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**Native Vegetation:
Recent Developments**

by

Stewart Smith

Briefing Paper No 1/03

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ISSN 1325-5142

ISBN 0 7313 1723 8

January 2003

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EXECUTIVE SUMMARY

The clearing of native vegetation is one of the nation's most important, yet controversial, environmental issues. After many decades of governments uncritically promoting land clearing, the ecological ramifications of these actions are now understood. Dryland salinity, soil erosion, soil structural decline and loss of species are all problems that have occurred due to the clearance of native vegetation.

A variety of national programs and policies deal with or have ramifications for native vegetation management. These have generally been brought together through the National Framework for the Management and Monitoring of Australia's Native Vegetation, released in December 2001. However, national goals of reversing the decline in the quality and extent of Australia's native vegetation have not been reached.

What constitutes a landholder duty of care in relation to native vegetation is problematic and yet to be resolved by the community. The issue of duty of care and landholder property rights is discussed.

The vegetation of New South Wales includes major examples of a broad range of plant communities. Eastern areas of the State are dominated by eucalypt open forests, and towards the western area landscapes are dominated by acacia shrublands and chenopod and samphire shrublands. Eucalypt woodlands occur throughout the State, whilst grasslands are widespread throughout central and eastern New South Wales. The main causes of decline and change to native vegetation since European settlement have been: clearing for cropping and grazing by stock; grazing by feral animals; logging; weed invasion; mining; soil degradation through compaction; salinisation and acidification; and pollution. The least disturbed ecosystems in the State are on the eastern escarpment and on the poorer soils on the coast. Most of the vegetation west of the escarpment has been subject to intensive grazing by stock, feral animals and elevated numbers of macropods for over 100 years. This has altered the structure and biomass of the vegetation, with significant changes to the understorey and little regeneration of palatable species.

The following key programs aim to promote native vegetation conservation in NSW: monitoring and controlling land clearing through the *Native Vegetation Conservation Act 1997*; implementing bioregional conservation assessment and planning as the basis for biodiversity management; establishing a comprehensive, adequate and representative forest reserve system; and providing opportunities and incentives for the community to conserve biodiversity. The *Native Vegetation Conservation Act 1997* is described in detail, followed by a report on land clearing by the NSW Auditor-General.

Native vegetation management in Queensland, Victoria, South Australia and Western Australia is discussed. It is apparent that the native vegetation regulatory environment is undergoing a period of rapid change.

1.0 INTRODUCTION

The clearing of native vegetation is one of the nation's most important, yet controversial, environmental issues. After many decades of governments uncritically promoting land clearing, the ecological ramifications of these actions are now understood. Dryland salinity, soil erosion, soil structural decline and loss of species are all problems that have occurred due to the clearance of native vegetation.

Retaining native vegetation provides many benefits including: protection of the land surface; amelioration or modification of the local climate; maintenance of critical ecosystem processes; conservation of biodiversity; enhancement and protection of cultural and aesthetic values; and the provision of economically important products such as timber and grazing forage.¹

Most sectors of the community now accept the need to retain native vegetation. What is at issue is the best method to protect and sustainably manage native vegetation. This paper canvasses the approach of the Commonwealth government and the development of a national framework for native vegetation management. Native vegetation legislation in NSW is discussed, followed by a comparative analysis of legislation in several other States.

2.0 THE NATIONAL PERSPECTIVE

A variety of national programs and policies deal with or have ramifications for native vegetation management. These have generally been brought together through the National Framework for the Management and Monitoring of Australia's Native Vegetation, as discussed later in this section. Programs that impact on native vegetation management include the National Action Plan for Salinity and Water Quality (the National Action Plan). This was endorsed by the Prime Minister, Premiers and Chief Ministers at the Council of Australian Governments on 3 November 2000, and involved a funding package of \$1.4 billion from the Commonwealth, States and Territories over a seven year period.² Of particular relevance is the following section from the National Action Plan:

Land Clearing in Salinity Risk Areas

Recognising the fact that land clearing in salinity risk areas is a primary cause of dryland salinity, effective controls on land clearing are required in each jurisdiction:

¹ Smith.P, *et al*, *The Ecological Role the Native Vegetation of New South Wales*. A background paper of the Native Vegetation Advisory Council of New South Wales. Background Paper No 2. November 2000, at 4.

² Commonwealth of Australia, *Our Vital Resources: National Action Plan for Salinity & Water Quality*. November 2000. See URL: http://www.napsqw.gov.au/publications/vital_resources.html

- any Commonwealth investment in catchment/region plans will be contingent upon land clearing being prohibited in areas where it would lead to unacceptable land or water degradation; and
- the Commonwealth will require agreement from relevant States/Territories (particularly Queensland, New South Wales and Tasmania) that their vegetation management regulations are effectively used or, where necessary, amended to combat salinity and water quality issues.³

In another program, the Natural Heritage Trust, the Commonwealth and State governments committed themselves to the national goal of reversing the decline in the quality and extent of Australia's native vegetation cover by June 2001. In a statement to the Senate in September 2001, Senator Hill, then Minister for the Environment and Heritage, said:

Clearly the goal has not been reached. The rate of land clearing continues to be high at over 400,000 hectares a year across Australia, and the condition of many areas of remnant native vegetation continues to degrade.

Endangered ecological communities and species are declining as a result of current land clearing, and also as a consequence of the fragmentation and degradation resulting from the past clearing of the regions in the south-west and the south-east of the country....

...But a national goal can only be achieved by national action.

The exceptionally high rate of land clearing in Queensland is still the single most substantial factor in the failure to achieve the national goal. The Queensland Statewide Landcover and Trees Study estimates that an average of 425,000 hectares of remnant and regrowth native vegetation has been cleared each year over the 1997 to 1999 period. Indications are that there has been little abatement in the rate over the subsequent two years.

The New South Wales rate also remains high. Although estimates vary widely, it has been claimed that clearing in that state may be as high as 80,000 hectares per year. Tasmania has a high rate of clearing relative to its size, estimated at close to 16,000 hectares in 1999-2000, with over 60,000 hectares cleared since 1996.⁴

Details of the Natural Heritage Trust agreement, *Bushcare: The National Vegetation Initiative*, were as follows.

³ Commonwealth of Australia, *Our Vital Resources: National Action Plan for Salinity & Water Quality, A National Action Plan for Salinity and Water Quality in Australia*, November 2000.

⁴ "Native Vegetation Policy: Reversing the Decline in the Quality and Extent of Australia's Native Vegetation Cover." Statement by Senator the Honourable Robert Hill, Minister for the Environment and Heritage, September 2001.

National Goal

- To reverse the long-term decline in the quality and extent of Australia's native vegetation cover.

National Objectives

- Through working with all levels of government, industry and the community to: conserve remnant native vegetation; conserve Australia's biological diversity; and restore, by means of revegetation, the environmental values and productive capacity of Australia's degraded land and water.

National Outcomes

- The primary outcomes of Bushcare relate to on-ground increases in the quality and extent of native vegetation and associated improvements to management of biodiversity and land and water quality (landscape outcomes). These require changes in the attitudes and action of people, and improved decision-making and institutional frameworks (including information, planning, incentives and regulation).

Environmental outcomes, sustainable production outcomes, integration and institutional outcomes, and people outcomes were also developed.

The Natural Heritage Trust agreement with the Commonwealth included specific commitments for each State. The New South Wales agreement is included in Appendix One.

In 1996 the Council of Australian Governments adopted the *National Strategy for the Conservation of Australia's Biological Diversity*. Following on from this, in 2001 the Commonwealth and State Governments⁵ signed the *National Objectives and Targets for Biodiversity Conservation 2001-2005*.⁶ This document outlines the objectives and targets for ten priority outcomes which the Commonwealth and States should pursue up to the year 2005. The first priority action (of ten) was to 'protect and restore native vegetation and terrestrial ecosystems'. Vegetation and terrestrial ecosystem targets relevant to land clearing were the following:

- By 2001, all jurisdictions to have mechanisms in place, including regulations, at the State and regional levels that: prevent decline in the conservation status of native vegetation communities as a result of land clearance; and prevent clearance of ecological communities with an area less than 10 percent of that which was present before European settlement (the targets use the date of pre-1750);
- By 2003, all jurisdictions: to have clearing controls in place that prevent clearance of ecological communities with an extent below 30 percent of that present pre-1750; and have programs in place to assess vegetation condition;

⁵ Except Queensland and Tasmania

⁶ Commonwealth of Australia, *National Objectives and Targets for Biodiversity Conservation 2001-2005*. 2001.

