if you like, if they're considered at all, or are not considered. (trans., p. 774)

Under the TSP Act (s. 9), a Community Review Committee is established, one of the functions of which is to 'consider the social and economic impact of the implementation of land management agreements'. The objective of considering social and economic factors is to:

> … ensure that landholders do not carry an unreasonable burden for conserving threatened species on their land. (DPIWE 1999, p. 27)

The requirement for the consideration of economic and social factors is not directly stated in the FP Act. However, certain provisions of the Act suggest that there is consideration of the trade-offs between economic and other factors in developing and certifying FPPs. For example, the Act's overriding objective is to 'achieve sustainable management of Crown and private forests' (FP Act, Schedule 7). There is also a requirement that assessments of FPPs consider the impacts of the proposal on soils, water, flora, fauna, cultural heritage and visual landscape.

H.5 Administration and implementation

Forest Practices Act

Costs for implementing and administering the Forest Practices System are shared between the State Government, the forest industry and the FPB. It is an objective of the Act that sustainable forest management is delivered in a way that is as far as possible self-funding. The forest industry bears the cost for activities, such as preparation and certification of FPPs, supervision of forest practices and training and education of contractors, operators and Forest Practices Officers. In 2002-03, the FPB (2003) estimated these services to cost approximately $7 million.

To cover the costs associated mainly with the provision of research and advisory programs, the FPB raises revenue from sources such as voluntary funding from Forestry Tasmania, voluntary contributions from privately-owned operations, and a levy on wood processors. Total revenue received under the self-funding activities of the FPB in 2002-03 amounted to $1.3 million (FPB 2003).

In addition, in 2001-02, the State Government provided $430 000 for the provision of certain activities including:

- annual assessment of the Forest Practices System and FPPs;
- lodging complaints and prosecuting offences;
- payment of compensation for refusal of private timber reserves; and
- remuneration of the Chief Forest Practices Officer (FPB 2002a).

Resource Management and Planning System

Regulation of native vegetation and biodiversity conservation is only one of the functions covered by the RMPS and, as such, the cost of administering and complying with this regulation is difficult to identify precisely.

Administrative costs are shared between local and State Government. Local Government, in some instances will be responsible for developing planning schemes under the LUPA Act, and assessing permits to carry out certain development activities against planning schemes. The State Government funds organisations such as the RPDC (which, among other things, approves and assesses planning schemes) and the RMPAT tribunal.

Some participants, such as Don McShane (trans., p. 1408) and the Southern Midlands Council (trans., p. 1457), expressed concern that local government might

incur costs, without a commensurate increase in funding, as a result of incorporating native vegetation obligations contained in the recently signed bi-lateral agreement into local planning approval processes.

Costs incurred by landholders include application fees for lodging a permit for some development activities, and costs associated with delays while waiting for a decision (for example, in the form of lost production). The Commission did not receive any comment on whether these costs were significant.

Threatened Species Protection Act

The TSP Act is primarily administered by the State Government. Funding for the development of some instruments under the TSP Act is provided by the Australian Government through bilateral agreements such as the RFA.[8]

Costs of administering the TSP Act are also incurred by local government. For example, threatened species legislation needs to be considered in the development of planning schemes under the LUPA Act.

Costs of inconsistency

The Commission did not receive any evidence regarding costs associated with inconsistency between the regimes. This may be because certain aspects of the operation of the Forest Practices System are separate from the operation of RMPS.

Dispute resolution procedures

There are separate appeals processes for decisions made under the RMPS and the FP Act.

Resource Management and Planning System

As discussed earlier, the RMPAT hears appeals against decisions made under the RMPS.

Unless otherwise specified in the legislation relevant to the appeal, RMPAT must receive notification of the appeal, in writing, within 14 days of the decision. A $55.50 fee is charged for lodging an appeal. Once appeals have been received, a

8 For example, Australian Government funding was provided for the development of recovery plans for species that were jointly listed on the TSP Act and the EPBC Act (RPDC 2002).

'Directions Hearing' is convened to determine whether the matter can be solved through mediation.

If it is deemed that the appeal cannot be resolved through mediation, a full hearing of RMPAT is arranged. RMPAT decisions on appeals are legally binding on all parties.

RMPAT decisions may be appealed to the Supreme Court, but only on matters of law. Appeals to the Supreme Court must be lodged within 28 days of RMPAT's decision.

Forest Practices Act

The Forest Practices Tribunal (FPT) is an independent body established under section 34 of the FP Act, to hear appeals against decisions made by the FPB. Decisions of the FPB against which appeals may be lodged include:

- refusal of establishment of a private timber reserve;[9] and
- refusal, amendment or variation of the plan.

There does not appear to be a time limit by which appeals have to be lodged with the FPT. Procedures for appeal hearings are detailed in section 37 of the FP Act. Legal representation is not permitted, and subject to certain conditions, the hearing procedure is 'within the discretion of the Tribunal' (s. 37(9)). The decision of the FPT with respect to an appeal is final. In 2001-02, three appeals were heard by the FPT, all in relation to applications for private timber reserves.

H.6 Impacts on landholders

The Commission received some evidence of the impacts of native vegetation and biodiversity regulations on landholders and farming practices, although it was difficult to ascertain the magnitude and extent of these impacts. Evidence suggested that there is potential for significant variation in impacts across regions, and even across properties within particular regions. The TFGA considered it difficult to determine the proportion of landholders affected by the regulations, but noted that:

> … there's a wide spread effect across Tasmania, and it would vary from district to district … in the restrictions of the use of non-forest native vegetation you go to the Midlands area, where graziers are fairly heavily reliant on those areas for grazing sheep for the production of fine wool; you go to the islands, where restrictions on land clearing, development of properties … have a major impact. In the more highly

9 A prescribed person may appeal against a granting of a Private Timber Reserve.

> developed areas of the state, across the north-western area, the effect would not be so great … (trans., p. 731)

As well as noting the impact of current restrictions, landholders also expressed concern about the potential impact of a range of possible changes to native vegetation and biodiversity conservation regulations. These included the possibility that the TSP Act may be amended to include a 'threatened communities' category (TFGA, sub. 160, John Oldaker, trans., p. 1393) and the introduction of regulations affecting the clearing of non-forest native vegetation (TFGA, trans., p. 8; Southern Midlands Council, trans., p. 771).

It was claimed that native vegetation and biodiversity conservation regulations were affecting farming practices in a number of ways. Restrictions under the FP Act, for example, may impede the development of certain areas of land that requires the removal of native vegetation. The long history of established agriculture in the State means that there are not large areas of land with development potential outside the reserve system. However, the TFGA argued that, as most properties have some native vegetation, the potential returns from bringing this land into production imply that the impacts of the restrictions on some properties could be significant (TFGA, trans., p. 730; Forest and Forest Industry Council of Tasmania, trans., pp. 783–5).

The Southern Midlands Council provided an example of the impacts associated with clearing restrictions under the FP Act on a property in the Midlands region:

> [the] property … has a total area of 1690 hectares. The land already developed for agriculture is 800 hectares and there's 890 hectares of native forest and grasslands. The landowner would like to clear 45 hectares of forest located on potentially productive farmland and is willing to preserve the remaining 845 hectares of native forest and grassland, but this is subject to a moratorium under the [Code] … and he has been advised that it's simply not worth his while putting in an application to do this … you can determine that there's approximate loss of capital value of $64 000 and approximate loss of yearly income of $29 000. (trans., pp. 774–5)

The TFGA argued that application of the FP Act to clearing of all native forests, whether for commercial activities or not, had resulted in some significant impacts for some landholders who wished to remove native forest vegetation:

> A notable example is farmers on King Island, where there are no commercial forestry operations and where the Act has therefore not really had application before. Many King Island farmers are now facing real financial costs as a result, with the introduction of vegetation clearance regulation. (TFGA, sub. 160, p. 8)

There are some restrictions on changing land use on farming properties. In some cases, landholders are required to obtain approval to ensure that a proposed development complies with a planning scheme. Restrictions — or outright refusal

— may result in cases where the proposal has implications for species listed under the TSP Act. Restrictions may affect landholders' ability to introduce new technology, or to switch from grazing activities to cropping in particular areas. The TFGA (sub. 160) noted that regulations were preventing landholders from introducing centre pivot irrigators in the Midlands region.

The TFGA (sub. 160) also observed that operating costs for landholders can increase as they attempt to control grazing and native animals in circumstances where an area of native vegetation reserve either adjoins a property or is required to be maintained on a property.

In some cases, restrictions may have significant implications for the profitability of farming operations.

> The significance of … costs will vary between farms. However, in some cases it can be substantial. For example, where a large part of a property is covered by a native forest type which is limited in overall extent, and therefore where further clearing is forbidden, the value of the farm can be substantially degraded below what it was previously. (TFGA, sub. 160, p. 9)

The Commission received little evidence of the impact on investment patterns or the attitudes of finance providers.

Government measures to mitigate negative impacts

As noted above, there are provisions for compensation to be paid, in certain circumstances, to persons adversely affected by the FP Act, the TSP Act and the RMPS. However, the compensation provisions of the RMPS, and the TSP Act in particular, do not appear to have been exercised to any significant extent. Compensation has been paid, in some circumstances, to landholders who have had an application to have land declared as a private timber reserve rejected by the FPB.

The Tasmanian Government is also attempting to encourage voluntary landholder participation in the conservation of non-forest native vegetation through property management planning, for which funding has been provided:

> Vegetation management agreements will be negotiated with landholders, which identify and map the native vegetation assets on a property and describe how those assets will be managed to provide both sound conservation and production outcomes. Those agreements will give a landholder certainty over how those assets can be used over a considerable planning horizon.
>
> The [Australian Government] has agreed to provide up to $1.75 million from the Natural Heritage Trust program to assist the State in giving effect to this protection of non-forest vegetation and this will assist us in establishing vegetation management agreements over priority properties. (Tasmanian Government, sub. 201, p. 12)

In terms of native forest vegetation, significant funding has been provided through the PFRP to pursue the objectives of the CAR reserve system on private land. To date, of the $30 million allocated to the program, over the period 1998–2002, approximately $4.8 million was spent securing 31 120 hectares of native forest vegetation.[10] The average payment to landholders to secure native forests under conservation covenants over the same period was $155 per hectare, and the average cost of 'extremely high priority' forests purchased by the program was $709 per hectare (PFRP 2002).

In addition to direct payments to landholders, ten municipal councils offer annual rate rebates and a number of other councils are considering the introduction of such measures (Tasmanian Government, sub. 201).

The Tasmanian Government considered that:

> The [PFRP] demonstrates that conservation of biodiversity can be integrated with sustainable agriculture across rural landscapes through effective partnerships with landowners, which are entered into voluntarily, and by providing financial incentives related to conservation and market values of land. (sub. 201, p. 11)

The TFGA noted that landholder participation in the PFRP highlighted the advantages of involving landholders in a voluntary process when pursuing conservation outcomes, rather than a more interventionist approach. The TFGA considered that programs, such as the PFRP, were:

> … a far cry from [processes where] … somebody from the government is likely to come along and tell [landholders] that this area of land needs to be locked up, restricted and so on, and that will be done under a legislative process rather than some form of ownership. There's a clear difference between the two [processes], and I think the importance of what's happened so far is that people have been willing to get involved; decide what they would like to do and they're quite proud of it … (trans., p. 735)

The TCT (trans., p. 763) considered the PFRP was a 'good idea' for securing high-value conservation land, but expressed some concerns over the costs of the program. Reserve Design Management considered that 'there is absolutely no relationship between the resource provided and the economic cost' (trans., pp. 805–6).

[10] Includes properties secured through purchases, covenants and management agreements.

H.7 Impacts on regional communities and other economic activities

To the extent that production and incomes of landholders decline as a result of native vegetation and biodiversity regulations, this may be reflected in the demand for services (labour and other) in regional communities. Declining productivity may also have implications for a local council's rate base and, consequently, its ability to provide certain services. However, the Commission is not able to make an overall assessment because of a lack of evidence on the extent of impacts of native vegetation and biodiversity regulations generally, and a lack of evidence presented to the Commission about the impact on regional communities.

H.8 Summary

Native vegetation and biodiversity conservation regulations in Tasmania do not seem to have had broad scale impacts on landholders, largely because agricultural industry is well established and there does not appear to be high demand for extensive clearing for agricultural purposes.

Also, the impact of policies such as the CAR reserve system do not appear to have a significant impact on landholders as the majority of land reserved has been on public land. Where private land has been required for reserve purposes, funds have been made available for compensation through schemes such as the PFRP and, in some instances, the Forest Practices System. However, some individual landholders may have been significantly affected by some of the provisions. This may occur where high conservation value vegetation must be retained, but the landholder is not eligible for compensation. There are also concerns among landholders about the restrictions that may be implemented by the Tasmanian Government as a result of the recent bilateral NHT agreement.

In terms of implementation, there are some concerns as to whether local government has the resources and skills to administer increasingly complex native vegetation and biodiversity regulations effectively. Environmental objectives stipulated in the regimes appear to have been achieved, particularly with respect to forest native vegetation, although there is ongoing debate about the adequacy of the objectives.

I Northern Territory

I.1 Introduction

Land clearing has not been considered a major issue in the Northern Territory until relatively recently. It is estimated that 0.37 per cent of the Territory has been cleared for all types of development, including urban expansion, infrastructure provision, and agriculture and mining (Hosking 2002, p. 6). However, particular areas of the Territory have been subject to more extensive clearing, for example, 14.6 per cent of the Litchfield Shire (adjacent to Darwin) has been cleared and 9.3 per cent of the Daly Basin (Hosking 2002, p. i).

The majority of clearing in the Northern Territory has been on general freehold land, which excludes Aboriginal freehold. Pastoral land is the largest single type of land tenure (46 per cent) followed by Aboriginal freehold (44 per cent). General freehold represents less than 4.5 per cent of the Territory's land area (Hosking 2002, p. 8).

I.2 Description of the regulatory regime

The Northern Territory has several regulatory regimes covering the clearing of native vegetation and protection of biodiversity. Separate regimes apply to clearing of general freehold and Crown land, pastoral leases and clearing in the Litchfield Shire (which is covered by the Litchfield Area Plan 1992). A moratorium on further clearing in the Daly region has also been announced. Other legislation and regulations may also impact on the ability of landholders to clear native vegetation.

Planning Act

The *Planning Act 1999* (Planning Act) regulates the planning, control and development of land in the Northern Territory.[1] It does not explicitly regulate the clearing of native vegetation or the preservation of biodiversity. However,

1 The *Planning Act 1999* replaced the *Planning Act 1992*.

section 31 of the Act permits the relevant Minister to issue an Interim Development Control Order (IDCO) to vary the planning scheme. An IDCO is intended to be a temporary measure pending an amendment to the Planning Act. Section 31(2) states that:

> (2) An interim development control order may declare that –
>
> (a) a development provision does not apply to all or part of the land to which the order relates;
>
> (b) development specified in the order in all or part of the land to which the order relates may proceed only with a permit granted under Part 6 by the consent authority specified in the order; or
>
> (c) specified types of development are prohibited,
>
> and while the order remains in force the provision does not apply, or development may only proceed or is prohibited, accordingly.

In November 2002, the Minister for Lands and Planning signed IDCO No. 12, which came into force on 11 December 2002 and is in place for two years. The order prohibits, without the consent of the Minister, clearing of more than one hectare of native vegetation whether this is required as part of the development or not.

The order applies to all freehold (including Aboriginal freehold) and Crown land where the area of land specified on the title is greater than two hectares. However, the controls under the IDCO do not apply to:

- pastoral leases (which are subject to clearing regulations set out in the Pastoral *Land Act 1992* (PL Act);
- national parks and reserves (which are subject to their own legislation);
- towns and current control plan areas such as Darwin, Katherine and Alice Springs;
- land where clearing is controlled by the *Mining Act 1980*; and
- Litchfield Shire (where land clearing is subject to regulation under the Litchfield Area Plan).

The IDCO specifies that the clearing of native vegetation means the cutting down or destruction, by any means, of the native vegetation on the land. However, it does not include:

> (a) the removal of a declared weed within the meaning of the *Weeds Management Act* or of a plant removed under the *Plant Diseases Act*;
>
> (b) the lopping of a tree;
>
> (c) the clearing of native vegetation through the grazing of animals;

(d) the harvesting of native vegetation planted by a person for harvest;

(e) the clearing of firebreaks or roads for access to the land or other land; or

(f) the destruction of native vegetation in the course of Aboriginal traditional use, including the gathering of food, the production of cultural artefacts and the use of fire. (Vatskalis 2002, pp. 2–3)

Applications to clear native vegetation

The clearing controls require landholders to apply for a permit before clearing native vegetation on their property. The IDCO itself does not establish specific criteria for clearing native vegetation; permits for clearing native vegetation are therefore treated like other development applications. To be approved they must comply with the statutory criteria set out in section 46 of the Planning Act.

These criteria include a requirement for the application to contain:

- an assessment of how the development complies with an IDCO (if any);
- an assessment demonstrating the merits of the proposed development;
- a description of the physical characteristics of the land, a detailed assessment demonstrating the land's suitability for the purposes of the proposed development and an assessment of the effect of the development on that land and other land;
- an assessment of the potential impact on the existing and future amenity of the area in which the land is situated; and
- an assessment of the benefit or detriment to the public interest of the development.

The Northern Territory Government (NT Government) has also published guidelines for land clearing (NT Government 2002) which provide technical advice for those planning and undertaking land clearing (box I.1).

The IDCO specifies that the Minister for Lands and Planning is the consent authority for the purposes of the Planning Act. Applications to clear native vegetation must therefore be approved by the Minister (or his or her delegate). The Department of Infrastructure, Planning and Environment (DIPE) states that clearing applications will be assessed by senior government officers with experience in the fields of soil conservation, water resources and biodiversity (DIPE 2002). The Planning Act requires applications to be processed within 12 weeks.

Decisions by the Minister as the consent authority are not subject to appeal. Hence, there is no appeal in the case of clearing applications under the regime established by the IDCO.

Enforcement and prosecution provisions are specified in section 75 of the Planning Act. These provisions provide for maximum penalties of $20 000 for an individual and $100 000 for corporations. The DIPE has indicated that monitoring of compliance will be through the use of satellite image analysis and on-ground investigations by departmental staff (DIPE 2002).

Box I.1 **Northern Territory's land clearing guidelines**

The NT Government introduced land clearing guidelines to 'provide basic information on how to clear in an environmentally responsible manner' (NT Government 2002, p. 3). When the Minister tabled the guidelines he stated that:

> They reflect best management practices of land clearing in the Territory and will be periodically reassessed in accordance with comments received from community and industry. (Legislative Assembly, Parliamentary Record no. 3, Ninth Assembly, First Session 26/02/02)

These guidelines apply to all land tenures (and are consistent with specific guidelines for clearing on pastoral land).

The guidelines provide information on:

- legislative requirements for clearing approvals;
- planning clearing operations, including information on:
  - the preparation of clearing plans;
  - site selection (including information on 'no-go' areas and 'clear with care' areas); and
  - required buffers around waterways and the provision of corridors for native wildlife;
- the clearing operation, including information on:
  - operational techniques and the timing of clearing to minimise soil disturbance, avoid channelling and concentration of water and to minimise disturbance to areas not subject to clearing; and
  - erosion and sediment control measures;
- specific issues relating to clearing for subdivisions and linear developments.

Sources: NT Government (2002); Legislative Assembly, Parliamentary Record no. 3, Ninth Assembly, First Session 26/02/02.

Litchfield Area Plan

Development and land use in the Litchfield Shire is regulated by the Litchfield Area Plan 1992 (LAP), which is, in turn, a development provision of the NT Planning Scheme under the Planning Act.

The control of native vegetation clearing is not, of itself, a focus of the plan. However, objectives of the plan include, amongst others, the protection of residential amenity and areas of environmental or conservation value. One of the instruments to achieve these objectives is the regulation of native vegetation clearance. Clause 22.5 of the plan states that:

> Except with the consent of the Authority, the removal of natural vegetation from an area within an allotment exceeding approximately 50% of the area of the allotment is prohibited. (LAP 1992, p. 62)

Under the plan, a Development Permit must be obtained prior to the removal of more than 50 per cent of the native vegetation on any allotment. The decision to approve clearing or not is made by the Development Consent Authority. The Authority is advised by a vegetation clearing committee, which comprises four members, one each from industry, government, council and the general public.

Pastoral Land Act

The use of Crown land subject to pastoral leases is regulated by the PL Act. The PL Act requires lessees to maintain, improve and protect the land that they hold under a pastoral lease.

Section 38(1)(h) of the PL Act states:

> … that the lessee will not clear any pastoral land except with and in accordance with the written consent of the Board or guidelines, if any, published by the Board.

Under this section of the PL Act, the Pastoral Land Board (PLB) published guidelines for clearing on pastoral land in 1993 (PLB 1993). These guidelines formalised the conditions under which pastoral land could be cleared and the administrative arrangements for obtaining the Board's approval to clear.

The PLB requires formal approval for the following operations:

- clearing vegetation for cropping or pasture improvement; and
- clearing for other purposes, which include, but are not limited to:
  - pushing and lopping woodland and scrub country to provide drought or top feed;

– thinning trees to improve access and management; and
– pushing or chaining non-preferred shrub or tree species.

However, the guidelines indicate that lessees are not required to apply for permission to clear for the purposes of:

- making fixed improvements (for example, building additional infrastructure);
- selectively removing noxious weeds; or
- removing woody weeds (over an area of less than ten hectares) from land surrounding fixed improvements.

Applications to clear native vegetation

Lessees intending to clear vegetation on pastoral land must apply to the PLB for approval. The lessees must provide the following information as part of the application:

- the total area to be cleared;
- a site location plan (which also indicates any previous clearing);
- a description of soils, slopes and topographical features of the area to be cleared;
- the main species to be cleared;
- the proposed method of clearing;
- a statement outlining how the cleared land is to be used; and
- the proposed timing of the clearing.

Clearing applications are forwarded to relevant government departments for comment before consideration by the PLB. A sub-committee of the PLB may also undertake a site inspection prior to approving an application. The PLB may approve the application unconditionally or approve it subject to the lessee meeting certain conditions.

Table I.1 provides information on the number of land clearing applications approved by the PLB and the area of land involved. It should be noted that these figures may not necessarily indicate the actual degree of clearing. They may under-estimate the extent of land clearing on pastoral land because of the exemptions discussed above. On the other hand it is possible that landholders do not clear to the full extent of the approval.

Table I.1 **Pastoral Land Board approvals to clear pastoral land**

Year	*Area approved to be cleared (hectares)*	*No. of applications*
1994-95	1 433	5
1995-96	2 760	9
1996-97	100	2
1997-98	309	4
1998-99	1 100	3
Total	**5 702**	**23**

Source: Brock (2001).

Daly region moratorium

On 9 November 2003, the Chief Minister of the Northern Territory announced the establishment of a Community Reference Group (CRG) to develop a draft Integrated Regional Land Use Plan for the Daly region. The CRG is to seek public input and is required to report by September 2004. Until the CRG's report is received by the NT Government there will be a moratorium on further land clearing in the Daly Region.

The NT Government states that the function of the CRG is to:

> … advise government through development of a draft Integrated Regional Land Use Plan, framed to ensure that ecologically sustainable development is achieved in the region and in line with the following core principles, that is, there will be:
>
> - no dams on the Daly River;
> - no cotton grown in the Northern Territory (existing trials will be completed); and
> - no further subdivision for new agricultural blocks or new land clearing approvals until the Integrated Regional Land Use Plan has been completed. (NT Government 2003a)

On 10 December 2003 the Chief Minister announced that the CRG will comprise 18 members and will be chaired by Mr Rick Farley. Those on the reference group represent Indigenous groups, resource users' associations, environment interests, local government and members of the community who live in the Daly region (NT Government 2003b).

Other legislation

There is a range of other legislation that may affect a landholder's ability to clear native vegetation.

- *Soil Conservation and Land Utilisation Act 1995*
  - Primarily concerned with measures to control soil erosion and sedimentation. Some restrictions may be imposed on the clearing of vegetation to avoid erosion. Where clearing results in erosion, the Act contains provisions which can be used to require rehabilitation at the landholder's expense.
- *Water Act 2000*
  - Concerned with the protection and management of water resources in the Northern Territory. There is scope to protect native vegetation in catchment management zones.
- *Heritage Conservation Act 1991*
  - This Act enables places and objects to be declared to be of heritage value and to be placed on the NT Heritage Register. In addition, all prehistoric archaeological places are protected under this Act. Such places may not be disturbed without the written permission of the relevant Minister.
- *Territory Parks and Wildlife Conservation Act 1988*
  - Establishes parks and reserves approved by the Legislative Assembly of the Northern Territory. Particular areas may be designated 'essential habitats' under the Act. Permission must be sought to undertake certain activities in areas designated as 'essential habitats'.

I.3 Development of the regulatory regime

The regulation of land clearing on general freehold land was introduced recently by the NT Government. The clearing of native vegetation on pastoral leases and in the Litchfield Shire has been regulated for just over ten years. The regulation of clearing in these latter cases was introduced as part of the wider regulation of land use and development.

Regime applying to freehold land

The new arrangements relating to the clearing of freehold land under the Planning Act were introduced without prior consultation with landholders or the general public. However, the NT Government had foreshadowed the introduction of clearing controls when land clearing guidelines were published in February 2002. When the guidelines were tabled in the Northern Territory Assembly, the Minister stated:

> The next step in this process is the development of a policy on land clearing. A draft policy for the clearing of native vegetation in the Territory is currently being prepared for Cabinet consideration. The draft policy is to be implemented by the *Planning Act* and it is proposed that there will be a requirement for land clearing to be subject to approval on all tenures. The community will be advised and consulted on the draft document and issues associated with the policy implementation in the next six months, and we will also have further consultation with the Commonwealth. (Legislative Assembly, Parliamentary Record no. 3, Ninth Assembly, First Session 26/02/02)

Approximately six months later, in response to a question, the Minister stated:

> We said we were also going to incorporate the clearing of land into our *Planning Act*. The *Planning Act* currently is under review … We are going to put out a white paper and we are going into wide consultation with all people affected so we actually have a Planning Act that is at last going to work. (Legislative Assembly, Parliamentary Record no. 6, Ninth Assembly, First Session 13/08/2002)

The NT Government issued the IDCO introducing clearing controls in November 2002 and the new regulations came into force in December 2002. The IDCO remains in place for two years and then lapses; it cannot be re-introduced until three months have elapsed after the original order expires.

The NT Government is currently undertaking a comprehensive review of all aspects of the Planning Act. A discussion paper (NT Government 2003) has been released and the Government has invited public submissions. It is proposed that the clearing guidelines (box I.1) be incorporated into the revised Act.

Litchfield Area Plan

The Litchfield Shire was developed, in part, to provide a rural lifestyle for those who preferred not to live in the more urbanised Darwin area. Following Cyclone Tracy in 1974 many people moved to Litchfield from Darwin to take advantage of the availability of larger blocks of land (between 2 and 8 hectares) and the 'perceived immunity from interference with lifestyle caused by closer settlement' (NT Department of Lands and Housing 1990, p. 6).

The 1984 Darwin Regional Structure Plan (which encompassed the Litchfield Shire):

> … recognised that rural living can make a positive contribution to the development of the region by the creation of an environment which is characterised by some uniqueness and variety, rather than the all-too-familiar unbroken urban sprawl of most Australian cities. (NT Department of Lands and Housing 1990, p. 6)

The continued development of a separate identity for the Litchfield Shire led to the development of the Litchfield Land Use Structure Plan in 1990 and the Litchfield Area Plan in 1992. Controls on the clearing of native vegetation (as well as a range of other planning controls) were put in place to protect the rural feel of the area and promote the economic development of the Shire.

Regime applying to pastoral land

The PL Act was introduced to provide a secure leasehold tenure and to introduce a pastoral land administration with an emphasis on land care. In the second reading speech the Minister stated the Government's aim in introducing the legislation was:

> … the provision of secure perpetual lease tenure on which pastoralists can base long-term investment and management decisions, to ensure that … all pastoral land is well managed and utilised prudently so that its renewable resources are maintained and its productive capacity sustained. (Legislative Assembly, Parliamentary Record no. 7, Sixth Assembly, First Session 12/11/91)

The new Act was developed by the NT Government based on an implementation group consisting of representatives of various government departments including the Departments of Land, Housing, and Primary Industry and Fisheries, and the Conservation Commission.

I.4 Promotion of environmental goals

The attainment of environmental goals is not the primary focus of either the Planning Act or the PL Act. However, both pieces of legislation, as well as the LAP, are used to pursue environmental objectives.

A consultant's report, prepared for Environment Australia as part of the National Framework for the Management and Monitoring of Australia's Native Vegetation, concluded that in relation to the Northern Territory:

> … there is no native vegetation crisis in the NT. Territory NRM [natural resource management] agencies, therefore, do not focus specifically on vegetation. They are concerned instead with its management in a broader natural resources context, towards sustainable development goals generally. (URS Corporation and Griffin NRM 2000, p. 27)

The objectives of the regimes in the Territory should be viewed in this context. There is not considered to be a crisis in terms of native vegetation clearance but there is a desire to develop the Territory's resources in a sustainable manner.