- By 2005, all jurisdictions to have programs in place to protect areas of high quality native vegetation;
- By 2001, all jurisdictions to have clearing controls in place that will have the effect of reducing the national net rate of land clearance to zero.⁷

In December 2001 the Natural Resource Management Ministerial Council released the *National Framework for the Management and Monitoring of Australia's Native Vegetation*. The Framework is an attempt to provide a 'vehicle' to achieve the Natural Heritage Trust goal to reduce the long term decline in the quality and extent of native vegetation. The Framework is comprised of three items: desired native vegetation outcomes; best practice management and monitoring mechanisms; and work plans.

Underpinning this Framework is a basic set of principles that should encourage actions to achieve sustainable native vegetation management. These include:

- recognition that all vegetation management should be based on the overall goal of ecologically sustainable development which recognises environmental, economic and social values;
- recognition of the important role of native vegetation in the functioning of ecosystems in maintaining productivity capacity of agricultural lands;
- recognition that the biological diversity of vegetation should be maintained through appropriate land management practices. These include a suite of measures from environmental protection through to sustainable use and production using best practice management techniques;
- recognition that vegetation management requires the continuing partnership of government, land managers, industry and the wider community;
- recognition that where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the precautionary principle, public and private decisions should be guided by: careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment; and an assessment of the risk-weighted consequences of various options; recognition that protecting existing remnant vegetation is the most efficient way of conserving biodiversity.⁸

The native vegetation outcomes being sought in the Framework were:

- a reversal in the long-term decline in the extent and quality of Australia's native vegetation cover by: conserving native vegetation, and substantially reducing land clearing; conserving Australia's biodiversity; and restoring, by means of substantially increased revegetation, the environmental values and productive capacity of Australia's degraded land and water;

⁷ Commonwealth of Australia, *National Objectives and Targets for Biodiversity Conservation 2001-2005*. 2001, at 7.

⁸ Commonwealth of Australia, 2001, *National Framework for the Management and Monitoring of Australia's Native Vegetation*. Natural Resource Management Ministerial Council, December 2001, at 11.

- conservation and, where appropriate, restoration of native vegetation to maintain and enhance biodiversity, protect water quality and conserve soil resources, including on private land managed for agriculture, forestry and urban development;
- retention and enhancement of biodiversity and native vegetation at both regional and national levels; and
- an improvement in the condition of existing native vegetation.⁹

In regards to the roles to be played by the various stakeholders in native vegetation management (Commonwealth, State and Local Governments; landholders and the community), the Framework canvassed the issue of duty of care and cost sharing arrangements. The Framework noted that the clear definition of the property rights and associated entitlements and obligations tied to land ownership is an essential starting point for addressing native vegetation management issues. It drew a distinction between:

- the Duty of Care for sustainable land management faced by a landholder; and
- the provision of a non-marketable Public Conservation Service by landholders managing vegetation to meet conservation objectives.

However, determining where 'duty of care' stops and 'public conservation service' begins is a difficult issue. The Framework suggested that the dividing line should be drawn between those management practices required to achieve land use objectives at a landscape or regional scale and any additional practices required to sustain sites of unique conservation value. Hence, a public conservation service is provided when the community's interest is in securing active and ongoing management of a particular site.

The Framework also acknowledged that 'duty of care' is not a static concept because scientific knowledge and community expectations will shift in time. It provided the example of the provision of incentives for vegetation clearance maintained into the 1970s. The challenge is to develop mechanisms that allow 'duty of care' to be revised and adapted in time.

The Framework concluded that a 'duty of care' with regard to native vegetation management could reasonably be expected to include: protection of endangered species and/or ecosystems; protection of vegetation on land at risk of land degradation, e.g. from salinity or erosion; protection of riparian vegetation; protection of vegetation on lands of low agricultural capability; and protection of vegetation on acid sulphate soils. Depending on regional circumstances, duty of care may invoke other management actions or priorities.

An adaptive approach to determining duty of care can also be pursued by agreeing and describing what comprises duty of care at the regional scale through regional planning processes. Having determined duty of care, it is possible to consider cost-sharing arrangements on a more informed basis.

⁹ Commonwealth of Australia, 2001, *National Framework for the Management and Monitoring of Australia's Native Vegetation*. Natural Resource Management Ministerial Council, December 2001, at 12.

The following policy guidelines for cost-sharing arrangements were proposed by the Framework:

- It is appropriate that native vegetation management involve both private and public investment, and that public investment include investment from all levels of government.
- Public investment should be contributed by the three levels of government in proportion to their roles and responsibilities in given circumstances. In some cases a native vegetation management issue would be substantially a Commonwealth, State or Territory Government responsibility and it would be appropriate for these levels of government to make the bulk of the public investment. Conversely, in other cases a native vegetation management issue may largely be a Local Government responsibility and it would be appropriate for Local Government to contribute the bulk of public investment. In many circumstances however, the issue being addressed will appropriately involve investment from all levels of government. Cost sharing arrangements then need to be determined in a manner that reflects the relative responsibilities of each level of government.
- Where community expectations resulting in legislative or policy changes cause duty of care to be shifted significantly over a short period of time, financial assistance may be provided to speed the transition to the new arrangements and maintain community support. Such payments should be one-off payments in recognition of the need to adjust to a new regime.
- There are cases where the community may seek landholders to manage areas of remnant vegetation at a higher standard than normally expected. In these cases ongoing payments can be justified on the grounds of equity because a conservation service is being provided by the landholder.
- Financial assistance should generally not be paid to landholders to meet their duty of care for sustainable land management.¹⁰

The approach used by the Framework in relation to ‘duty of care’ and landholder responsibilities is important, because one of the major current issues in natural resource management is that of property rights and ‘resource security’.

Carl Binning, Chief Executive Officer of Greening Australia notes that land ownership can be described as a bundle of property rights that place a range of entitlements and obligations on landholders. He notes that the key question to be addressed when considering issues of compensation for lost property rights is: who should bear the costs of changing the obligations and entitlements of landholders that are defined through existing property rights? He then notes that landholders have a responsibility to manage their land in an ecologically sustainable way and meet normal costs associated with on-farm management – and sets this standard as ‘duty of care’. However, when landholders provide a non-marketable public good, such as biodiversity conservation, and where those non-market values are high, society has a choice of placing such land in a reservation, or alternatively

¹⁰

Commonwealth of Australia, 2001, *National Framework for the Management and Monitoring of Australia's Native Vegetation*. Natural Resource Management Ministerial Council, December 2001, at 18.

reimbursing landholders for the cost of the ‘public conservation service they provide’.¹¹

Binning put forward the view that the concept of duty of care for sustainable natural resource management is an essential element of any discussion of property rights and compensation, and put forward the following principles for compensation.

Principle 1: Duty of Care

Landholders have, in law, a responsibility to manage land in an ecologically sustainable manner. This broad responsibility may be termed a ‘duty of care’.

Principle 2: Do not subsidise sustainable natural resource management.

Governments should not provide ongoing subsidies for landholders to implement sustainable nature resource management practices.

Principle 3: Manage transitions by securing permanent change to property rights.

Where changes in duty of care are required to secure natural resource management outcomes, these changes should be achieved through unambiguous and permanent changes in the property rights of landholders.

Principle 4: Assistance for transitions in property rights.

Where the definition of ‘duty of care’ is shifted to a new threshold, or where significant land use change is required, incentive payments can be used to speed transition and maintain community support. Such payments should be a one-off nature and secure permanent changes in property rights. Sunset clauses, which limit eligibility to those that apply within a defined period of time, will speed transition.

Principle 5: Payments should be forward looking.

In general, transition payments should be positive and based on the costs of meeting new requirements for sustainable natural resource management. Wherever possible payments based on foregone opportunities (opportunity cost) should be avoided as this contradicts the general principle of ‘duty of care’.

Principle 6: Reward best practice.

In periods of transition, landholders that have demonstrated a commitment to best practice through voluntary action should be acknowledged and rewarded through once-off incentives to continue to improve management practices.

Principle 7: Assistance for public conservation service.

Ongoing payments that reimburse the costs of management can only be justified where it is directly in the community’s interest to secure site specific ongoing management by a landholder that exceeds the general ‘duty of care’ facing other landholders.

Principle 8: Addressing genuine cases of genuine economic hardship.

Changes in property rights may adversely affect the ongoing viability of a small number of individual landholders. A flexible case management fund should be established to address these situations.

¹¹ Binning, C. “Principles for managing changes in land and water property rights” in *I Can See Clearly Now... Land Clearing and Law Reform*, National Environmental Defenders Office, Network Conference, July 2002, at 33.

Principle 9: Adaptability.

To allow for future transitions, property rights will be most effectively defined in a manner that allows them to be adapted to meet the requirements of sustainable natural resource management as our scientific understanding and / or community expectations change.

Principle 10: Formal compensation should be limited to cases where there is a legal requirement to pay, payments for foregone opportunities should be limited to cases where an unambiguous legal right is being compulsorily acquired by government.¹²

Mick Keogh of the NSW Farmers' Association noted that most farmers would agree with Carl Binning's statement that the cost of meeting a farmer's 'duty of care' should be met by the farmer, and that any further regulation that aims to achieve higher levels of conservation should be reimbursed or land purchased and placed in reserve. However, Keogh observed that potential variations in the definition of what is considered 'ecologically sustainable development', and hence duty of care, may result in some disagreement. Keogh considers a practical definition of ecologically sustainable development to mean that: "human activities can have some impact on elements of the environment, but this impact should be limited to the property in question, and not result in long term degradation of air, land or water."¹³

Keogh continues that a key issue is how decisions are made about what is a 'duty of care', and what is a public conservation service by a land owner. He observes that more generally in public policy issues the answer is the 'beneficiary principle', which dictates that a decision on who should pay for the cost of a particular measure can be made by considering where the benefits arising from the particular measure are likely to lie. On this basis, Keogh notes that if the benefits of a regulation are predominantly community wide (such as the preservation of a threatened species), then it should be the community that has an obligation to pay. Keogh also notes that this principle has a beneficiary side effect – it assists in ensuring that the community does not overstep the mark in its demands for public good conservation outcomes on private land. It also allows current regulatory mechanisms to be evaluated and changed if they are not in accord with the beneficiary pays principle. Keogh considers that most land clearing legislation would not pass this test.¹⁴

A Productivity Commission research paper noted that there are often two principles in play that can form the basis of cost sharing arrangements to achieve conservation outcomes.¹⁵

¹² Binning, C. "Principles for managing changes in land and water property rights." in *I Can See Clearly Now...Land Clearing and Law Reform*, National Environmental Defenders Office, Network Conference, July 2002, at 34.

¹³ Keogh, M. "Rights, Responsibilities and Economic Imperatives." in *I Can See Clearly Now...Land Clearing and Law Reform*, National Environmental Defenders Office, Network Conference, July 2002, at 39.

¹⁴ Keogh, M. "Rights, Responsibilities and Economic Imperatives." in *I Can See Clearly Now...Land Clearing and Law Reform*, National Environmental Defenders Office, Network Conference, July 2002, at 44.

¹⁵ Aretino, B. *et al*, *Cost Sharing for Biodiversity Conservation: A Conceptual Framework*.

These are the ‘polluter (impacter) pays’ principle and the ‘beneficiary pays’ principle. It was noted that in 1972 the Organisation for Economic Cooperation and Development adopted the polluter pays principle, which requires individuals to meet the full costs of their actions, requiring them to bear the costs of implementing pollution prevention and control measures necessary to maintain the environment in an ‘acceptable state’. The polluter pays principle has been extended to a wider array of environmental damage and has been termed ‘impacter pays’.

Under the ‘impacter pays’ principle, impacters are required to contribute to the costs of activities that ameliorate or prevent biodiversity damage in proportion to their impacts on biodiversity. Some of these costs may be passed on to consumers as higher prices, such that consumers who benefit from activities that adversely impact the environment may also meet a proportion of the higher costs. The research paper noted that as a general rule under the ‘impacter pays’ principle, governments should not subsidise individuals to conserve biodiversity for instance. The government’s cost share is generally zero, unless the government is an impacter and required to pay. The ‘impacter pays’ principle may be achieved by:

- Command and control mechanisms such as regulations that require resource users to bear all the costs of undertaking conservation measures or from refraining from activities that have an adverse impact on the environment;
- Charges levied on environmentally harmful outputs, inputs or practices; and
- Tradeable rights or permits to achieve environmental standards.¹⁶

The theory of adopting the ‘impacter pays’ principle is that it forces producers and consumers to bear the full cost of their actions by internalising externalities¹⁷. This may in turn raise the price of goods and services that damage the environment, which could remove production and consumption biases towards goods and services that previously ‘overused’ underpriced environmental resources. In addition, over time full cost pricing also provides incentives for the identification and dissemination of ‘environmental friendly’ technologies.¹⁸

The Productivity Commission research paper noted that the beneficiary principle appears to be more widely used as a basis for environmental policy in agriculture, partly because

Productivity Commission Staff Research Paper, Canberra, 2001.

¹⁶ Aretino, B. *et al*, *Cost Sharing for Biodiversity Conservation: A Conceptual Framework*. Productivity Commission Staff Research Paper, Canberra, 2001, at 16.

¹⁷ An externality is where the actions of an individual result in costs (or benefits) to others that the individual creating them does not bear. To ‘internalise externalities’ is a process forcing individuals to bear the costs or receive the benefits of externalities created by their actions. See Aretino, B. *et al*, *Cost Sharing for Biodiversity Conservation: A Conceptual Framework*. Productivity Commission Staff Research Paper, Canberra, 2001, at V.

¹⁸ Aretino, B. *et al*, *Cost Sharing for Biodiversity Conservation: A Conceptual Framework*. Productivity Commission Staff Research Paper, Canberra, 2001, at 16.

it has more support from resource owners. One of the challenges of the implementation of the beneficiary principle is the identification of who should bear what costs of conservation work. One option is the use of auctions, where landholders bid for the amount of government funding or compensation required to undertake biodiversity conservation on their land. Auctions are widely used by the United States Department of Agriculture in their Conservation Reserve Program, which is a voluntary program which offers compensation to landholders to divert land from production to reserves to promote biodiversity conservation. Each Conservation Reserve Program contract runs for ten years, after which time it expires. Landholders may renew contracts only by reapplying for funding through the auction system. In 1999, 36 million acres of land were under contract to provide environmental services. However, it is also noted that a key limitation of the auction process is that it may be relevant only for encouraging voluntary conservation and it is not relevant if all landholders need to be involved in participating in the conservation activity.¹⁹

In summary, it is evident that the issue of property rights and ‘resource security’ is crucial to the debate on native vegetation clearing. It is also evident that whilst conservation and farmer organisation groups essentially want the same thing – sustainable farming practices – how to define and implement these ideals is an area of disagreement.

3.0 COMMUNITY UNDERSTANDING OF THE IMPORTANCE OF NATIVE VEGETATION

The fact is that protected areas (such as national parks) alone are far too small and scattered to maintain biodiversity and other values associated with native vegetation. At present, more than two-thirds of Australia (some 500 million hectares) are managed by private landholders, while about 40 million hectares are within the terrestrial reserve system.²⁰

The distribution of major land tenures across NSW is shown below:

Table 1: The distribution of major land tenures across NSW²¹

Tenure Category	% Eastern and Central Divisions	% Western Division	% Total NSW
Leasehold	2.3	94.0	39.4
Freehold	80.1	0.9	48.0
Total public land	17.6	5.1	12.6
Public (reserves)	9.0	3.0	6.6

¹⁹ Aretino, B. *et al*, *Cost Sharing for Biodiversity Conservation: A Conceptual Framework*. Productivity Commission Staff Research Paper, Canberra, 2001, at 39.