Objectives of the regulatory regime

The objectives of the legislation controlling native vegetation clearance are, in some cases, specified in the legislation or regulatory instrument. At other times they must be inferred from the second reading speech or other public statements.

Planning Act

This Act does not have an explicit statement of objectives. However, in the second reading speech for the Planning Bill, the Minister indicates that the planning scheme contained in the bill is 'a step towards more consistent and better integrated planning across the Northern Territory' (Baldwin 1999, p. 3). The other element of the Act is to establish a process for the approval of development projects in the Northern Territory.

The IDCO introducing the land clearing regulations for freehold land did not state any objectives or give any reasons for the new controls. However, in the press release announcing the new controls, the Minister stated that:

> These new measures clearly demonstrate this Government's commitment to the long-term sustainable development of our natural resources … While the Northern Territory has so far avoided the environmental damage that goes with poor land clearing practices, now is the time to act. (Vatskalis 2002, p. 1)

The objective of the regulations does not appear to be to prevent clearing. In the foreword to the land clearing guidelines, the Minister for Lands and Planning notes that 'the future development of the Territory will involve some clearing of vegetation on land that is capable of sustaining such enterprises' (NT Government 2002, p. 1). The objective appears to be to ensure that any clearing is carried out according to appropriate guidelines and in a sustainable manner.

Litchfield Area Plan

The LAP is focused on protecting the amenity of the Shire and encouraging appropriate agricultural development. The LAP states that its overall aim is:

> … to protect the rural character of the Litchfield Shire and to identify locations suitable for the range of activities and services associated with development in the Shire. (LAP 1992, p. 1)

As well as having an overall aim, the LAP has eight specific objectives. One of these is to protect the integrity of areas of environmental and conservation value. The other objectives include, amongst others, the protection of land with horticultural potential, prohibiting visually intrusive developments on arterial roads

and ensuring that non-residential developments are sited to avoid or minimise conflict with the residential amenity of adjoining lots.

The LAP states that, in relation to the prohibition on removing more than 50 per cent of the native vegetation on an allotment:

> The purpose of this clause is to ensure that where the removal of native vegetation is proposed for an area exceeding 50% of an allotment, the vegetation is removed in accordance with environmental guidelines. (LAP 1992, p. 62)

The regulation of native vegetation clearance is therefore an element of the overall objective of maintaining the amenity of the shire.

Pastoral Land Act

The PL Act contains a range of objectives aimed at ensuring the efficient administration of pastoral leases and ensuring that lessees do not damage or degrade pastoral land. The objects of the PL Act are:

> (a) to provide a form of tenure of Crown land that facilitates the sustainable use of land for pastoral purposes and the economic viability of the pastoral industry;
>
> (b) to provide for —
>
> (i) the monitoring of pastoral land so as to detect and assess any change in its condition;
>
> (ii) the prevention or minimisation of degradation of or other damage to the land and its indigenous plant and animal life; and
>
> (iii) the rehabilitation of the land in cases of degradation or other damage;
>
> (c) to recognise the right of Aborigines to follow traditional pursuits on pastoral land;
>
> (d) to provide reasonable access for the public across pastoral land to waters and places of public interest; and
>
> (e) to provide a procedure to establish Aboriginal community living areas on pastoral land.

In addition, the PL Act sets out the general duties of pastoral lessees:

> (a) to carry out the pastoral enterprise under the lease so as to prevent degradation of the land;
>
> (b) to participate to a reasonable extent in the monitoring of the environmental and sustained productive health of the land; and
>
> (c) within the limits of the lessee's financial resources and available technical knowledge, to improve the condition of the land.

The environmental objectives of the PL Act and the duties imposed on lessees are very general in nature and do not refer explicitly to the issue of land clearing or biodiversity conservation.

Comparing objectives across regimes

Regulation of the clearing of native vegetation and protection of biodiversity is not the primary focus of either the Planning Act (including the LAP) or the PL Act. They have broader overall objectives, of which the protection of native vegetation and biodiversity is one element.

The regulation of clearing under the LAP is more for the preservation of visual amenity and lifestyle reasons, while the controls relating to pastoral land and other freehold land are aimed at ensuring appropriate clearing (including avoiding past mistakes) for agricultural development.

The focus of the clearing regulations under both Acts is to ensure that clearing takes place within appropriate guidelines. The objective of neither Act is to prevent clearing *per se*.

Understanding of objectives

Guidelines have been published for both clearing on pastoral land and for the new controls applying to freehold land. In both cases the guidelines provide an introduction to the process of obtaining permission to clear land and provide technical guidelines relating to the actual clearing process. The Northern Territory's Department of Infrastructure, Planning and Environment has also published a series of brochures that provide an outline of the clearing regulations and provide step-by-step information on how to apply for a clearing permit.

It is therefore likely that landholders are aware of what is required of them under the various regimes — at least in terms of application procedure and the technical requirements for clearing in accordance with the guidelines.

The extent to which they understand the underlying rationale for the regimes is not clear. However, as part of the current review of the Planning Act being undertaken by the NT Government there has been extensive public consultation with landholders (and the community generally). As part of the consultation process there have been public forums, field days for departmental staff and individual meetings and briefings.

Achieving objectives

The general nature of the objectives makes it difficult to assess the extent to which they have been achieved.

Clearing controls in the Litchfield Shire take no account of the environmental (or public amenity) value of the land to be cleared. Landholders are free to clear up to 50 per cent of their property without prior approval.

The NT Government recognises that this may not protect environmentally valuable areas in the Litchfield Shire:

> In some cases, the 50% rule has not been effective in the protection of natural resources, as there is no recognition that one area of land may be more significant than another. (NT Government 2002, p. 9)

In relation to regulations affecting other freehold land (outside the Litchfield Shire) it is perhaps too early to assess the effectiveness of the regime in achieving its objectives.

The lack of transparency in the evaluation of clearing applications on pastoral land makes it difficult to assess the extent to which the objectives of the regime have been achieved.

Compliance levels

There is little evidence on the level of compliance with the regulations relating to clearing native vegetation.

Consideration of economic and social impacts

Section 51 of the Planning Act sets out 17 matters to be considered by the consent authority when assessing a development application (including an application to clear native vegetation). These criteria would apply to applications to clear freehold land under IDCO No. 12 and under the LAP.

Some of these criteria are:

- the potential impact on the existing and future amenity of the area in which the land is situated;
- the public interest;
- any potential impact on natural, social, cultural or heritage values; and

- any other matters the consent authority thinks fit.

However, the extent to which these issues are considered in relation to applications to clear native vegetation is not clear.

In relation to pastoral land, applications to clear native vegetation are assessed in accordance with the guidelines for clearing pastoral land published by the PLB. However, the guidelines only provide technical information relating to clearing (such as the need to maintain buffers and guidelines on site selection, timing and the method of clearing). There is therefore no requirement for the PLB to take into account the social or economic impact of clearing decisions.

I.5 Administration and implementation

There are different administrative arrangements for each of the Territory's native vegetation clearing regimes.

Administrative costs

Administrative costs are incurred by the landholders applying to clear native vegetation, the agencies assessing the applications and other parties involved in the process, such as environmental groups or local community groups.

In relation to costs borne by landholders, applications to clear native vegetation on freehold land (under IDCO No. 12 and the LAP) incur a $120 application fee. Applications to clear native vegetation on pastoral leases under the PL Act are free.

In all cases landholders would also incur the cost of completing the application process.

Time delays do not appear to be a problem for landholders subject to the regimes enabled under the Planning Act. The Act requires applications to be assessed within 12 weeks of submission. There is no such requirement under the PL Act for applications to clear pastoral land. However, the Commission has received no evidence that the time taken to assess applications under the PL Act has been excessive.

Costs are also incurred by the agencies that assess the applications and monitor compliance with the terms and conditions applicable to the permits.

Costs of inconsistency

There is no evidence of costs arising because of inconsistency between regimes at the Territory level, nor is there any evidence of problems between the Territory regimes and the Australian Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Dispute-resolution procedures

There are separate dispute resolution procedures for applications made under the Planning Act and the PL Act.

Dispute resolution under the Planning Act

Under section 108 of the Act, decisions by the Development Consent Authority (DCA) may be appealed to the Lands and Mining Tribunal (LMT), which is an independent statutory body established under the *Lands and Mining Tribunal Act 1998*.[2] Appeals under the LAP would be dealt with through this mechanism, but not those in relation to the clearing of native vegetation on freehold land regulated by the IDCO under the Planning Act. In this case the IDCO designates the Minister as the DCA and decisions by the Minister in this capacity are not appealable.

For those matters that may be appealed through this route, a notice of appeal must be filed with the LMT within 28 days of the decision by the DCA. In the first instance, the LMT requires the parties to attend a compulsory mediation conference. If the matter is not resolved, the LMT can require the provision of written submissions from the parties and may call for evidence at a hearing. After considering this material the LMT makes a binding determination on the application.

Section 133 of the Planning Act permits an appeal against a decision by the LMT only on a question of law. Such appeals must be lodged within 28 days of the LMT's presentation of a statement of reasons for the determination.

In the period between June 2000 and June 2002, 18 appeals under the Planning Act (although not necessarily in relation to the clearing of native vegetation) were lodged with the LMT. Of these, 10 were resolved during mediation, 5 required a formal decision by the LMT and 3 were not yet finalised (LMT 2002, p. 3). The

2 In addition to being the ultimate appeals body under the Planning Act, the Lands and Mining Tribunal also has a role in relation to the compulsory acquisition of land under the *Lands Acquisition Act 1978*.

average time from filing to decision for appeals under the Planning Act was 2.7 months (LMT 2002, p. 7).

Dispute resolution under the Pastoral Land Act

The Pastoral Land Appeal Tribunal is established under section 115 of the PL Act. The Tribunal hears appeals by pastoral lessees against, amongst others, decisions or actions of the PLB. A lessee could appeal a decision by the PLB to refuse permission to clear pastoral land or against conditions imposed by the Board in relation to the clearing operation.

A lessee unhappy with a decision by the PLB is required to lodge an appeal within 28 days after the notification of the decision subject to the appeal. In the first instance, section 118 of the PL Act requires the Tribunal Registrar to convene a compulsory conference between the parties to the proceedings.

If the matter cannot be resolved at a compulsory conference, it is heard by the Appeals Tribunal. In hearing an appeal, the Appeals Tribunal may 'inform itself on any matter in such manner as it thinks fit' (PL Act s.116(2)). The Tribunal may summons persons to attend a hearing, require persons to answer questions and require the production of any relevant written material.

In relation to an appeal, section 119 of the PL Act grants the Appeals Tribunal the power to:

(a) confirm the decision or action;

(b) vary or revoke the decision or action; or

(c) substitute its own decision for that of the Board, Minister or Valuer-General or direct that particular action be taken in lieu of the action the subject of the appeal.

The Commission has not received any information on the number of appeals to the Tribunal relating to native vegetation clearance on pastoral land.

I.6 Impacts on landholders

The Commission has received very little information from participants regarding the impact (either positive or negative) of native vegetation and biodiversity regimes on landholders. During the Commission's visits to the Northern Territory, a number of farmers indicated that they had some issues with the new arrangements introduced by IDCO No. 12. However, they believed they could work with the new regulations and many of the requirements set out in the guidelines for land clearing were already common practice.

Impacts on farming practices

The clearing regulations in the Northern Territory appear to have had limited (if any) impact on farming practices. During visits, some landholders indicated that conditions on approvals to clear, under IDCO No. 12, required them to leave wider 'wildlife corridors' of native vegetation than they would have otherwise left. These requirements did not, however, seem to pose a major problem for landholders.

The regulations relating to freehold land appear to be aimed more at ensuring that clearing takes place in an appropriate manner, than preventing clearing or the development of land in the Territory. The Environment Centre Northern Territory (ECNT) argued that:

> In the Northern Territory negative impacts on property owners from the introduction of treeclearing regulations under the new Interim Development Control Order Number 12 have been minimal. Overall the new IDCO has not reduced the level of clearing, it has merely provided an administrative approvals process. (sub. 147, p. 2)

The Australian Conservation Foundation (ACF) expressed a similar view:

> ACF are not aware of, nor do we believe that the interim controls could be having, any 'impact' on landholders which might be in any way considered unreasonable or significant. (sub. 146, p. 13)

Similarly, in relation to clearing on leasehold land, the ECNT argued that:

> In relation to leasehold applications, the application and decision process is currently an internal procedure by the Pastoral Lands Board under the Pastoral Lands Act. Although broad figures on clearing rates are available it is very difficult to determine any negative impacts on landholders without access to the appropriate information. (sub. 147, p. 3)

The lack of perceived detrimental impacts of the regulations in the Northern Territory suggests that there are unlikely to be any negative impacts on agricultural property values in the Territory. Other factors, such as the Government's decision to release additional land for sale in the Daly region and any positive assistance to promote development are more likely to have an impact on property values than land clearing regulations themselves.

The Commission received no information regarding the impact of the vegetation clearing regimes on:

- investment patterns;
- the attitudes of finance providers; or
- government measures to mitigate negative impacts.

I.7 Impacts on regional communities and other economic activities

The Commission has received information on the impact of regulation on Indigenous communities and more limited information on the impact on other economic activities. This may reflect, in part, the relatively recent nature of the regimes in the Northern Territory.

Impacts on Indigenous communities

The Commission received evidence that land clearing and biodiversity conservation regulation has significant adverse impacts on the Indigenous people of the Northern Territory. The Northern Land Council (NLC, sub. 221) noted that the Australian Government's EPBC Act and the Territory's regulation can prevent the small scale commercial harvest of native species by Indigenous people. The NLC stated:

> The core purpose of legislation covering clearing of native vegetation is to determine when it is in order to destroy or discard individuals and populations of native species of plants and animals, often in very large numbers. It makes no sense to provide for such quantitatively large scale incidental 'use' while obsessively regulating or banning altogether small scale direct commercial use of a few individuals of the same species taken from the same place. (sub. 221, p. 8)

The NLC argued that regulations preventing the sustainable commercial exploitation of native species by Indigenous people removes an important opportunity for economic and social development in remote areas where other opportunities are severely limited. The NLC argued that:

> A legislated preference for widespread casual destruction over localised considered use disenfranchises those interested in alternatives to broad scale development, who are denied the opportunity to develop more sustainable systems of resource use. (sub. 221, p. 8)

In cases where Indigenous people are able to make use of native flora and fauna the NLC noted that the information requirements necessary to obtain permits often impose significant costs on already economically disadvantaged communities (sub. 221, p. 14).