²⁰ Commonwealth of Australia, *The National Strategy for the Conservation of Australia's Biological Diversity*, 1996, at 11.

²¹ NSW Environment Protection Authority, *New South Wales State of the Environment Report 2000*. December 2000 at 236.

Public (state forest)	6.6	0.1	4.0
Other public land	2.0	2.0	2.0

Table 1 shows that in the Eastern and Central divisions of the State, 80 percent of the land is freehold, and that across the State, 6.6 percent of the land is in a public reserve. Historically, public reserves such as national parks have been restricted to land that was deemed unpromising for commercial concerns.²² Traditional reasons for the reservation of land include preserving scenery and recreational areas, protecting water catchments and wilderness preservation. The result is decades of *ad hoc* reservations that are not representative of biodiversity.²³ With this background, it becomes apparent that the conservation of biodiversity through such things as the retention of native vegetation on private land is essential.²⁴

Engaging those freehold landowners (and those involved in the Western division with perpetual leases) in the support of native vegetation retention and management is therefore critical. However, it was not long ago that governments were supporting the clearing and ‘improvement’ of agricultural lands, with tax concessions for clearing native vegetation on private land available until 1985.²⁵ It is inevitable then that after decades of encouraging native vegetation clearing, it will take decades to change the framework to native vegetation protection.

In a recent speech Rick Farley, ex Director of the National Farmers’ Federation, noted that if we are going to successfully change the landscape and ensure resources are managed sustainably, it is going to take a long time and require a lot of money. He commented that a key challenge then is to secure a funding and policy commitment from all sides of politics for 50 or so years. Yet in this environment, there is a lot of distrust of government by landholders. Farley noted: “The reality of course at the moment is that there is a lot of distrust around, particularly from private landholders towards government. I chair the Resources and Conservation Assessment Council and I’ve been to meetings in places like Warrialda and Merriwa ... where private landholders have basically said they don’t trust government...If you are going to get the political and funding commitments that will cause the policy reality – as far as possible all of the parties engaged in the debate need to be coming at it with some common ground. And a lot of that common ground,... in my view,

²² Pressey,RL (1994) “Ad Hoc Reservations: Forward or Backward Steps in Developing Representative Reserve Systems?” in *Conservation Biology*, Vol 8 No 3.

²³ Pressey,RL (1994) “Ad Hoc Reservations: Forward or Backward Steps in Developing Representative Reserve Systems?” in *Conservation Biology*, Vol 8 No 3, at 664.

²⁴ Farrier identifies local councils as becoming increasingly responsible for conserving biodiversity in their local area. Councils largely rely on the planning system to achieve biodiversity conservation goals.

See Kelly,A.H & Farrier,D. “Local government and biodiversity conservation in New South Wales” in *Environmental and Planning Law Journal*, Vol 13, No 5, 1996 at 374.

²⁵ NSW Environment Protection Authority, *New South Wales State of the Environment Report 2000*. December 2000 at 240.

is absent at the moment.”²⁶

Similarly, a round table discussion of the farmers’ perspective in regard to native vegetation clearing identified:

- the need for trust between all stakeholders – farmers, government and conservationists;
- landholders do not have enough trust in government departments to make long term contracts – governments have not created enough trust, security;
- the opportunities for trust are high as there is a lot of common ground between stakeholders, who ultimately have the same basic goals – landholders want future generations to be able to farm profitably;
- in terms of ‘moving forward’, there is a need to increase dialogue and engage those not currently involved in the debate between stakeholders, and to increase capacity building at a regional and local level.²⁷

We have then this dichotomy, in that private landholders own and manage most of the vegetation in the state, yet many of these landowners, especially in agricultural areas, have little or no trust in government to assist in the management of vegetation resources. It would therefore appear imperative that governments work with agricultural communities in particular to engage and involve them, to build partnerships and trust in native vegetation protection programs.

4.0 THE NEW SOUTH WALES PERSPECTIVE

4.1 Native Vegetation in New South Wales

The vegetation of New South Wales includes major examples of a broad range of plant communities. Eastern areas of the State are dominated by eucalypt open forests, and towards the western area landscapes are dominated by acacia shrublands and chenopod and samphire shrublands. Eucalypt woodlands occur throughout the State, whilst grasslands are widespread throughout central and eastern New South Wales.²⁸

Benson states that the main causes of decline and change to native vegetation since European settlement have been: clearing for cropping and grazing by stock; grazing by feral animals; logging; weed invasion; mining; soil degradation through compaction; salinisation and acidification; and pollution. The least disturbed ecosystems in the State are on the eastern escarpment and on the poorer soils on the coast. Most of the vegetation west of the escarpment has been subject to intensive grazing by stock, feral animals and elevated

²⁶ Farley, R. “Different perspectives on property rights and responsibilities. Panel Discussion.” In *I Can See Clearly Now...Land Clearing and Law Reform*, National Environmental Defenders Office, Network Conference, July 2002, at 36.

²⁷ “Farmer’s Perspective Workshop” in *I Can See Clearly Now...Land Clearing and Law Reform*, National Environmental Defenders Office, Network Conference, July 2002, at 88.

²⁸ National Land & Water Resources Audit, *Australian Native Vegetation Assessment 2001*. November 2001, at 66.

numbers of macropods for over 100 years. This has altered the structure and biomass of the vegetation, with significant changes to the understorey and little regeneration of palatable species.²⁹

Vegetation in Australia is classified into bioregions, known as Interim Biogeographic Regionalisation for Australia (IBRA). There are 17 of these regions in New South Wales, and their characteristics are summarised in table 2. An outline of the regions and their dominant vegetation characteristics are shown in Appendix 2.

The National Land and Water Resources Audit noted that in New South Wales, 30 percent, or 23.4 million hectares of native vegetation have been removed in the coastal lowlands and floodplains of northern New South Wales, the central coast from the Hunter to the Illawarra, and the south coast around the Bega district. The alluvial plains, adjoining north-west slopes and New England Tableland of the Murray-Darling Basin have also been extensively cleared, as have the south-west slopes and southern highlands such as the Monaro Tableland. New South Wales has one of the largest areas of cleared land in Australia.³⁰ Table 2 below lists the major bioregions in the State and summarises their characteristics, including the amount of vegetation cleared and reserved for each bioregion.

Table 2: The Degree of Cleared and Reserved Vegetation in IBRA Bioregions and their Characteristics in NSW³¹

IBRA Regions	Area in NSW	Cleared of native vegetation ha and (%)	% in cons. reserves	Major threatening processes	Vegetation types most threatened	Examples of management activities
Australian Alps	468300	15400 (3.29)	82.5	Fire regime, climate change, tourism	Alpine	Fire management, visitor management, weed control,.
Briglow Belt South	5243600	3194800 (61)	2.5	Clearing / cropping, grazing, salinity	Briglow, vine thickets, box woodlands, riparian, <i>Austrostipa</i>	Fencing of remnants, identification of key grassland sites, corridors and connectivity.

²⁹ Benson, J. *Setting the Scene. The Native Vegetation of New South Wales. A background paper of the Native Vegetation Advisory Council of New South Wales.* Background Paper No 1, June 1999, at 8.

³⁰ National Land & Water Resources Audit, *Australian Native Vegetation Assessment 2001.* November 2001, at 73.