Impacts on other industries

The Commission received very little information on the impact of the regulations on other industries in the Territory. However, the ACF noted the impact of land clearing on eco-tourism in parts of the Northern Territory. In particular:

> The clearing in the Daly Basin is also likely to be to the detriment of the tourism and recreation industries which rely heavily on the health of the Daly River and estuary ecosystems. There is inadequate scientific research into the values of the region, the functioning of regional ecosystem processes and the threats posed to those values and functions by clearing and associated water development. For the Government to press ahead with broad-scale development under these circumstances is unconscionable. (sub. 146, pp. 13–14)

Since the ACF made this submission to the Commission, the NT Government has announced a moratorium on further clearing in the Daly region, pending the preparation of an Integrated Regional Land Use Plan.

As part of the Daly region review, the NT Government has announced that there will be no further development of the cotton industry in the Territory (trial projects currently underway will be permitted to continue until their completion) (NT Government 2003a). Overall, the clearing regulations in the Northern Territory appear to have had limited impacts on other economic activities. Current regulations do not appear to be preventing the wider economic development of the Territory.

I.8 Summary

Land clearing is not currently considered by many to be a major issue in the Northern Territory — less than one per cent of the land area has been cleared. However, the Territory has three regulatory regimes (covering general freehold land, leasehold land and the Litchfield Shire) to ensure that when land is cleared it is done according to appropriate environmental guidelines.

The primary legislation underpinning the regimes does not focus specifically on land clearing and the preservation of biodiversity, but rather has wider development and resource management objectives. The regulations do not appear to have had major adverse impacts on landholders in the Territory.

J Australian Capital Territory

J.1 Introduction

Legislation dealing with biodiversity conservation and native vegetation management has been in place in the Australian Capital Territory since 1980. This legislation operates in a framework of leasehold land and nature reserves, as there is no freehold rural land in the Australian Capital Territory.

Over 53 per cent of land in the Australian Capital Territory is public land set aside as nature reserves and 21 per cent is rural land managed for agricultural purposes (ACT Commissioner for the Environment 2000).

Historically, two classes of rural leases were issued in the Australian Capital Territory (Environment ACT 2003).

- 'Partial' or 'nil tenant rights' leases — these leases were usually short-term (some of 90-day duration) with all timber clearing rights vested in the ACT Government. Most leases in the Australian Capital Territory were of this nature.
- 'Full tenant rights' leases — a small number of these leases were issued for 50-year terms in 1956 (38 were still in operation in 1999). The landholders retained rights to all improvements, including embedded rights to clear timber, with the ACT Government required to compensate landholders for any acquisition of those rights.

However, from 1999, the ACT Government undertook a policy of transition to uniform long-term rural leasehold. In July 2003, around 50 per cent of the leases were of 99-year duration (Environment ACT, sub. 17).

Land-use data for the period 1995–2000 show that the total area of land deployed in agriculture has fallen by 27 per cent, while the size of conservation reserves and urban areas has grown by 6 per cent and 16 per cent respectively. Consequently, it has been suggested that urbanisation rather than agriculture creates the greatest pressure for native vegetation clearing in the Australian Capital Territory (ACT Commissioner for the Environment 2000).

In the 2000 State of the Environment report, the ACT Commissioner for the Environment stated that it was not possible to obtain any specific data on the level of native vegetation clearing in the reporting period (1997–2000). Despite this, broadscale clearing is generally not considered a significant issue in the Australian Capital Territory.

J.2 Description of the regulatory regime

The primary responsibility for land-use planning and management in the Australian Capital Territory lies with two arms of the Department of Urban Services — Environment ACT and the ACT Planning and Land Authority (ACTPLA). Environment ACT manages the bulk of the nature conservation estate and coordinates delivery of off-reserve conservation programs. ACTPLA administers planning legislation and the Territory Plan. The Australian Government has management and planning authority for land defined as 'national'.

The two key pieces of legislation which govern the use of rural leasehold land in the Australian Capital Territory are the *Land (Planning and Environment) Act 1991* (LPE Act) and the *Nature Conservation Act 1980* (NC Act).

Another key instrument is the Territory Plan, established under the *Australian Capital Territory (Planning and Land Management) Act 1988* (Cwlth), and prepared by ACTPLA. It contains broad goals for the conservation of biological resources and objectives, controls and policies for land uses. The Territory Plan is designed to interact with the LPE Act and, to a lesser extent, with the NC Act.

The ACT regulatory regime, historically, has governed native vegetation clearance of nil or partial tenant rights leases and now covers the new 99-year leases. However, the full tenant rights leases could be exempted from some regime requirements through their embedded lease conditions (ACT Sustainable Rural Lands Group Inc, sub. DR258).

Land (Planning and Environment) Act

The LPE Act does not have an objects section. The objectives of the land-planning regime are given by the Territory Plan. With regard to rural leasehold land, the Territory Plan lists the following among its objectives:

a) to conserve the distinctive rural landscape setting of Canberra and maintain its ecological integrity;

b) to conserve sufficient wildlife habitats to adequately protect native plant and animal species; and

c) to make provision for the productive and sustainable use of land for agriculture … (Territory Plan, Part B11, p. 2)

To promote these objectives, the LPE Act contains three mechanisms that may restrict vegetation clearing on leased land. These are:

- land management agreements with landholders;
- environmental impact assessment; and
- heritage listing.

Land management agreements

Land management agreements (LMAs) are the most widely used mechanism for regulating native vegetation clearance in the Australian Capital Territory (box J.1). The LPE Act states that the Minister may only grant a new rural lease, or renew or vary an existing rural lease, if the landholder has entered into an agreement for managing the land subject to the lease (s. 186C). The LMA addresses conservation objectives and may incorporate the following conditions:

- land capability matters such as stocking rates, pasture improvements, land care provisions and fencing;
- protection of remnant woodlands and native grasslands;
- conservation, regeneration and planting of trees;
- maintenance of tree cover along streams and on hills and ridges;
- provision and maintenance of buildings and associated landscaping;
- protection measures to conserve water quality in adjacent streams; and
- provision for fire hazard reduction measures (Territory Plan, Part B11).

Breach of the terms of an agreement entered into under the LPE Act is an offence which carries a penalty of $5000 (LPE Act, Schedule 5).

Box J.1 **Land management agreements**

Land management agreements (LMAs) are required by s. 186C of the *Land (Planning and Environment) Act 1991* for all rural leases. A LMA is prepared by a rural lessee and jointly agreed by the lessee and Environment ACT. LMAs attach to land title and are not invalidated by subsequent transfers of the land. They are reviewed at 5-year intervals. LMAs have three major components:

- statement of responsibilities;
- site assessment; and
- land action plans.

Statement of responsibilities

A statement outlines the agreed responsibilities of the lessee and the ACT Government and provides for review of the LMA if the use of the land becomes inconsistent with the purpose of the lease. The statement also provides for dispute resolution through negotiation, mediation and referral to the Minister for final determination.

Site assessment

A site assessment documents the current state of the land. Factors considered include current and proposed uses of land, environmental factors including water and soil condition, sites of significant environmental value, heritage sites, and sites containing native vegetation which is not of significant environmental value.

Site assessment is conducted using two techniques:

- visual assessment — conducted by the lessee, this usually requires simple measurements and photographic documentation; and
- technical assessment — conducted by the ACT Government, in conjunction with the lessee, on sites of significant environmental and heritage value.

Land action plans

Land action plans are prepared for each of the environmental factors included in the site assessment. Each plan follows the following template:

- description of issue;
- desired outcome;
- proposed action;
- proposed timetable (including timetable for achievement, monitoring and review);
- ACT Government responsibility (including level of assistance in monitoring); and
- lessee responsibility (including responsibility for implementation and monitoring).

Plans are drafted by lessees and are presented to Environment ACT for finalisation.

Source: Environment ACT (sub. 17).

Environmental impact assessment

The LPE Act empowers the Minister to require the landholder to go through an environmental impact assessment process for any 'development' of leasehold land. Under the Territory Plan, assessment is mandatory for clearing of more than 0.5 hectares of native vegetation (Territory Plan, Appendix II). This requirement, however, does not apply to full tenant rights leases if it conflicts with their embedded developmental rights (ACT Sustainable Rural Lands Group Inc, sub. DR258).

Environmental impact assessment is conducted in two stages. First, the landholder is required to submit a proposal for the development and the Minister has discretion to order a preliminary environmental assessment. When the proposal involves clearing of more than 0.5 hectares of native vegetation, the Minister is required to order a preliminary assessment. Information considered during preliminary assessment includes status of the project, its description, current state of the environment in the relevant locality, and the potential positive and negative effects on the environment of the proposed development. Preliminary assessment involves a benefit-cost analysis of the development.

Second, where the Minister, on considering the preliminary assessment report, believes that the environmental impact of the development would be significant, the Minister can direct the landholder to submit a formal environmental impact statement (EIS) or public environment report (PER). The following matters must be included in the EIS or PER:

- details of the proposal;
- objectives of the proposal;
- alternative ways of achieving the objectives;
- the method of giving effect to the Minister's approval; and
- alternative methods of giving effect to approval (Land (Planning and Environment) Regulations 1992, r. 4).

The EIS or PER must explain how the proposal (and its alternatives) would affect the environment and what standards and safeguards the landholder would adopt. The landholder is required to use detailed technical assessments from expert consultants to provide information on the environmental impact of each course of action.

The landholder must make drafts of the EIS or PER available for public comment and must submit the EIS or PER to the Minister together with any comments from

the public. On the basis of this information, the Minister recommends either an approval, an approval subject to conditions, or a prohibition of the development.

Heritage listing

The LPE Act sets up a Heritage Council responsible for the preparation of a Heritage Places Register for places which provide:

> significant habitat … for rare, endangered or uncommon species, for species at the limits of their natural range or for district occurrences of species … [and for places which exhibit] unusual richness, diversity or significant transitions of flora, fauna or natural landscapes and their elements … (LPE Act, Schedule 2)

The LPE Act requires the Heritage Council to call for, and consider, the views of the general public and of individuals affected by proposed heritage listing.

A heritage listing results in restrictions on land use which vary on a site by site basis depending on the heritage feature being protected. Restrictions can vary from an absolute prohibition of certain activities to a requirement to obtain Ministerial approval before engaging in a particular activity. Details of the restrictions are incorporated into the Heritage Register and a breach of a heritage requirement is an offence resulting in a fine of $20 000 (LPE Act, Schedule 5).

The LPE Act also empowers the ACT Government to acquire heritage listed land compulsorily, if the Government believes that:

(a) the place has substantial heritage significance;

(b) acquisition is the most prudent and feasible means to ensure the conservation of that significance; and

(c) it is in the public interest for the Territory to acquire the place. (LPE Act, s. 64)

Acquisition has to be on just terms and cannot take place without prior consideration of the views of the relevant landholder.

Review of Minister's decisions under the LPE Act

The Administrative Appeals Tribunal deals with dispute resolution and appeals for review of Minister's decisions under the LPE Act. The Administrative Appeals Tribunal has a Land and Planning Division set up specifically to deal with appeals under the LPE Act. Members with expertise in environmental management and heritage sit on such appeals.

Nature Conservation Act

The NC Act does not have a specific objects section. However, it provides for the establishment of a Nature Conservation Strategy that formulates conservation objectives and strategies for the Australian Capital Territory.

The Nature Conservation Strategy lists the following among its off-reserve conservation objectives:

1. To integrate nature conservation into the management of leased rural lands as a fundamental tenet of both ecologically sustainable primary production and of conservation of the biodiversity of the ACT.
2. To incorporate the conservation requirements of native species and ecological communities into planning for land development, with special consideration being given to those elements of our natural assets that are poorly conserved or sensitive to environmental change. (Environment ACT 1997, pp. 15–16)

The conservation of threatened species and communities objectives include the following:

1. To enable species and communities that are threatened with extinction to survive and thrive in their natural habitats.
2. To prevent additional species and ecological communities from becoming threatened. (Environment ACT 1997, p. 20)

The NC Act creates an office of Conservator of Flora and Fauna, which plays a role in regulating vegetation clearing through the following mechanisms:

- the requirement to obtain a licence for removal of some native vegetation and protected fauna; and
- conservation directions.

The NC Act also creates a Flora and Fauna Committee, which is an expert body responsible for providing nature conservation advice to the Minister.

Licences for removal of native vegetation and fauna

Section 16 of the NC Act empowers the Conservator to declare a species of native plant to have ‘special protection status’ if that species is threatened with extinction. The Conservator can also declare any species of native plant to be a ‘protected native plant’ on the grounds that it promotes conservation of a significant ecosystem in the Australian Capital Territory (s. 17). Landholders are required to obtain a licence for removal or destruction of a declared species of native plant (s. 42). When assessing an application for a licence to remove a declared native plant, the Conservator considers the following factors:

(a) the purpose for which the plant is required;

(b) the qualifications and experience possessed by the applicant relating to the science of botany or horticulture; and

(c) the effect the taking of the plant will have on the area in which the plant is growing; and in the case where the application is to take seed from a native plant, the effect of such taking on the ecological or biological welfare of the plant or the community in which it occurs. (Nature Conservation (Licensing Criteria) Determination 2001, s. 14(1))

Failure to obtain a licence for removal of a species with 'special protection status' is an offence which carries a penalty of $10 000 or 12 months imprisonment or both. Clearing a 'protected native plant' without a licence carries a penalty of $5000 or 12 months imprisonment or both. Exemptions from the licence requirement include clearing of vegetation planted by the landholder, and clearing of vegetation when using the land for primary production in accordance with lease conditions.

The NC Act also prohibits the felling of native timber on leased land without a licence (s. 43). Native timber is defined as timber taken from a tree that is a native plant. When assessing an application for a licence to fell native timber, the Conservator considers the following factors:

(a) the effect of the felling, damage or removal on the land to which the application relates;

(b) the conservation requirements of the native timber species or the ecological community with which it is associated; and

(c) the management objectives for the land concerned. (Nature Conservation (Licensing Criteria) Determination 2001, s. 14(2))

Felling native timber without a licence is an offence carrying a penalty of $5000. The landholder may also be ordered to pay site restoration costs. Exemptions include timber planted by the landholder, timber cleared to avert an immediate danger to person or property, and timber cleared for personal use on the land for a purpose other than sale or trade. Full tenant rights leases may also contain exemptions to the licence requirement (ACT Sustainable Rural Lands Group Inc, sub. DR258).

Conservation directions

Section 47 of the NC Act vests the Conservator with power to give a landholder directions for protecting or conserving native animals, native plants or native timber on land. The Conservator may make the order when:

(a) the actions of the occupier of land constitute or are likely to constitute a threat to the native animals, native plants or native timber on the land; or

(b) there are actions that the occupier of land could take that would constitute or would likely constitute a threat to the native animals, native plants or native timber on the land; or

(c) there are actions the occupier of land should take that would promote the conservation of the native animals, native plants or native timber on the land. (Nature Conservation Criteria Determination 2001, Schedule 1)

Examples of activities that fall within the above criteria include any actions that materially affect endangered, threatened or scientifically significant species.

Failure to comply with a conservation direction is an offence resulting in a fine of $10 000, if the direction concerns a protected species, and $5000 in all other cases. In terms of the apparent scope of discretion available to the Conservator, the conservation directions are the most powerful mechanism available under this legislation. However, they have been rarely invoked.

Review of Conservator's decisions

The landholder can apply to the Administrative Appeals Tribunal for review of the Conservator's decisions regarding conservation directions and the granting of licences.

Environment Protection Act

In addition to the LPE Act and the NC Act, the *Environment Protection Act 1997* (EP Act), although chiefly concerned with regulating polluting activities, appears to impose a general environmental duty of care on landholders:

> A person shall take such steps as are practicable and reasonable to prevent or minimise environmental harm or environmental nuisance caused, or likely to be caused, by an activity conducted by that person. (s. 22)

Section 22(2) directs that regard is given to the risk of harm or nuisance from the activity, nature and sensitivity of the receiving environment, current scientific knowledge, financial implications of the activity, and likelihood of minimising or preventing the negative impacts of the activity.

However, section 22(3) states that failure to observe the duty of itself does not constitute an offence and does not give a right to civil action or remedy. Nonetheless, LMAs made under the LPE Act refer to the 'general environmental duty' (Environment ACT, sub. 17).

J.3 Promotion of environmental goals

The ACT Commissioner for the Environment is responsible for producing a triennial State of the Environment Report, that includes an assessment of the state of the environment in the Australian Capital Territory and makes recommendations for government action on specific environmental issues which include land use and biodiversity.

The 2000 State of the Environment Report stated that, in the period 1997–2000, many small stands of trees were cleared for residential development. Indeed, the ACT Government has been criticised by the ACT Sustainable Rural Lands Group Inc for pursuing conflicting objectives of environment conservation and urban expansion on rural land:

> Urban encroachment carries a very high cost and many organizations that try to claim environmental credentials … are … taking the land for urban expansion … ACT Government is a good example of this policy conflict in action. (sub. 125, p. 1)

The last two State of the Environment Reports point out that there is no comprehensive database or long-term monitoring of biodiversity in the Australian Capital Territory (ACT Commissioner for the Environment 1997; 2000). However, both reports consider biodiversity conservation in the Australian Capital Territory to be 'reasonably good' because of the large proportion of the land protected within reserves.

In the context of this lack of information, it is difficult to assess the effectiveness of the regulatory regime in promoting native vegetation and biodiversity goals outside of protected areas in the Australian Capital Territory.

However, as LMAs are adapted for individual farms, this instrument is likely to have a reasonable degree of flexibility to deal with conservation issues on a site-by-site basis, particularly as lessees are given some opportunity to participate in their development and operation.

Social and economic impacts

There is some consideration of economic and social impacts of decisions made under the LPE Act as LMAs are a product of negotiation. Although LMAs are primarily focused on the environment, the outcome of negotiation is likely to reflect the economic impacts on the signing landholder. Social and economic costs are also taken into account in the preliminary assessment stage of environmental impact assessment under the LPE Act where the Minister is required to conduct a benefit-cost analysis of the proposed development.

The NC Act, on the other hand, does not explicitly provide for consideration of social and economic factors. Declaration of native vegetation species is on the advice of the Flora and Fauna Committee, which is a body made up entirely of biodiversity and ecology experts and which makes recommendations on nature conservation grounds only. In a review of the Act and associated subordinate legislation, it was recommended that the NC Act be amended to allow representatives from a rural lessee group to be included in the Flora and Fauna Committee (Braysher 1999). This recommendation was not followed by the ACT Government on the grounds that a change in the composition of the Fauna and Flora Committee would contradict its purpose of giving scientific advice.

J.4 Impacts on landholders

As part of its policy of transition to 99-year rural lease terms, the ACT Government sought to address the potential impact of LMAs on new lease values by incorporating the restrictions on land use into the lease price. Until January 2002, valuation of all new leases was based on the stock carrying capacity of the land (scheduled dry sheep equivalent values which vary depending on property size). Subsequently, leases have been sold or renewed at market value prices, which would also reflect the impact of the environmental framework imposed. Thus the bulk of the costs imposed by the regime is borne by ACT taxpayers in general rather than rural landholders.

As LMAs are entered into on purchase or renewal of the lease, the costs imposed by the environmental requirements are made known to and accepted by the landholder at the time of purchase or renewal (although subsequent review may change the lessee's obligations, and hence costs).

Having said that, the new ACT Government policy seeks to convert all leases to a uniform class of lease which may result in a degradation of some leaseholders' past rights. The ACT Sustainable Rural Lands Group Inc (sub. DR258, p. 2) claimed that the new regime imposed costs on landholders holding 50-year full tenant rights leases by terminating their contractual rights of renewal on current conditions.

The ACT Government also discourages rural lessees from alienating their leases for a period of 10 years from the date of commencement of the new lease. The Government is entitled to a share of 50 per cent of any windfall gains from the sale of the lease during this period. The windfall gain represents the difference between the price paid on lease acquisition or renewal, and the market value of the land (exclusive of all lessee owned-improvements) that is realised from the sale of the lease on the open market.

So far, the LMA scheme seems to have proceeded without many challenges from landholders. To date, there have not been any cases which have activated the dispute-resolution mechanisms incorporated in the LMAs (Environment ACT, sub. 17). In addition, all LMAs include the following question:

> Has the presence of sites of significant environmental value on your lease affected agricultural productivity? (Environment ACT, sub. 17, p. 2)

Environment ACT (sub. 17) observed that, as at July 2003, all of the lessees who signed the LMA answered 'no' to this question.

J.5 Summary

There is little demand for broadscale clearing of native vegetation on rural land in the Australian Capital Territory. The regime governing native vegetation clearing and biodiversity conservation is, therefore, chiefly concerned with management of vegetation on private rural land.

The regulatory regime imposes relatively stringent requirements on rural landholders. However, it appears that the regime has not had a major adverse impact on most landholders. All private land in the Australian Capital Territory is leasehold due for renewal in the period 1999–2006, and the mechanisms for selling leases to landholders incorporate the restrictions imposed by the regulatory regime into the lease purchase price. The costs of the regime are, therefore, largely borne by the ACT taxpayers in general, rather than rural landholders.

K Estimating regional impacts of broadscale clearing restrictions

This appendix outlines how the estimates of the economic impacts of broadscale clearing restrictions in two shires — Moree Plains and Murweh — were derived (presented in chapter 6). Additional material, including data, consultants' reports and referees' comments are available from the Commission's website — www.pc.gov.au (see under 'Completed Projects').

As part of the Commission's public consultation process, a workshop was held on 27 February 2004 to discuss the Commission's preliminary analysis of the quantitative impacts from clearing restrictions. Two independent commentators — Dr Geoff Slaughter (University of Queensland) and Sean Constable (Constable Consulting) were appointed to review the Commission's preliminary analysis and present their findings at the workshop.

Some of the key issues raised at the workshop included:

- the viability of thinning to mitigate impacts of clearing restrictions;
- possible differences in the productivity of land that is currently cleared and land that may be cleared in the future;
- impacts of thickening and regrowth on carrying capacity;
- private landholder benefits from conserving native vegetation;
- management constraints on landholder clearing;
- adverse environmental impacts as a result of vegetation thickening; and
- returns to cleared and uncleared land.

A number of these issues involved points of clarification and were resolved in the workshop. Others, such as the private conservation benefits of retaining vegetation, are addressed further in the analysis below. Where a matter raised in the workshop is addressed, it is noted in the text.

K.1 Introduction

Land development, land use, productivity and management practices vary markedly across regions and across farms. Consequently, estimating impacts on landholders from clearing restrictions is inherently difficult and requires a degree of abstraction.

Studies at a State level (such as ABARE and BRS 2003 and Donaghy 1999) provide estimates of the order-of-magnitude of impacts, but given the degree of abstraction required, these aggregated studies shed little light on the farm-level factors underpinning the impacts. For some States, such as New South Wales, it is almost impossible to model impacts effectively at a State level because not all of the remnant native vegetation has been mapped.[1] On the other hand, it is difficult to gain an understanding of how widespread the impacts are from studies (such as Scott and Sinden 1999) that examine impacts at a farm level.

Impacts at a shire level were estimated in this study to highlight the factors affecting the magnitude of impacts through time. Generally, there is comprehensive information available at a shire level, including land use and land-management practices, farm returns and vegetation mapping.

Possible impacts on two shires have been examined — Moree Plains in northern New South Wales and Murweh in south-west Queensland. These shires were selected because there is considerable demand for clearing in them, albeit for different reasons. The purpose of clearing in Moree is to facilitate a switch from grazing to cropping, which is typical of clearing in the northern New South Wales wheat belt (Benson 1999). Clearing in Murweh, to improve livestock carrying capacity, is also typical of clearing in much of central and western Queensland (Swift and Skjemstad 2002).

Only impacts of broadscale clearing restrictions are examined. Estimating impacts from clearing restrictions on individual trees is difficult at a regional level because detailed information would be required on the number and distribution of individual trees on individual properties.

In estimating the impacts of clearing restrictions, landholder administrative costs associated with compliance, including costs of applying for clearing permits, are not considered. In addition, any costs of maintaining protected native vegetation — such as fencing, pest and weed control and maintaining fire breaks — are excluded. The Commission received evidence of these costs (for example, South Australian

[1] There is currently a mapping program underway (Native Vegetation Mapping Program) to map remnant native vegetation in New South Wales.

Farmers Federation, sub. 140 and AgForce, sub. 54), but they are difficult to estimate at a shire level because they vary markedly.

Policy measures to mitigate the impacts of clearing restrictions are not included in this analysis because, from evidence presented, these measures do not significantly offset impacts (chapter 6). Examples of such measures are technical assistance and grants of up to $10 000 for managing and improving native vegetation under the *Native Vegetation Conservation Act 1997* (NVC Act) in New South Wales.

K.2 Measuring impacts

The magnitude of impacts generally depends on the number of hectares affected and the returns forgone per hectare. The number of hectares affected by the restrictions, that is, the number of hectares cleared without clearing restrictions less the number of hectares cleared with restrictions, is estimated outside the model (section K.4). In general terms, the greater the amount of clearing without restrictions, the greater the estimated impacts.

To measure the returns forgone as a result of clearing restrictions, returns to clearing with and without clearing restrictions are estimated independently, the only difference being the rate of clearing. The net present value of the difference in returns to clearing under these scenarios provides an estimate of the impacts of clearing restrictions.

Returns to clearing defined

Returns to clearing are returns to cleared land (returns to currently uncleared land after it is cleared) less returns to uncleared land (opportunity cost of clearing), less development costs (costs of initial clearing, additional infrastructure and pasture improvement). Returns are measured as profit at full equity (box K.1).

The starting year from which the impacts are examined is different for the two case studies. For Moree, impacts are estimated from 1995, the year of the introduction of the *State Environmental Planning Policy 46* (SEPP 46). For Murweh, the starting year is 1999, one year prior to the enactment of the *Vegetation Management Act 1999* (VM Act), which was passed in December 1999 and enacted in September 2000. These starting periods capture the possible effects of pre-emptive clearing and stronger clearing controls.

In the absence of restrictions, clearing may extend over generations and an end-point must be chosen to evaluate impacts. Clearing restrictions are assumed to

apply to 2030. A period of around 30 years is equivalent to a generation of landholders. Clearing restrictions to 2030 may continue to affect landholders in perpetuity. For the purpose of this study, it is assumed that impacts are incurred to 2040.

Box K.1 **Profit at full equity**

Profit at full equity (or returns produced by all of the resources used in the farm business) is defined as:

> total cash receipts – total cash costs + changes in trading stock – depreciation (including depreciation on leased items) – imputed labour cost + rent + interest and finance lease payments. (ABARE 2001, p. 5)

Profit at full equity can be interpreted as the residual paid to the owner, which may be used however he/she sees fit, for example, to repay debt, meet family expenses, or to invest off-farm. The impact that clearing restrictions may have on the allocation of returns and hence farm management (for example, a change in farm maintenance and productivity) is not considered.

Profit at full equity is not a precise measure of economic profit because it may include some payments to factors of production (such as management and capital) that are necessary to keep them in their current use.

Because returns to clearing accrue over time, future returns must be discounted to present dollar values to account for landholders' time preference. It is assumed that the rate at which future returns are discounted is constant at five per cent in real terms. This approximates the real commercial business overdraft rate in 2003, assuming an inflation rate of around two per cent.

A key feature of this framework is that returns to clearing vary through time, depending on changes in output per hectare from productivity improvements and changes in the farmers' terms of trade (the ratio of output prices to input prices).

In Murweh Shire, future output (livestock carrying capacity) per hectare is also affected by vegetation thickening on uncleared land. Woodland thickening, which occurs as a result of both an increase in vegetation growth and an increase in plant numbers, increases the foliage protective cover on uncleared grazing land. Greater competition from thickening reduces forage production and livestock carrying capacity through time.

Thickening across a range of different land systems in Queensland is well documented (see for example, Sharp and Whittaker 2003; Fensham et al. 2002; Burrows 2002; Crowley and Garnett 1998; and Hopkins et al. 1996), and is not just limited to northern Queensland (see for example, Westoby et al. 1989; Walker and

Noy-Meir 1982; and Westoby 1980 for international examples). Thickening was also identified in several submissions (Property Rights Australia, sub. 171; Inland Burnett Regional Vegetation Management Committee, sub. 139; and AgForce, sub. 54).

When examining impacts 'with thickening' in this study, both the scenarios with and without clearing restrictions include the effect of thickening. All else being equal, thickening progressively reduces the per hectare returns to uncleared land. The greater the amount of uncleared land in any period, the greater the effect of thickening on total returns to uncleared land (the opportunity cost of clearing).

Under the 'without clearing restrictions' scenario, landholders are able to reduce the impact of thickening by clearing. Under the 'with restrictions' scenario, clearing restrictions limit the ability of landholders to offset the effects of thickening. Therefore, all else being equal, returns to clearing under the 'with restrictions' scenario are higher than under the 'without restrictions' scenario because the opportunity cost of clearing is lower.

In the modelling workshop, the use of thinning (selective removal of individual trees/shrubs from thickened areas) to mitigate landholder impacts from thickening was raised. Evidence presented to the Commission, suggested that these options are not economically viable (see Beale 2004 for an overview of studies on this issue). Beale (2004) argues that retained trees grow much faster as a result of lost competition after adjacent trees are removed (thinned). Hence, the thinned woodland quickly returns to its original state and pasture growth is suppressed. That said, if cost-effective means of thinning woodlands were permitted, the impacts of restrictions would be reduced. No allowance has been made for thinning in Murweh in this analysis.