³¹ Benson, J. *Setting the Scene. The Native Vegetation of New South Wales. A background paper of the Native Vegetation Advisory Council of New South Wales.* Background Paper No 1, June 1999, at 17.

					grasslands	
Broken Hill Complex	3812900	0 (0)	2.2	Total grazing pressure	All	Grazing management strategies, feral grazing control.
IBRA Regions	Area in NSW	Cleared of native vegetation ha and (%)	% in cons. reserves	Major threatening processes	Vegetation types most threatened	Examples of management activities
Channel Country	1428900	0 (0)	14.4	Total grazing pressure	Mitchell grasslands and riparian floodplain	Feral predator control, grazing management strategies, restoration of riparian vegetation
Cobar Penepplain	7334800	2380200 (32.5)	1.7	Total grazing pressure, clearing	Bimble Box woodland, Belah / Rosewood, Leopard-wood	Fencing of remnants in fragmented areas, enhancement of significant remnants, grazing management strategies, feral grazing control, feral predator control, restoration of riparian vegetation
Darling Riverine Plains	9474500	3444400 (36.3)	0.9	Clearing cropping, water quantity / quality	Box woodlands, riparian, native grasslands, wetlands	Floodplain hydrology restoration, weed control especially <i>Lippia</i> in forested wetlands, fencing of significant remnants, restoration of riparian vegetation
Mulga Lands	6577900	30600 (0.5)	1.1	Total grazing pressure, clearing	Coolabah woodlands, mulga, brigalow	Feral predator control, grazing management strategies, artificial water point management, restoration of riparian vegetation
Murray-Darling Depression	8021100	619700 (7.7)	3.6	Total grazing pressure, clearing, stream regulation	Riparian vegetation and source-bordering dunes, rosewood / belah, chenopod shrublands, wetlands	Feral predator control, grazing management strategies, artificial water point management, restoration of riparian vegetation
Nandewar	2099200	1380800 (66)	1.9	Clearing, total grazing pressure, invasive weeds	Box woodlands and ironbark box	Identification and fencing of significant remnants, enhancement of significant remnants, re-vegetation, restoration of riparian vegetation, enhanced grazing management.
New	2796700	1613000	7.5	Clearing,	New	Identification and fencing of

England Tableland		(58)		invasive weeds, pasture improvement, firewood cutting, drainage of wetlands	England peppermint, yellow box, red gum, ribbon / mountain gum, montane wetlands	significant remnants, enhancement of significant remnants, enhancement of existing corridors to improve connectivity, regeneration and replanting of understorey species, restoration of riparian vegetation
NSW North Coast	5767800	21800700 (38)	17.5	Subdivision and urbanisation weed invasion, water pollution and wetland drainage, fire, total grazing pressure, inappropriate logging	Riparian vegetation especially rainforests, wetlands (marine and freshwater) coastal box woodlands, mangroves	Weed control, restoration of floodplain and valley bottom vegetation communities, identification and fencing of significant remnants, protection of old growth forest areas, restoration of floodplain wetland hydrology. Enhancement of rainforest remnants particularly areas adjoining Big Scrub and riparian rainforest remnants, restoration of riparian vegetation.
NSW South-western slopes	8075300	6898800 (85)	1.2	Clearing, firewood cutting, total grazing pressure, acid and salt	Grassy white box woodlands, red gum, yellow box, riparian, box woodlands especially white box woodlands	Identification fencing and enhancement of significant remnants, enhancement of existing corridors and improvement of connectivity between remnants, restoration of riparian vegetation.
Riverina	6891966 *	2131842 (31)*	0.4	Clearing cropping, salinity, irrigated cropping and horticulture	Native grasslands, chenopod shrublands, myall woodlands, grey box woodlands, riparian wetlands, black box woodlands, Callitris mixed woodlands and belah / rosewood	Identification enhancement and fencing of significant remnants, restoration of floodplain wetland hydrology, restoration of riparian vegetation.

Simpson-Strzelecki Dunefields	2082900	0 (0)	6	Total grazing pressure	All, particularly lignum	Artificial water point management, feral animal grazing control, feral predator control, grazing management, restoration of riparian vegetation.
South Eastern Corner	1280000	238600 (19)	37.3	Subdivision and urbanisation clearing, inappropriate logging, fire, invasive weeds	Coastal communities especially lagoons, estuaries, dunes, wetlands, forest red gum / box forests	Identification fencing and enhancement of significant remnants, restoration and enhancement of floodplain and valley bottom vegetation communities, weed control especially Bitou Bush on dunes and willows on floodplains, restoration of riparian vegetation.
South Eastern Highlands	5066700	2958800 (58.4)	9.8	Clearing, total grazing pressure, invasive weeds, pasture improvement, acidification salinity, peat mining	Native grasslands, box woodlands, especially yellow box / red gum woodlands, montane wetlands, riparian	Identification of significant grassland sites, identification fencing and enhancement of significant remnants, enhancement of existing corridors and restoring connectivity, restoration of riparian vegetation.
Sydney Basin	3694100	1209300 (33)	39.1	Urbanisation and subdivision, pollution, fire, weeds, resource extraction	Riparian, grey box forest / red gum woodlands, wetlands, subtropical and dry rainforest	Protection and restoration of extensively cleared communities, e.g., Cumberland plain woodlands, blue gum high forest, weed control in grassy woodlands, restoration of riparian vegetation.

4.2 The Framework of Native Vegetation Conservation in New South Wales

The State of the Environment Report states that the *NSW Biodiversity Strategy* sets the framework for native vegetation conservation in the State. The Strategy identifies and incorporates the broad range of NSW Government policies and programs that address issues relevant to biodiversity conservation. The following key programs aim to promote native vegetation conservation in NSW:

- Monitoring and controlling land clearing through the *Native Vegetation Conservation Act 1997*;

- Implementing bioregional conservation assessment and planning as the basis for biodiversity management;
- Establishing a comprehensive, adequate and representative forest reserve system
- Providing opportunities and incentives for the community to conserve biodiversity.³²

As the *Native Vegetation Conservation Act 1997* is the main legislation dealing with native vegetation, it is discussed in detail below.

4.3 The New South Wales Native Vegetation Conservation Act

The introduction of the *Native Vegetation Conservation Act 1997* brought the clearing of native vegetation in NSW under one regime. The Act repealed clearing provisions in the: *Soil Conservation Act 1938*; *Western Lands Act 1901*; *Crown Lands (Continued Tenures) Act 1989*; and the *Forestry Act 1916*. In addition, State Environmental Planning Policy No 46 - *Protection and Management of Native Vegetation* was repealed.

The core of the *Native Vegetation Conservation Act* is the regional vegetation management plan. This plan provides specifications as to what clearing is allowed in a region. Where clearing is allowed for in the plan, no development consent for that clearing will be required. Any clearing outside the specifications of the plan, or where a plan is not yet in place, will require assessment and development consent from the Minister for Land and Water Conservation under Part 4 of the *Environmental Planning and Assessment Act 1979*. A detailed overview of the Act is provided below.

The objects of the *Native Vegetation Conservation Act* are:

- (a) to provide for the conservation and management of native vegetation on a regional basis, and
- (b) to encourage and promote native vegetation management in the social, economic and environmental interests of the State, and
- (c) to protect native vegetation of high conservation value, and
- (d) to improve the condition of existing native vegetation, and
- (e) to encourage the revegetation of land, and the rehabilitation of land, with appropriate native vegetation, and
- (f) to prevent the inappropriate clearing of vegetation, and
- (g) to promote the significance of native vegetation, in accordance with the principles of ecologically sustainable development.

The Act defines the clearing of native vegetation as any one or more of the following: cutting down, felling, thinning, logging or removing native vegetation; killing, destroying, poisoning, ringbarking, uprooting or burning native vegetation; severing, topping or lopping branches, limbs, stems or trunks of native vegetation; substantially damaging or injuring

³² NSW Environment Protection Authority, *New South Wales State of the Environment Report 2000*. December 2000 at 234.

native vegetation in any other way. On land that is declared as protected land, the above definition of clearing also applies to non-native trees and to standing dead or fallen trees. The definition of protected land in the Act is:

- any land within 20 metres of the bed or bank of any prescribed river or lake;
- steep land with a slope greater than 18 degrees;
- land that is environmentally sensitive or affected or liable to be affected by soil erosion, siltation or land degradation.

The Act excludes clearing if it has been authorised under 16 other pieces of legislation. For example, clearing authorised under the *Rural Fires Act* as part of a bushfire management plan is not covered by the *Native Vegetation Conservation Act*.

Section 51 of the Act established Regional Vegetation Committees, which are comprised of 15 persons representative of a wide cross section of stakeholders. A Regional Vegetation Committee has the following functions: preparing, with the approval of the Minister, a draft regional vegetation management plan for the region in which it operates; and monitoring and reviewing the regional vegetation management plan after it is made.