As pointed out by participants at the workshop, regrowth, like thickening, reduces livestock carrying capacity on cleared land in Murweh over time. The effect of regrowth on carrying capacity was incorporated into the analysis. Because regrowth only occurs after clearing, for any given period, carrying capacity and returns to cleared land depend on the timing of previous clearing. All else being equal, regrowth reduces the returns to clearing through time. However, the impact of regrowth on carrying capacity is reduced by re-clearing, which is assumed to take place every 10 years.

K.3 Estimated returns to clearing

The net present value of future returns to clearing one hectare of woodland are estimated to range between $66 and $104 in Murweh (without thickening), and $281 and $911 in Moree (2003–2040).

Estimates of returns to cleared and uncleared land over historical periods, 1995–2002 in Moree and 1999–2002 in Murweh, are based on observed prices and yields for those years (where available) and cost data for an average year. For the period 2003–2040, returns are based on annual returns for an average year (prices, costs and yields across each Shire) with adjustments for future productivity growth and future changes in farm terms of trade (tables K.1 and K.2).

Table K.1 **Annual average per hectare returns to cleared and uncleared land in Murweh without vegetation thickening**

Assumed fall in average real beef prices, 2003–2040[a]	*Annual average returns 2003*	*Annual average change % 2003–40*		*Returns 2040*
	$ per hectare (2003 prices)	Terms of trade[a]	Productivity[b]	$ per hectare (2003 prices)
Uncleared land				
1.5 per cent a year[c]	2.4	-2.6	0.9	-2.4
1.1 per cent a year[d]	2.4	-2.1	0.9	-1.5
0.7 per cent a year[e]	2.4	-1.7	0.9	-0.5
Cleared land				
1.5 per cent a year[c]	11.2	-2.6	2.0	5.8
1.1 per cent a year[d]	11.2	-2.1	2.0	10.6
0.7 per cent a year[e]	11.2	-1.7	2.0	15.4

[a] Given the importance of future real cattle prices to returns to clearing, a range of different price scenarios is examined with cattle costs assumed to increase by 1.1 per cent a year. Terms of trade for sheep fall by 2.2 per cent a year across all scenarios. [b] Share-weighted average of beef cattle and sheep for livestock-specialist farms in Australia (Knopke, O'Donnell and Shepherd 2000). Productivity growth on uncleared land is assumed to be half that on cleared land. A greater proportion of cleared land is devoted to cattle grazing than uncleared land. [c] On average for 2003–2040, prices are equal to the 20-year average price (ABARE 2003). [d] On average for 2003–2040, prices are equal to the 10-year average price (ABARE 2003). [e] On average for 2003–2040, prices are half-way between current real prices and average real prices over the last 10 years.

At the workshop, Dr Geoff Slaughter concluded that the estimates of average returns at 2003 were broadly consistent with returns data collected for his PhD thesis (Slaughter 2003). From his farm surveys, Slaughter observed that in some parts of the Shire, annual returns on cleared land exceeded $20 per hectare. Slaughter's comments on estimated returns and the approach used in this analysis are published in Slaughter (2004).

Table K.2 **Annual average per hectare returns to cleared and uncleared land in Moree**

Yield and number of crops on newly cleared land	*Annual average returns 2003*	*Annual average change % 2003–40*		*Returns 2040*
	$ per hectare (2003 prices)	Terms of trade[a]	Productivity[b]	$ per hectare (2003 prices)
Uncleared land	23.6	-2.2	1.7	22.6
Cleared land				
Yields are the same as previously cleared land				
8 crops in 10 years	92.1	-3.3	3.7	105.0
6 crops in 10 years	69.1	-3.3	3.7	78.7
Yields are 90 per cent of previously cleared land				
8 crops in 10 years	66.4	-3.3	3.7	69.0
6 crops in 10 years	49.8	-3.3	3.7	51.9

a Assumed terms of trade changes are based on a 20-year historical trend (Knopke, O'Donnell and Shepherd 2000). **b** Share-weighted average of beef cattle and sheep for livestock specialist farms in Australia and crop specialist farms in New South Wales (Knopke, O'Donnell and Shepherd 2000).

Estimated average returns for Murweh at 2003 are also consistent with ABARE farm survey data for the Murweh Shire and surrounding areas (Blackall, Tambo, Bauhinia and Booringa local government areas). From ABARE farm survey data, estimated average returns (profit at full equity) to farmed land between 1996-97 and 2001-02 are $6.00 per hectare. Average returns to all farmland in Murweh estimated in this analysis are $5.20 per hectare.[2]

For future periods in Murweh, returns to uncleared land are projected to fall (even in the absence of thickening) because average annual productivity growth (0.3 per cent for sheep and 1.1 per cent for cattle) is too low to offset the average annual projected decline in the terms of trade. Productivity growth for livestock production on uncleared land is assumed to be half that on cleared land. There is less scope for implementing technological innovations on uncleared woodlands, such as improved pasture varieties, and adoption of better management practices. Future real cattle prices are assumed to decline compared to prices experienced over the last few years.

Despite this, it is assumed that landholders continue to graze uncleared land until gross margins become zero. Grazing when returns are negative, but gross margins

2 This is based on estimates of the proportion of cleared and uncleared land devoted to cattle and sheep grazing provided by Devine Agribusiness in 2003 (76 per cent of uncleared land and 95 per cent of cleared land is used for cattle grazing). Sixty-three per cent of farmland is cleared at 2003.

are positive, allows for some of the fixed costs allocated to grazing on uncleared land to be met (assuming that these costs would be incurred if grazing ceased).

This does not mean that returns across a whole farm would be negative in 2040. By 2040, returns from uncleared land would comprise a much smaller proportion of total farm returns because of clearing. Estimates of returns to uncleared land may be underestimated to some degree because they ignore the value of fodder harvested from native vegetation, such as Mulga, during drought periods.

In Moree, returns to cleared land depend heavily on the productivity of newly-cleared land and the number of crops that may be harvested in a 10-year cropping cycle. Alternative assumptions were incorporated into the analysis in response to issues raised in the workshop regarding the productivity of newly-cleared land in Moree. Newly-cleared land in Moree may be less productive than previously-cleared land because most clearing is being undertaken in the west of the Shire, where average rainfall is lower than in the east.

For future periods in Moree, improvements in crop yields (that reflect past improvements for crop specialist farms in New South Wales over the last 20 years), more than offset declining terms of trade for cropping, resulting in small increases in returns relative to 2003.

Data and key assumptions for average returns, 2003–2040

Devine Agribusiness, a consulting firm operating in Murweh Shire, was commissioned to provide average cost and yield data across the Shire for cleared and uncleared land. Devine Agribusiness was also asked to estimate the effect of thickening and regrowth on livestock carrying capacity. Sheep, wool and cattle prices are from ABARE (2003). Full documentation of the Devine data, assumptions and data limitations can be found in Kenny and Beale (2003), Kenny (2004) and Beale (2004) on the Productivity Commission website — www.pc.gov.au (see under 'Completed Projects'). All data used to calculate returns to cleared and uncleared land are also available from this site.

For Moree, data to estimate annual returns for an average year on cleared and uncleared land came from several sources, including ABARE (farm survey data), CSIRO Land and Water and Constable (2003).

Land use

For simplicity, it is assumed that the use of uncleared land remains unchanged through time and the use of cleared land is the same as recently-cleared land. In reality, any number of new land uses could emerge in the next 40 years.

In Moree, it is assumed that the reason for clearing woodlands and grasslands is to convert land from grazing to cropping. This is consistent with evidence presented in submissions (Rod Young, sub. 27) and other studies (Constable 2003).

Switching from grazing to cropping is an ongoing trend in Australian agriculture. Knopke, O'Donnell and Shepherd (2000) have identified greater productivity gains in cropping relative to grazing as a driving force for recent switching. Productivity gains have come from improved crop rotations, fertiliser application and tillage practices. On the North West Plains of New South Wales, returns accruing to the average grazing specialist have exceeded returns to the average cropping specialist only once since 1990 (ABARE farm survey data).

The shares of uncleared land devoted to sheep and cattle, and cleared land devoted to different crops (wheat, barley, sorghum, chickpeas) are taken from ABARE farm survey data for the North West Slopes and Plains. The number of crops that will be planted on newly-cleared land depends on the season. It is assumed that 6 or 8 crops may be planted in a 10-year cycle. When a crop is not planted, it is assumed that this land remains fallow, and consequently earns no return (table K.2).

In the Murweh Shire, clearing is assumed to be undertaken on woodlands (and to a lesser extent on shrublands and open forests) to improve the profitability of existing grazing activities. Clearing reduces competition between grass and woody vegetation and facilitates the introduction, in many cases, of improved perennial pasture species, such as Buffel grass.

Clearing and introducing improved perennial pastures also facilitate a switch from sheep to cattle, with the share of grazing land devoted to cattle rising from 76 per cent on uncleared land to 95 per cent on cleared land. Cattle production is better suited to these pastures because their robust and highly-productive nature in the growing season is better utilised by larger, stronger and more mobile bovines (Kenny, G., Devine Agribusiness, Roma, pers. comm., 7 October 2003).

Prices and production costs

Average cattle and sheep prices per dry sheep equivalent (dse) in Murweh are estimated using ABARE data (ABARE 2003) and a herd dynamics model to estimate the number and composition of sold stock. For example, the composition

of cattle sold on cleared land is different from that on uncleared land. On cleared land, the assumed calving rate is 80 per cent, compared to 60 per cent on uncleared land, which means more cattle are turned off from cleared land each year. Of the stock sold from cleared land, around 50 per cent are 2-year-old steers weighing an average of 450 kg. On uncleared land, around 50 per cent of the stock are yearling steers weighing an average of 220 kg. Higher calving rates and larger animals translate into higher cattle prices per dse on cleared land relative to uncleared land — $74 per dse compared with $67 per dse.

Average sheep and wool prices for Murweh were also based on ABARE (2003) data. On uncleared land, sheep grazing is for wool production and the value of stock purchased (replacement stock) is greater than the value of stock sold (cast for age). Reproduction rates for sheep on uncleared land are very low and replacement ewes must be bought.

Murweh cost data are different for cleared and uncleared land. The data are averaged across a number of farms that are broadly representative of grazing on cleared or uncleared land (Kenny 2004). Embedded in these costs are the effects of economies of size which tend to reduce unit production costs after clearing because production increases without proportionately increasing production costs. For example, up to a point, production may be expanded by clearing land without acquiring extra equipment. Larger farms are also better able to separate management and on-farm labour roles, allowing for more effective farm management (Hooper et al. 2002a). Larger farms are also more likely to adopt new technologies (Hooper 2002b). Many participants highlighted economies of size as a factor driving land clearing (Canegrowers, sub. 101; Pastoralists and Graziers Association of Western Australia, sub. 91; and Property Rights Australia, sub. 171).

Price data in Moree are average prices from 1996–2003 ABARE farm survey data for the North West Slopes and Plains. Cost data for crops are from CSIRO Land and Water (generated for the National Land and Water Resources Audit). For grazing on uncleared land, variable costs are from CSIRO Land and Water. In the absence of credible fixed-cost data for Moree, fixed costs are assumed to be the same as for grazing on uncleared land in Murweh.

For both Shires, farm terms of trade are assumed to decline over time. Australian agricultural products, as with other commodities, have experienced declining terms of trade throughout history. Generally, this reflects the ongoing effect of technological advances in a competitive world market. As technology increases productivity and reduces costs, profit can be maintained at lower prices.

For Murweh, the decline in the terms of trade depends on the decline in real future cattle prices (table K.1). It is assumed that current real prices are not likely to

continue, on average, to 2040. Given the uncertainty about future cattle prices over this period, three scenarios are examined in which annual average real cattle prices decline by 1.5 per cent, by 1.1 per cent and by 0.7 per cent. These declines are equivalent to assuming that average prices over the period 2003–2040 equal, respectively, average prices over the last 20 years, average prices over the last 10 years, and prices mid-way between current prices and average prices over the last 10 years. In all cases, costs are assumed to increase by 1.1 per cent per year.

Terms of trade changes in Moree are assumed to equal historical declines for Australian livestock producers and New South Wales crop specialists over the last 20 years (Knopke, O'Donnell and Shepherd 2000).

Crop yields and livestock carrying capacity

For Murweh, carrying capacity on cleared and uncleared land was estimated using the Safe Carrying Capacity (SCC) model developed by the Queensland Department of Primary Industries (Johnston, McKeon and Day 1996). Safe carrying capacity is the maximum long-term livestock carrying capacity (dse per hectare) at which no change, or a gradual improvement, in land condition is experienced. All else being equal, if some land in Murweh is overgrazed, safe carrying capacity will be less than observed stocking rates in the Shire.

The SCC model estimates the relationship between safe livestock carrying capacity and tree/shrub foliage growth. This relationship depends on a number of variables including rainfall, tree and shrub foliage protective cover and rainfall use efficiency (how efficiently a given land system will convert rainfall to forage). The output of this model has been extensively 'ground truthed' against observed carrying capacity at a farm level within the Murweh Shire. The SCC model has also been used on around 100 south-west Queensland properties to evaluate applications for financial assistance under the South West Strategy Scheme, a Queensland Government scheme to improve farm viability.

Most applications of the SCC model have been to estimate safe carrying capacity on a property basis. In this study, the SCC model was used to estimate the average safe carrying capacity (assuming average rainfall) across all uncleared land systems in the Shire, including land systems that are not currently grazed. To estimate safe carrying capacity for all uncleared land, the model inputs were averaged across all uncleared land systems.

Estimated average safe carrying capacity at 2003 across all uncleared land systems in Murweh is 0.40 dse per hectare (assuming average rainfall).[3] If this land is cleared, the SCC model estimates that safe carrying capacity is 0.70 dse per hectare. However, this does not include the benefits from the introduction of improved perennial grasses, such as Buffel, on cleared land. The extra carrying capacity from improved perennial grasses on cleared land (0.15 dse per hectare) is estimated outside the SCC model. It is based on a carrying capacity of one dse per hectare observed on newly-developed Mulga-based land systems, taking into account the suitability of these grasses on land cleared in the future (Kenny 2004).[4] For more information about estimates of average carrying capacity for cleared and uncleared land, see Kenny and Beale (2003) and Kenny (2004).

If these estimates for carrying capacity are applied to Murweh farmland that is currently cleared and uncleared, safe carrying capacity for the Shire as a whole is estimated to be 0.57 dse per hectare. This is not inconsistent with stocking rate data. The Australian Bureau of Statistics estimates stocking rates for Murweh between 1994 and 2001 to be 0.50 dse per hectare (ABS 2003).[5] ABARE (farm survey data) estimates stocking rates for Murweh and surrounding areas (Blackall, Tambo, Bauhinia and Booringa local government areas) from 1996-97 to 2001-02 to be between 0.60 dse per hectare and 1.10 dse per hectare.