As noted, the centrepiece of the legislation is regional vegetation management plans, and the detail concerning these plans is found in Part 3 of the Act. These plans may: contain provisions specifying whether or not development consent is required to clear native vegetation or regional protected land; contain provisions relating to the manner in which native vegetation or regional protected land may be cleared without development consent; adopt or incorporate the provisions of a native vegetation code of practice as part of the plan; identify certain land to which the plan applies as regional protected land; and include strategies that are designed to achieve the objects of this Act.

Once a draft vegetation management plan has been developed it must be approved by the Minister before public release for comments. Upon approving the final plan, the Minister must consult with the Minister for the Environment and seek comments and recommendations. While the Minister for the Environment has no formal consent approval authority, in making the final plan the Minister must give reasons why any recommendations from the Minister for the Environment were ignored. A regional vegetation management plan stays in effect for ten years. On the 4 September 1998 the Minister for Land and Water Conservation Hon Richard Amery MP launched the State's first draft native vegetation plan, for the Mid Lachlan region.³³

In regards to clearing (both native vegetation and protected land), a regional vegetation management plan provides for two scenarios. Firstly, if the plan specifies that areas may not be cleared without development consent, then a person must not carry out that clearing unless: development consent as described above has been obtained; and clearing is carried out in accordance with the development consent and the regional vegetation management

³³ Media Release, "Amery Launches first draft Native Vegetation Plan." Hon Richard Amery MP, Minister for Land and Water Conservation, 4 September 1998.

plan (section 18). If a plan provides that native vegetation may be cleared without development consent, a person may clear that land without consent but only if the clearing is carried out in accordance with the plan. Once clearing has gained development consent or is in accordance with a regional vegetation management plan, that clearing cannot be prohibited, restricted or otherwise affected by any other planning instrument or by the provisions of any other Act (apart from this Act and the EPA Act). However, consent under s.90 of the *National Parks and Wildlife Act 1974*, which prohibits the destruction of relics or Aboriginal places without consent of the Director-General, is still required. A licence under the *Pollution Control Act 1970* in respect of the pollution of waters may also be required.

For land not subject to a regional vegetation management plan, native vegetation must not be cleared except in accordance with a development consent or a native vegetation code of practice. State protected land may only be cleared with development consent. Native vegetation codes of practice are designed to regulate the clearing of native vegetation for specified purposes, such as clearing for the purpose of establishing a timber plantation. A native vegetation code of practice cannot apply to protected land.

Part 2 of the Act deals with the actual clearing of native vegetation and protected land. Section 15 states that if development consent is required to clear native vegetation, the landholder must apply to the Minister for Land and Water Conservation. The Minister, in making the determination, must do so in accordance with Part 4 of the *Environmental Planning and Assessment Act 1979*. If clearing is done without consent, the Act states that section 126 (1) of the EPA Act (Penalties) applies in the same way as it applies to an offence against that Act. This provides for penalties up to 1000 penalty units (\$110,000).

The Act also provides for stop work and remedial orders by the Director-General of the Department of Land and Water Conservation (sections 46-50). Failure to comply with an order attracts a maximum fine of 1000 penalty units. The Director-General may issue a remedial notice to repair and rehabilitate the affected land. If the person fails to comply with a remedial order, in addition to being fined as above, the Director-General may also authorise another person to carry out the work and then recover the cost of that work from the person who illegally cleared. Appeals by affected persons to the Land and Environment Court are provided for.

The Act outlines powers of investigation and entry onto land by authorised officers to determine if land has been or is being cleared illegally. Proceedings commenced by the Department of Land and Water Conservation may either be brought summarily before a Local Court or in the Land and Environment Court. If the former is chosen, a maximum penalty of 100 penalty units may be imposed (ie, \$1,100). In addition, the Act provides for third parties to commence action in the Land and Environment Court for an order to remedy or restrain a breach of the Act.

The Act also established a 16 member Advisory Council which has the following functions: to advise, monitor and report to the Minister on the status of native vegetation throughout the State; and amongst other things to develop, and advise the Minister on, a native

vegetation conservation strategy that is designed to assist in achieving the objects of the Act.

Section 56 of the Act established a Native Vegetation Management Fund, which the Government has allocated \$5 million each year for three years to the fund. Grants from the Fund were accessible from 13 October 1998. There are two types of grants. The first involves grants of up to \$10,000 which are payable to landholders wanting to carry out simple native vegetation management work such as fencing, weed control or revegetating. The second involves grants of more than \$10,000 for landholders wanting to carry out more substantial work involving the revegetation of and rehabilitation of larger areas of land. This second type of grant will require the landholder to enter into a Property Agreement with the Department of Land and Water Conservation for a specified period of time, usually between five and ten years, and may be registered on the land title papers.³⁴

The Act provides for Property Agreements, which are agreements between the Minister and a landholder. The Agreement may include provisions for: the identification of any land, or of specified vegetation, that is to be set aside for conservation or rehabilitation purposes; outline methods and practices for vegetation management; and provide financial and technical assistance to a landholder. Each Property Agreement can specify its duration. If agreed to by both parties, the Property Agreement may be registered with the Registrar-General. The Agreement is then binding on, and is enforceable by and against, the successors in title to the landholder or landholders who entered into the agreement (section 44). A Property Agreement may be enforced in the Land and Environment Court.

As at 21 June 2002, more than \$9.9 million from the Native Vegetation Management Fund has been paid to 703 applicants to protect 77,000 hectares of native vegetation through registered property agreements and management contracts. In addition, 40 voluntary conservation agreements signed by landholders with the National Parks and Wildlife Service have been funded from the Native Vegetation Management Fund, to protect 3,520 hectares of native vegetation.³⁵

The Department of Land and Water Conservation has also recently announced the development of an Environmental Services Scheme, which will examine the use of market mechanisms for native vegetation conservation. The Department will work with 20 landholders around the State to determine the best way to measure and value a range of environmental services provided by native vegetation, and the systems needed to allocate property rights to those services. The Scheme is investigating ways of opening up new income streams for landholders by creating markets for the environmental services which they can provide.³⁶

³⁴ Media Release "\$15 million native vegetation management fund now accessible." Hon Richard Amery, Minister for Land and Water Conservation, 13 October 1998.

³⁵ Izmir, G. "Government strategies in the management of landclearing." in *I Can See Clearly Now...Land Clearing and Law Reform*, National Environmental Defenders Office, Network Conference, July 2002, at 56.

³⁶ Izmir, G. "Government strategies in the management of landclearing." in *I Can See Clearly Now...Land Clearing and Law Reform*, National Environmental Defenders Office, Network

The Scheme is a pilot to identify how activities that provide environmental services can be incorporated into landholder operations alongside their existing production activities. Examples of land use changes to be supported through the scheme include:

- Establishment of deep-rooted perennial pastures on land currently used for cropping or annual pastures;
- Planting native species using tube stock or direct seeding;
- Commercial tree planting;
- Establishment of saltbush;
- Earthworks for improved drainage;
- Use of natural tidal cycles within former wetland or estuarine areas.³⁷

The Department notes that creating a market for environmental services will be complex, with one of the first tasks to work out what products are to be bought and sold. Then how to measure how much of a particular product is produced by different land use changes needs to be determined. Once the products have been decided, a means to define the rights to these products so that they can be owned, used and traded will be required. Other issues that need to be addressed before an environmental services market can operate include:

- Provide an incentive for people to engage in trading, such as a cap on emissions or by defining targets to be achieved;
- Define the trading rules that will apply, for example, will trading be limited to properties within a catchment, will landholders be able to trade all the environmental services they produce or only those above minimum land management standards?
- Finding ways of bringing buyers and sellers together; and
- Draw up legislation to ensure markets work as intended.³⁸

The Environmental Services Scheme is designed to help answer many of the above questions. The Scheme targets salinity and acid sulfate soil problem areas. To be eligible to participate in the Scheme landholders need to be in a priority salinity or coastal acid sulfate soil area and their primary income must come from farming. The Department received 144 expressions of interest from 106 different locations across the State to

Conference, July 2002, at 58.

³⁷ Department of Land and Water Conservation, *Environmental Services Scheme at a Glance*. June 2002, at 5.

³⁸ Department of Land and Water Conservation, *Environmental Services Scheme at a Glance*. June 2002, at 2.

participate in the Scheme.³⁹ Five locations from coastal areas and 15 from inland areas are to be chosen to participate.

In July 2001 the Department of Land and Water Conservation released an ‘offsets’ discussion paper. The paper defined an offset as an activity to compensate for the negative impacts of that activity, by taking a separate action with positive impacts. Examples of offset actions for native vegetation clearing included: revegetating or regenerating a previously cleared area; or restoring or enhancing existing native vegetation. The discussion paper proposed four principles to guide an offsets policy. These were:

- An offset policy should be consistent with relevant government policies;
- An offset should lead to a net gain that improves the condition of the environment;
- An offset should not lead to permanent environmental costs due to the delay before offset actions yield environmental benefits;
- Clearing should only proceed when the offset site is making acceptable progress towards the predicted ecological state and management arrangements are legally secure.⁴⁰

5.0 BEST PRACTICE LAND CLEARING REGULATIONS

A technique to assess the effectiveness of the *Native Vegetation Conservation Act* is provided for in the National Framework for the Management and Monitoring of Australia’s Native Vegetation. The Framework included a best practice ‘plan’ for land clearing regulations, which may provide a suitable framework in which to assess land clearing regulations in the State. The best practice plan:

- Provides a ‘duty of care’ to all landholders to manage native vegetation sustainably.
- Applies consistently across all land use tenures and all native vegetation types.
- Adopts an integrated bioregional approach:
 - Sets clear achievable objectives and targets regarding vegetation extent and condition at State, bioregional, local and property level based on ecological, greenhouse, cultural and economic sustainability.
 - Targets are based on mapping at the appropriate scales.
 - Has clear links with other programs or legislation that enable property, local and regional planning and management.

³⁹ “Aquilina welcomes native vegetation report” *Media Release*, Hon John Aquilina MP, Minister for Land and Water Conservation, 20 August 2002.

⁴⁰ Department of Land and Water Conservation, *Offsets, Salinity and Native Vegetation, Discussion Paper*, July 2001.

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- Considers cumulative impacts.
 - Allows for a range of implementation mechanisms:
 - Is supported by extension and adequately funded incentive and education programs.
 - Modifications to proposals to maximise social, economic and environmental benefit.
 - Sets a monitoring, reporting and independent review process.
 - Sets appropriate enforcement and penalties regime.
 - Is supported by the community:
 - Community involvement in setting rules through regional planning.
 - Regulations apply equitably across all parts of the community.
 - Has a clear and transparent decision-making process that is legally defensible:
 - Provides for efficient and rapid determination of applications based on transparent assessment criteria.
 - Has clear definitions.
 - Has criteria for decision-making which permit a robust, repeatable and consistent assessment process/framework.
 - Is implemented in a consistent manner by staff trained and experienced in assessment.
 - Has ability to apply conditions on decisions which may involve revegetation or management of remnant vegetation.
 - Provides for appeals (including third party appeals).
 - Uses best available technical information:
 - Has links with vegetation mapping programs (status, distribution, condition, threatened species and communities), monitoring rates of change.
 - Has links with research programs.
 - Protects native vegetation of high conservation or cultural value, including:
 - Representativeness.
 - Threatened species and ecological communities.
 - Viability/vulnerability.
 - Conservation or landscape design principles.
 - Provides for, or is supported by, appropriate institutional arrangements.

- Is responsive/adaptive to changes in information and policy.
- Has capacity to accredit regions performing well.⁴¹

How the New South Wales native vegetation regulatory framework measures up to these best practice regulations is open to debate. The current regulatory framework certainly provides a 'duty of care' on all landholders to manage native vegetation sustainably. It is also supported by an extension and reasonably well funded incentive and education programs. However, it falls short in several key areas, including: the lack of achievable objectives and targets; it does not have a clear and transparent decision making process; and is not supported by the community in which it mostly applies. The NSW Auditor-General has recently concluded a report on the regulation of native vegetation clearing, and many of these issues are covered in his report, discussed in the next section.

6.0 THE NSW AUDIT OFFICE REPORT OF LAND CLEARING

In August 2002 the Auditor-General released an audit report on the regulation of native vegetation clearing. The audit noted the wide range of government and community stakeholders involved in the management of native vegetation. Whilst it was recognised that this approach should achieve a greater degree of community support for native vegetation management, the resulting regulatory environment was complex. Although the Department of Land and Water Conservation is taken to be the lead government agency in native vegetation management, the audit noted that the legislation does not make this clear. For example:

- There is no reference in the *Native Vegetation Conservation Act* to the Department of Land and Water Conservation having any role in relation to the development of the native vegetation strategy for NSW and related objectives and targets;
- The Environment Protection Authority is required to protect the environment and has significant strategic and monitoring responsibilities under the *Protection of the Environment Administration Act 1991*;
- The National Parks and Wildlife Service is required to prepare a threat abatement plan under the *Threatened Species Conservation Act 1995* outlining actions to eliminate or manage the clearing of native vegetation.

The audit concluded that no single government agency is authorised to lead a whole of government response to the problems affecting native vegetation, and no agency can be held accountable and answerable for the state of native vegetation in NSW.⁴²

The audit noted the importance of mapping native vegetation, so there is information on

⁴¹ Commonwealth of Australia, 2001, *National Framework for the Management and Monitoring of Australia's Native Vegetation*. Natural Resource Management Ministerial Council, December 2001, at 58.

⁴² Audit Office of New South Wales, *New South Wales Auditor-General's Report, Performance Audit, Department of Land and Water Conservation, Regulating the Clearing of Native Vegetation*. August 2002, at 17.

vegetation that is: remaining; cleared; and approved for clearing. Whilst the Department of Land and Water Conservation established a native vegetation mapping program in 1999, and aims to completely map NSW at a cost of \$30 million, only a small part of the State has been mapped to present. It is planned that 50 percent of the State will be mapped by 2006. The Department of Land and Water Conservation has proposed a system for monitoring changes in native vegetation using targeted aerial photography.⁴³

The Department maintains a register of clearing approvals, with the amount of native vegetation cleared shown in Table 3 below.

Table 3: Native Vegetation Clearance Approvals

Approved Clearing (ha)					
1996	1997	1998	1999	2000	2001
25,930	33,603	75,307	174,681	77,831	92,094

The audit noted that these figures for approved clearing understate the area that has been cleared because the register does not include: clearing under exemption, for which there is no record; and illegal clearing, for which there is no record. Conversely, the figures also overstate the area cleared because the register includes: the clearing of isolated trees, clumps of trees and sparse woodlands, where the clearing of a few trees may count as a whole hectare; clearing approvals not actioned; and some areas that have been cleared more than once.⁴⁴

In regard to information on native vegetation, the audit concluded that NSW does not have adequate information to:

- Support and assess the effectiveness of efforts to protect native vegetation, including progress towards the goal of No Net Loss;
- Enable the effective regulation of native vegetation.⁴⁵

The audit noted that the *Native Vegetation Conservation Act* gave emphasis to the development of native vegetation conservation strategies and regional vegetation management plans. However, some four and half years after the Act commenced, objectives, targets, strategies and plans, all of which are designed to protect and preserve native vegetation, are still to be finalised. The implications for these delays were identified

⁴³ Audit Office of New South Wales, *New South Wales Auditor-General's Report, Performance Audit, Department of Land and Water Conservation, Regulating the Clearing of Native Vegetation*. August 2002, at 22.

⁴⁴ Audit Office of New South Wales, *New South Wales Auditor-General's Report, Performance Audit, Department of Land and Water Conservation, Regulating the Clearing of Native Vegetation*. August 2002, at 22.