For Moree, crop yields on land cleared in the future are based on 10-year average yields for existing cleared land in the North West Slopes and Plains (ABARE farm survey data). However, as noted earlier, it is possible that yields on land cleared in the future will be lower than on previously-cleared land, because much of the uncleared land is in drier parts of the Shire. Therefore, two yield scenarios for cleared land have been estimated (table K.2). In the first scenario, yields are assumed to equal average historical yields on previously-cleared land. In the second, yields are assumed to be 90 per cent of average historical yields on previously-cleared land. Stocking rates on uncleared land in Moree are estimated to be one dse per hectare (Constable 2003).

For future periods, crop yields and carrying capacity depend on future productivity growth in both Shires. It is assumed that future productivity growth follows rates of

3 In the absence of thickening, carrying capacity at 2003 is equal to the carrying capacity at the start of the simulation period, 1999. With thickening, the carrying capacity at 2003 is equal to 0.30 dse per hectare.

4 Where most of the development in the Shire is being undertaken. In total, the carrying capacity of cleared land is 0.85 dse per hectare.

5 Safe carrying capacity for cleared and uncleared farmland in Murweh is a share-weighted average of cleared and uncleared land, using 2003 weights. Sixty-three per cent of farmland is remnant at 2003.

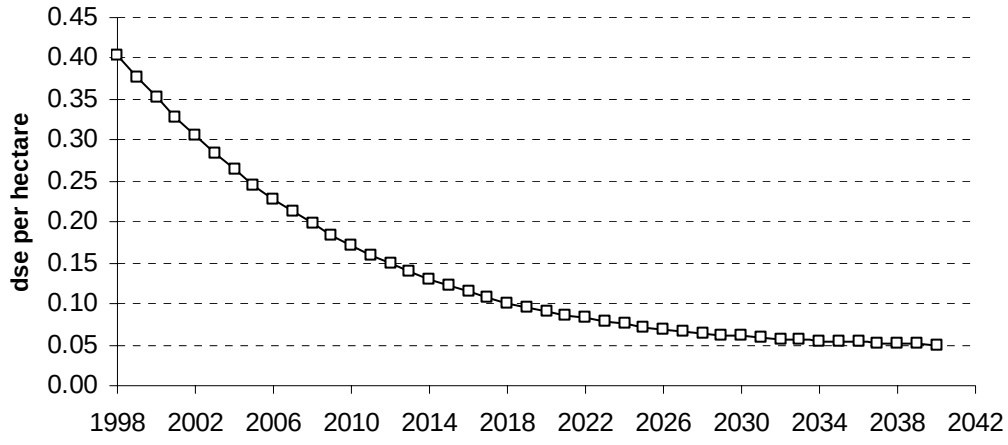
growth over the last 20 years (Knopke, O'Donnell and Shepherd 2000), except for uncleared land in Murweh, where rates of growth are assumed to be half those on cleared land (table K.1).

Concerns about the effect of broadscale land clearing on long-term productivity growth were highlighted in a number of submissions (for example, Wilderness Society, sub. 89; and Australian Conservation Foundation, sub. 146). For this study, it was assumed that impacts of soil degradation on future productivity growth would mirror past impacts. The risk that soil erosion and salinity will reduce future productivity growth in the Moree and Murweh Shires is discussed below.

Productivity over 20 years to 1998-99 has increased on average by 2.6 per cent per year for all broadacre farms (Knopke, O'Donnell and Shepherd 2000). This growth rate includes the impact of degradation from sources such as salinity, erosion, compaction and acidification. Historical productivity improvements from technological change have dwarfed losses from land degradation (Chisholm 1992).

For Murweh, future carrying capacity on uncleared and cleared land is also affected by woodland thickening and regrowth. Changes in safe carrying capacity from thickening in Murweh are estimated using the SCC model, assuming a one per cent increase in the foliage protective cover per year (Kenny and Beale 2003; Beale 2004). Changes in safe carrying capacity resulting from thickening are shown in figure K.1. Without periodic clearing, safe carrying capacity in Murweh is estimated to fall by around 80 per cent between 2003 and 2040, from 0.30 dse per hectare to 0.05 dse per hectare.

Figure K.1 **Change in safe carrying capacity from thickening, Murweh Woodlands, 1998–2040**



Data source: Kenny and Beale (2003).

The assumed one per cent a year rate of thickening from Kenny and Beale (2003) and Beale (2004) is based on foliage protective cover measurements taken from aerial photographs of undisturbed vegetation in the 1960s and 1990s in the Murweh Shire.

As part of the consultancy to the Commission, Beale (2004) supported this estimate with on-farm examples in Murweh of Mulga that had returned to thick bush (with foliage protective cover of around 40 per cent) in less than forty years. In addition, Beale (2004) derived estimates of foliage protective cover changes of around 0.8 per cent from studies of other regions and land systems within Queensland (Fensham et al. 2003; Burrows 2002). However, Beale and Slaughter (2004) point out problems with extrapolating thickening rates from other shires for Murweh.

The safe carrying capacity of cleared land also declines due to regrowth. The decline in safe carrying capacity through time from regrowth is estimated using the SCC model and an assumed one per cent per year increase in the foliage protective cover. However, the impact of regrowth on safe carrying capacity in this analysis is largely negated by re-clearing, which is assumed to take place every 10 years, before the foliage protective cover significantly affects carrying capacity.

Development, clearing and regrowth control costs

Woodland clearing costs for Murweh were estimated to be $35 per hectare and $20 per hectare for regrowth control, based on quotes from local contractors (Kenny 2004). Included in the clearing costs are the costs of establishing perennial pasture in Murweh. Regrowth control costs are assumed to be incurred every 10 years after initial clearing. It is assumed that all cleared land is not grazed for two years after initial clearing, regardless of the vegetation type cleared.

There were no clearing-cost data available for shrubland and open forest because clearing of these vegetation categories comprises a relatively small portion of total clearing. Clearing costs for shrubland and open forest are assumed to be the same as for woodland.

In addition to clearing and regrowth control costs, development costs — comprising additional capital costs to improve fencing, establish extra bores and to increase the herd size on cleared land — are incurred. These costs were incorporated as an annualised interest expense, assuming a 20-year loan to improve the infrastructure of an average property.

The cost of clearing in Moree Shire is estimated to be $30 per hectare for grassland and $150 per hectare for woodland (Constable 2003). There is no regrowth treatment required in Moree because land is assumed to be cultivated for either six

or eight years in every ten. It is assumed that a crop is produced immediately after grassland is cleared and one year after woodland is cleared.

K.4 Estimated clearing with and without clearing restrictions

The area of land affected by clearing restrictions, that is, the area of projected clearing without restrictions minus the area of projected clearing with restrictions, is a major determinant of estimated impacts.

Clearing without restrictions

Estimated clearing in the absence of restrictions for both Murweh and Moree Shires is presented in table K.3.

For this analysis, it is assumed that landholders do not clear all remnant native vegetation on their land because of private benefits from retaining some selected vegetation and because of management constraints. Thus, landholders are assumed to set aside an amount of vegetation for private benefits and clear at a rate equal to historical rates prior to the introduction of clearing restrictions.

Table K.3 **Estimated clearing without restrictions, 2003–2030**

	Hectares per year	*Total hectares*	*Farmland covered in remnant vegetation %, 2030*
Murweh Shire	63 325[a]	1.8m	19[b]
Moree Plains Shire	6 727[c]	188 356	33[d]

[a] Average annual change in remnant vegetation between 1997 and 1999 (Accad et al. 2001). [b] Includes native grasslands that are assumed to remain uncleared without restrictions. Based on Queensland EPA (2003) estimates of remnant vegetation. [c] Average annual clearing rate between 1985 and 1999 (Constable 2003). [d] Based on NSW Department of Land and Water Conservation (DLWC 2001) estimates of remnant vegetation.

Applying these estimated rates of clearing, a significant amount of farmland would remain covered with remnant native vegetation at 2030: 19 per cent and 33 per cent respectively for Murweh and Moree, compared to 44 and 63 per cent at 2003.[6]

6 Estimates of farmland covered in remnant vegetation is based on vegetation mapping (refer to table K.7 for references) and assuming historical annual clearing rates continue into the future.

This approach is consistent with the approach used by ABARE and BRS (2003) and ABARE (2000).[7] An alternative approach was adopted by Scott and Sinden (1999). In this latter study, two scenarios were explored: clearing was restricted by the availability of capital and by expenditure on variable production costs.

Vegetation set aside for private benefits

Private consumption benefits from native vegetation (and trees generally) include recreational and aesthetic benefits and wood extracted for on-farm use. Landholders may also receive private benefits from conserving vegetation for the public good. Private consumption benefits have been identified in numerous studies including: Alexander et al. (2000); Lockwood, Walpole and Miles (2000); Wilson et al. (1995); Walpole, Lockwood and Miles (1998); and Miles et al. (1998).

Private production benefits from native vegetation include windbreaks, shade for stock, reduced risk of erosion, and pest control from local fauna. On the whole, research indicates that the production of grazing properties is up to 20 per cent higher with these services than without (Miles et al. 1998). However, extensive research by CSIRO (Cleugh et al. 2002) as part of the National Windbreak Program, concludes that production benefits for crops are localised and, in most cases, marginal.

In addition to private production benefits, it is possible that farmers may cooperate, for example through Landcare groups, to ensure sufficient tree conservation to reduce the off-site risk of salinity.

These benefits may vary widely within a region, depending on land use, climate, topography, soil types, vegetation type and fauna. Estimating benefits at a regional level is beyond the scope of this analysis. Instead, it was assumed that landholders set aside certain remnant vegetation (on private freehold and leasehold land) for conservation purposes because the consumption and production benefits of native vegetation outweigh returns from clearing.

The areas assumed to be set aside voluntarily are:

- vegetation on steep slopes;
- vegetation on land with a high risk of soil salinity;
- vegetation along watercourses and lakes; and
- wetlands.

[7] In the ABARE and BRS study, clearing is capped at historical levels initially, but the rate falls through time.

CSIRO Land and Water provided the Commission with estimates of these areas in both Shires. In total, they account for 2.8 per cent and 1.3 per cent of farmland in Moree and Murweh respectively. Land in these regions is generally flat with few waterways or wetlands. As well, no remnant vegetation in either of the Shires was on land deemed to have a high future salinity risk. The data sources and criteria for the conservation areas are presented in table K.4.

These estimates have a number of limitations. Salinity-risk assessments in Queensland are based on attributes that are considered to drive salinity — geology, land use, excess rainfall and elevation. This method is less reliable for assessing salinity risk than using groundwater data (NLWRA 2001a). There is work underway to collect groundwater data for Queensland.

Land set aside for private benefits may also be underestimated because of the lenient slope constraint assumed. Twenty degrees is often cited as an upper limit, below which clearing may safely take place with machinery (Bourne 1999). It is not an upper limit to avoid soil erosion.

Table K.4 **Data sources and criteria for determining areas voluntarily protected from clearing on private land**

Digital map	*Data source*	*Criteria*
Native vegetation maps	North West Vegetation Mapping, Moree Shire 2001, NSW Department of Land and Water Conservation	na
	Survey and Mapping of Vegetation Communities and Regional Ecosystems of Queensland 2003, Queensland Herbarium, Queensland Environmental Protection Agency	
Steep slope	Present Annual Hillslope Erosion, Natural Land and Water Resource Audit 2001	20 degrees
Soil salinity	Australia Dryland Salinity Assessment Spatial Data, Natural Land and Water Resource Audit 2001	High risk[a]
Wetlands	North West Vegetation Mapping, Moree Shire 2001 NSW Department of Land and Water Conservation	Generally swamps, wetlands and land dominated by wetland species[b]
	Survey and Mapping of Vegetation Communities and Regional Ecosystems of Queensland 2003, Queensland Herbarium, Queensland Environmental Protection Agency	
Watercourses and lakes	Hydro theme 2003, Geoscience Australia	20 metres from all water courses and lakes

a In New South Wales, this is land where the groundwater table is within 2 metres of the surface at 2000. In Queensland, the risk assessment is not based on groundwater levels. Instead, the risk is based on attributes that are considered to drive salinity in other regions, such as geology and excess rainfall. **b** Including sedge, rush, fern, mangroves and herbland. **na** Not applicable.

CSIRO Land and Water estimated that almost all of the soil in both of the Shires is classified as highly-erodable, including 97 per cent of land already cleared in both

Shires.[8] It is assumed that native vegetation on highly-erodable soil is not set aside for conservation because minimum tillage practices, such as direct drilling, can be used to minimise soil disturbance and the risk of erosion.

Future erosion risks in the pastoral zone are generally related more to management practices, such as stocking rates, than tree clearing (Rolfe 1999). For example, White (1997) points out that the introduction of Brahman cattle and supplement feeding in drought times during the 1970s and 1980s resulted in increased rates of degradation.

For Murweh, stocking rates are assumed to be equal to long-term safe carrying capacity levels. Thus, for the purposes of estimating impacts, it may be reasonable to assume that only uncleared land on steep slopes is set aside to avoid erosion.

Management constraints on clearing

Annual clearing constraints are suggested by ABARE and BRS (2003), ABARE (2000) and Scott and Sinden (1999). They include cash reserves and access to finance, water entitlements, management skills and farm labour.

To what extent assumed annual constraints persist into the long term is uncertain. For example, annual constraints may decrease as the viability of farms improves in accordance with increases in average farm size. Alternatively, they may become more stringent. For example, access to water increasingly may limit development.

Annual clearing may also be limited by increased risk from clearing and landholder attitude to risk. Generally, clearing can be risky because future land productivity, prices, diseases, technology, government regulation, interest rates and inflation are uncertain.

Farm decision theory generally assumes that landholders are risk averse (Hardaker 2000; Anderson, Dillon and Hardaker 1977). This is supported by empirical studies (Antle 1987; Bardsley and Harris 1997).

All else being equal, landholders would be reluctant to clear all land that is economic to clear in one year. Clearing incrementally allows farmers to gather information about the productivity of cleared land and the best way to manage cleared land. Where clearing is for land-use change, such as in Moree, landholders may wish to retain native vegetation and grazing as insurance against losses from

8 The K factor was used as a measure of soil erodability (from the Universal Soil Loss Equation) in this study. Highly-erodable soils are assumed to have a K factor equal to, or greater than, 0.045 — the approximate K factor for loamy sand.

cropping. Generally, although returns to cropping may be higher on average, they are more variable than for grazing. For example, it is more difficult to negate the effects of drought.

One issue for clarification raised at the workshop was the ceiling on annual clearing in Moree. The ceiling for Moree is observed annual average clearing rates for 1985–1994, not permit approvals (Constable 2003). However, using annual average clearing from this period may be a conservative estimate of actual clearing constraints because observed annual clearing in Moree increased after clearing restrictions were announced (Constable 2003). If some of the extra cleared land were put into production rather than left idle, using historical clearing rates for Moree may underestimate the amount of clearing possible in a given year under business-as-usual conditions. On the other hand, land may have been cleared and simply left idle to circumvent the expected tightening of clearing restrictions on remnant vegetation.

In Murweh, the clearing constraint is the annual average change in remnant vegetation for 1997–1999 (Accad et al. 2001). Clearing constraints were in place on leasehold land during this period under the *Land Act 1994*. Therefore, the assumed ceiling on annual clearing may include legislative constraints, which may underestimate the annual clearing constraint. However, the impact of the Land Act on clearing in Murweh may have been small. For Queensland as a whole, clearing of woody vegetation on leasehold between 1995–1997 and 1997–1999 increased by around 20 per cent (NR&M 1999; 2001b).

The annual clearing constraint for vegetation types is assumed to follow historical clearing trends for each vegetation type. In Moree, clearing of woodlands comprises 62 per cent and grasslands 38 per cent of total annual clearing. In Murweh, clearing of woodlands comprises 79 per cent, open forest 7 per cent and shrubland 14 per cent of total annual clearing.[9]

Clearing with restrictions

The assumed policy scenario in this analysis is a clearing ban on remnant native vegetation, commencing in 2004 in Moree and in 2007 in Murweh and continuing to 2030. Included in this scenario is clearing under regulatory regimes already in place from 1995 in Moree and 1999 in Murweh.

9 If clearing constraints were not placed on each vegetation type, most of the projected clearing would be of grasslands because it is the least costly vegetation type to clear. The benefits from clearing native vegetation are assumed to be the same for all land types.

For Moree, clearing from 1995 to 2003 is based on approved applications for Barwon (NSW Department of Sustainable Natural Resources 2003). It is assumed that half of the approvals in Barwon are for Moree, consistent with the approach used in Constable (2003). From the empirical data available about historical clearing rates, there appears to have been an increase in clearing in Moree after the introduction of the NVC Act, perhaps in anticipation of tightened clearing restrictions. 'Pre-emptive' clearing potentially offsets the future impacts of legislative clearing restrictions.

For Murweh, from 1999 to 2002, annual clearing is assumed to be the same as without constraints. From the data available, it appears that there was negligible pre-emptive clearing prior to the proclamation of the VM Act in Murweh because most of the native vegetation is on leasehold land, where clearing has been limited by the Land Act. From the start of the moratorium to the year before the announced ban is implemented (2003–2006), total clearing is estimated to be 62 500 hectares. This is calculated as Murweh's share of clearing in Queensland for 1997–1999 (around 13 per cent), multiplied by the clearing cap over this period (500 000 hectares).

Clearing regrowth, as defined in Queensland legislation, is assumed to be unrestricted under the policy scenario, as is clearing of native grasses. However, vegetation species (including grasses) protected by the *Environment Protection and Biodiversity Conservation Act 1999* are assumed to be restricted from clearing.

Illegal clearing is not included as a policy response. There are reports of illegal clearing, including a suggestion of up to 200 000 hectares of illegal clearing in Moree (Constable 2003). Illegal clearing will reduce the impacts of the restrictions on landholders.

As noted above, there is no allowance for thinning in response to vegetation thickening (section K.2).

K.5 Results

In Murweh, without thickening, the net present value of total impacts over the period 1999–2040 from clearing restrictions are estimated to be between $42.3 million and $76.3 million (2003 dollars), depending on assumed future real cattle prices (table K.5). This equates to between $2.4 million and $4.4 million per year (2003 dollars) over the period.

Table K.5 **Net present value of forgone future returns from clearing restrictions in Murweh Shire,[a] 1999–2040**

Assumed fall in average real beef prices, 2003–2040[b]	*Without thickening*	*With thickening*
1.5 per cent a year[c]	$42.3m	$81.3m
1.1 per cent a year[d]	$60.1m	$103.9m
0.7 per cent a year[e]	$76.3m	$124.4m

[a] All values are in 2003 dollars and calculated using a constant real discount rate of 5 per cent. [b] Beef prices and terms of trade for beef are assumed to fall under all of these scenarios, 2003–2040. [c] On average for 2003–2040, prices are equal to the 20-year average price (ABARE 2003). [d] On average for 2003–2040, prices are equal to the 10-year average price (ABARE 2003). [e] On average for 2003–2040, prices are half-way between current real prices and average real prices over the last 10 years.

For Moree, net present value of total impacts over the period 1995–2040 from clearing restrictions are estimated to range from $26.8 million to $83.9 million (2003 dollars), depending on the yield and number of crops on newly-cleared land (table K.6). This equates to between $1.5 million and $4.7 million per year (2003 dollars) over the period.

Table K.6 **Net present value of forgone future returns from clearing restrictions in Moree Plains Shire,[a] 1995–2040**

Yield and number of crops on newly cleared land[b]	
Per hectare yields are the same as previously cleared land	
8 crops in 10 years	$83.9m
6 crops in 10 years	$54.5m
Per hectare yields are 90 per cent of previously cleared land	
8 crops in 10 years	$47.0m
6 crops in 10 years	$26.8m

[a] All values are in 2003 dollars and are calculated using a constant real discount rate of 5 per cent. [b] For years where there are no crops, it is assumed that no inputs are added (the land is fallow).

Despite the greater net present value of per hectare returns to clearing in Moree, impacts are of the same order of magnitude because the area of land affected by the restrictions in Murweh is estimated to be seven times as large. This highlights the importance of the estimated rate of clearing in the absence of constraints.

It was suggested in the workshop that clearing without restrictions in Murweh may be overestimated because the amount of land set aside for private benefits may be underestimated. Some participants argued that many of the draft remnant native vegetation management plans included vegetation to be set aside for biodiversity protection. In ABARE and BRS (2003) these areas were treated as land that would be voluntarily set aside by landholders without financial assistance to the landholder.

However, draft vegetation management plans have not been approved and it is not clear whether protecting these areas is conditional on financial assistance. For example, in the Draft Mulga Lands Management Plan, there is a request for the:

> … provision of financial assistance to landholders and other stakeholders (such as traditional owners) who are inequitably affected by legislative controls or recommendations from this plan. (Mulga Lands Regional Vegetation Management Committee 2003, p. 6)

Nonetheless, without clearing restrictions, if landholders in Murweh clear at historical annual rates, but cease once they reach a prescribed conservation target — such that 30 per cent or 40 per cent of farmland is set aside to protect remnant vegetation — then impacts are estimated to fall by $4.2 million and $13 million respectively, relative to the scenario without a conservation target (table K.7). Alternatively, conservation targets could be viewed as areas of land that are uneconomic to clear.

The effect of conservation targets on estimated impacts is not large because even without a conservation target, 19 per cent of farmland would still be covered in remnant vegetation at 2030 (compared to 63 per cent in 2003) because of assumed management constraints on clearing. As well, given that landholders clear at historical rates, they would not reach these conservation targets until 2024 and 2018 respectively, by which time returns to clearing are heavily discounted.

Table K.7 **Net present value of forgone future returns from clearing restrictions in Murweh Shire,[a] 1999–2040**

Alternative conservation scenarios

Key assumptions	*Share of private land covered in remnant native vegetation, without clearing restrictions*[b]		
	19 per cent[c]	30 per cent[d]	40 per cent[d]
Without thickening and cattle prices fall by 1.1 per cent a year, 2003–2040	$60.1m	$55.9m	$47.1m

[a] All values in 2003 dollars and are calculated using a constant real discount rate of 5 per cent. [b] Landholders are assumed to clear at historical rates until they reach their conservation targets. [c] No prescribed conservation target (from table K.5). [d] Prescribed conservation targets — percentage of farmland set aside for conservation of remnant native vegetation.

In Murweh, clearing restrictions not only limit development opportunities on uncleared land, but eventually render grazing on uncleared land unviable because of vegetation thickening. Taking thickening into account, the net present value of impacts are estimated to be between $81.3 million and $124.4 million (2003 dollars) in Murweh, depending on assumed future real cattle prices.

That said, the effect of thickening on estimated impacts is based on the assumption that fixed costs on uncleared land are unavoidable and landholders will continue to

farm thickened land to cover some of their fixed costs. It is likely that some fixed costs would not be incurred if landholders ceased to graze uncleared land.

To reflect this, an alternative scenario is that landholders stop grazing uncleared land once returns on this land fall to zero. In this case, landholders cease maintaining uncleared land and lay-off farm workers, but continue to incur administration costs and costs related to infrastructure on that land (interest expense and depreciation) for the next 20 years.[10] Under these assumptions, with future real cattle prices falling by 1.1 per cent a year and thickening, the net present value of impacts are estimated to be $82.9 million, compared with $103.9 million when all fixed costs are assumed to be unavoidable (2003 dollars).

It should be noted that the SCC model estimates the effect of thickening on safe carrying capacity, not stocking rates, hence it ignores possible management responses to thickening. As pointed out by Slaughter in the workshop (Slaughter 2004 and 2003), in practice, landholders (especially those with relatively small areas of cleared land) may try and maintain stocking rates on uncleared land, despite thickening.

In the long term, as pasture cover declines from over-grazing, there are increased opportunities for invasion by unpalatable weeds and woody shrubs, thereby reducing carrying capacity (Slaughter 2004). Environmental costs associated with over-grazing in south west Queensland, such as erosion, are well documented (see for example, Heywood et al. (2000), Burrows (1999) and Witt et al. (2000)). All else equal, with clearing restrictions, this response would somewhat delay and reduce the impacts of thickening, but would generate adverse longer-term environmental impacts.

Concerns were raised by Bruce Wilson (sub. DR254) about the assumed rate of vegetation thickening on uncleared land in the Murweh Shire. In particular, it was suggested that the assumed rate of thickening (one per cent a year) would diminish as the foliage protective cover increased. If it were assumed that the foliage protective cover increases at one per cent a year until foliage protective cover reaches 35 per cent, and then increases at 0.2 per cent a year, impacts fall by $4.6 million (compared to when the rate of thickening is constant at one per cent a year).[11]

The relationship between foliage protective cover and safe carrying capacity is not linear in the SCC model (Kenny and Beale 2003). If foliage protective cover

[10] After 20 years, it is assumed that the interest expense will no longer be incurred and the value of the infrastructure will be devalued to zero.

[11] Assuming that real beef prices fall by 1.1 per cent a year between 2003 and 2040.

exceeds 35 per cent, pasture production and carrying capacity is seriously depleted and additional thickening makes little difference to carrying capacity. If foliage protective cover is less than 10 per cent, thickening of sparsely-wooded areas has little impact on carrying capacity. However, between 10 and 35 per cent foliage protective cover, safe carrying capacity is highly sensitive to thickening.

Given that the foliage protective cover in Murweh is approximately midway between 10 and 35 per cent (25.6 per cent at 2003), it appears inevitable that uncleared land in Murweh will reach 35 per cent foliage protective cover (at which point pasture growth is seriously depleted), regardless of the assumed thickening rate. To reduce the impacts of thickening significantly and avoid reaching 35 per cent foliage protective cover, the assumed rate of thickening would have to be below 0.35 per cent a year.

A key assumption underlying impacts in Murweh is that all regrowth on newly-cleared land will be cleared before it has a serious detrimental effect on carrying capacity. However, as pointed out by Slaughter (2004), management constraints on clearing remnant vegetation are also likely to affect the clearing of regrowth.

This has two possible effects on landholder impacts. On the one hand if, in the absence of clearing restrictions, landholders delayed clearing (or failed to clear) regrowth, returns to clearing and potential impacts from clearing restrictions would be reduced. On the other hand, if they delay clearing regrowth, there is the risk that it will be reclassified as remnant. Landholders would then be unable to develop the land in the future.

These impacts were not examined in this analysis because it is difficult to determine the extent and nature of management constraints and whether they would prevent clearing of regrowth prior to reclassification. The extent and nature of management constraints on clearing warrants further study.

Estimated impacts in this analysis are generated in a partial equilibrium framework and ignore potential general equilibrium effects. Commodity prices are assumed to be unaffected by reductions in production relative to the 'without clearing restrictions' scenario because producers are assumed to be price takers. Fraser and Waschik (2003) suggest that if governments purchased land in the pastoral zone for retirement from production (as part of the National Reserve Scheme), world wool prices may rise. The magnitude of price changes depends on the elasticity of demand for Australian wool.

For this analysis, reduced demand for factors of production leads to a reduction in their use with no factor price changes. In reality, reduced demand for factors of

production, all else being equal, would lead to a reduction in costs of these factors. This would reduce the impacts on landholder returns, all else being equal.

Comparison with other studies

It is difficult to compare these results with those of other studies because of differences in assumptions, modelling approaches and policy scenarios.

ABARE and BRS (2003) estimate the total net present value of forgone returns from clearing restrictions in Murweh to be in excess of $8 million (the precise estimate is not reported). The impact of vegetation thickening was not considered. Impacts are estimated over 25 years, compared to 40 years in this analysis.

Although the amount of land assumed to be affected by clearing restrictions in Murweh was not reported in the ABARE and BRS study, it may be lower than the area estimated in this analysis. The ABARE and BRS study assumes that clearing without restrictions is initially the same as historical rates, but falls through time. The current analysis assumes that clearing rates remain at historical levels. Also, the ABARE and BRS study includes minimum vegetation retention thresholds from draft regional native vegetation management plans in its estimate of clearing without restrictions.

The annualised returns to clearing one hectare of woodland in Murweh in 2003 are also different in the two studies: $3.90–$6.20 a year in this study compared to $0.70–$2.10 a year for the ABARE and BRS study.[12]

In the ABARE and BRS study, estimates of returns to clearing are based on land prices in the Murweh area. Land prices capture landholders' current expectations of future returns, based on their current knowledge, management skills, uncertainty and their attitude to risk. The Commission's approach does not explicitly take these factors into account.

In general terms, the aim of the ABARE and BRS study was to estimate the order of magnitude of the impacts for Queensland as a whole. The ABARE and BRS study uses aggregated historical data that may not capture developments in regional management practices, such as the introduction of perennial pasture on newly-cleared land. Introducing improved perennial grasses after clearing further increases carrying capacity, allows a switch from sheep to cattle grazing and increases cattle prices received due to improved carcase quality. These effects are captured in the current study.

[12] Amortised net present value of returns to clearing one hectare of land in 2003, assuming a 5 per cent discount rate.

For Moree as a whole, Jack Sinden (sub. 15, p. 7) estimated the impacts of clearing restrictions to be between $198 million and $230 million. These estimates, which are significantly greater than the impacts estimated in this analysis, are derived from a previous paper (Sinden 2002).

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