⁴⁵ Audit Office of New South Wales, *New South Wales Auditor-General's Report, Performance Audit, Department of Land and Water Conservation, Regulating the Clearing of Native Vegetation*. August 2002, at 23.

as follows:

- Consents for land clearing are being issued without regional vegetation management plans in place;
- Policies, including a national commitment to ‘no net loss’, and concepts such as inappropriate clearing, have been interpreted and applied differently in different regions;
- These differences are seen by landholders as unfair and lacking transparency;
- Many regional vegetation management plans have been developed without the guidance of catchment blue prints, a strategic framework, objectives or targets;
- There has been limited assessment of socio-economic impacts.⁴⁶

The assessment of native vegetation clearing applications is also problematic. Each year the Department of Land and Water Conservation assesses around 500 applications to clear native vegetation. The Department must consider the likely environmental, social, and economic impacts of each application. The audit noted guidelines to assist landholders in preparing land clearing applications were first published in June 1998. Guidelines to assist staff in processing applications were published in June 1999. In August 2000 a Government appointed independent scientific committee panel reviewed the adequacy of the guidelines for staff and concluded that they needed a substantial re-write. The audit noted that the Department has yet to re-write its guidelines, and that differing versions of a re-write are being used across regions.⁴⁷

The Department’s Customer Service Guarantee for clearing applications under the *Native Vegetation Conservation Act 1997*, issued in June 1998, promised no more than 40 days processing time for large applications, 30 days for medium, 15 days for small and 5 days for best management practice applications. The audit noted that the average time for assessment is around 160 days.

In determining an application for clearing, a Departmental assessment officer gathers relevant information, prepares an environmental impact assessment on behalf of the applicant, and then assesses their own work and considers whether to recommend consent. The staff guidelines do not provide applicants with an initial opportunity to modify their applications in light of environmental assessment, nor do they generally result in the applicant receiving a copy of the assessment – only notification of the final decision. The audit report noted that whilst the assessments are required to address socio-economic impacts of the application clear land, current assessments tend not to do this in a substantive way, but emphasise the ecological impact and in particular the protection of threatened species. Nevertheless, information provided by the Department to the Auditor-

⁴⁶ Audit Office of New South Wales, *New South Wales Auditor-General’s Report, Performance Audit, Department of Land and Water Conservation, Regulating the Clearing of Native Vegetation*. August 2002, at 30.

⁴⁷ Audit Office of New South Wales, *New South Wales Auditor-General’s Report, Performance Audit, Department of Land and Water Conservation, Regulating the Clearing of Native Vegetation*. August 2002, at 33.

General showed that the majority of clearing applications ultimately receive consent, as shown in table 4 below.⁴⁸

Table 4: Results of Clearing Applications⁴⁹

Results of Clearing Applications				
	1998	1999	2000	2001
Approved	83%	94%	88%	79%
Withdrawn	12%	3%	7%	11%
Rejected	2%	3%	1%	1%
Refused	3%	1%	4%	9%

In regards to compliance and enforcement of the *Native Vegetation Conservation Act*, the audit found that the likelihood of breaches of the Act is high, and that the number of alleged breaches is steadily increasing. However, the Department's compliance and enforcement efforts have been characterised by:

- A reactive approach (responding to allegations) rather than a pro-active approach (based on systematic monitoring or audit);
- Lengthy response times and minimal use of enforcement provisions;
- An increasing amount of regulation which is complex, costly, and difficult to enforce;
- An Act that is difficult to enforce because of broadly worded exemptions;
- A lack of information on the use of exemptions.⁵⁰

In a formal response to the audit report, the Department of Land and Water Conservation noted the implementation of native vegetation clearing reforms, some of which have been controversial and have led to detailed community debate. The Department agreed that its responsibilities, commitments and resource needs should be more clearly defined and understood, and took to continue its efforts in this regard as part of the budget process.

The Department also noted that the development of a systematic monitoring program is advancing, with the goal being a program that will monitor clearing, revegetation and regeneration. The expense and time required to comprehensively map the vegetation of the

⁴⁸ Audit Office of New South Wales, *New South Wales Auditor-General's Report, Performance Audit, Department of Land and Water Conservation, Regulating the Clearing of Native Vegetation*. August 2002, at 36.

⁴⁹ Audit Office of New South Wales, *New South Wales Auditor-General's Report, Performance Audit, Department of Land and Water Conservation, Regulating the Clearing of Native Vegetation*. August 2002, at 36

⁵⁰ Audit Office of New South Wales, *New South Wales Auditor-General's Report, Performance Audit, Department of Land and Water Conservation, Regulating the Clearing of Native Vegetation*. August 2002, at 47.

State was also noted, with \$17 million allocated to this task by the State Government over the period 1999 – 2006.

In regard to assessment procedures, the Department noted that an external consultant was engaged to review the procedures for assessing clearing applications, and the Department is already implementing recommendations from this review. For instance, proponents making large applications are required to collect all pertinent information as outlined in the *Environmental Planning and Assessment Act Regulation 2000*, and medium sized applications will have to comply with this requirement by the end of 2002. The Department also noted that the need for a more rigorous assessment of social and economic impacts and a more active consideration of these assessments in balancing public interest issues is an important part of the revisions under way.

The Department also noted that its *Native Vegetation Act Compliance Policy* is now publicly released, and the fact that alleged breaches of the Act are growing at 20 percent per annum largely reflects the increasing level of awareness of the Act and its requirements.⁵¹

With the release of the audit report various stakeholders declared that it justified their criticisms of the *Native Vegetation Conservation Act* and the Department over the years. For instance, the NSW Farmers' Association stated that the report proved what they have been saying for years – that the NSW *Native Vegetation Conservation Act* is 'inefficient, ineffective and unworkable'. The Association's Conservation and Resource Management Chair, Rob Anderson, stated:

Excessive regulation was never going to achieve the environmental results that the community is looking for. The management of natural resources needs to be a cooperative effort with the people who know the most about the land, and that's farmers....The Auditor-General is recommending that due regard should be given to socio-economic impacts of the Act, something that the Association has been lobbying strongly for. The report also states that self-regulation should be considered in many areas of NSW, recognition that farmers are the best placed to manage their land. Farmers have set aside more than 1.7 million hectares for native flora and fauna sanctuaries in cooperation with the National Parks and Wildlife Service, almost 20 times the area of native vegetation developed through controlled clearing. The best outcome for the environment will come from the Government working with farmers to ensure native vegetation is managed without the confusion that currently reigns.⁵²

The Nature Conservation Council of NSW stated that the audit report confirmed widely held fears that the State Government's regulation of land clearing was unaccountable and aimless. The Council noted that both the statewide native vegetation conservation strategy and comprehensive bioregional targets for managing native vegetation had been withheld

⁵¹ Audit Office of New South Wales, *New South Wales Auditor-General's Report, Performance Audit, Department of Land and Water Conservation, Regulating the Clearing of Native Vegetation*. August 2002, at 9.

⁵² "Time to start again on native vegetation" NSW Farmers' Association, *Media Release*, 20 August 2002. See URL: <http://www.nswfarmers.org.au>

by successive ministers for two years while the pace of land clearing in NSW accelerated. NCC executive officer, Kathy Ridge, said:

No strategy, no targets, no data and next to no plans - no wonder the NSW government is being condemned. The documents and information that the Auditor General noted by their absence have been sitting on the desks of the last two Ministers for Land and Water Conservation in draft form for the last two years. They have been either unwilling or unable to put these strategies and targets into place, so it is up to the Premier to fulfil his government's obligation, both to the Parliament and the community, and release these documents. Land clearing approvals blew out by more than 18 percent last year, the third year in a row that NSW has seen an increase. That is not the mark of a government committed to addressing one of the most damaging environmental, social and economic issues facing the state.⁵³

7.0 NATIVE VEGETATION MANAGEMENT IN OTHER STATES OF AUSTRALIA

7.1 Victoria

Victoria introduced native vegetation retention controls in 1989, and more recently released a framework for native vegetation management in August 2002.

The 1989 measures require a permit to lop, destroy or remove native vegetation on any land of 0.4 hectares or greater. The controls were to reduce the degree of broad scale clearing of native vegetation while allowing regulated minor clearing of vegetation for normal agricultural and domestic purposes to continue. The controls were introduced under the *Planning and Environment Act 1987* (Vic). At the time they were introduced, vegetation was being lost at the rate of 15,000 hectares per year. Native vegetation is defined in all planning schemes as 'plants that are indigenous (locally native) to Victoria, including trees, shrubs, herbs and grasses'.

The controls operate by stating that a permit is required to remove, destroy or lop native vegetation on any land holding of 0.4 hectares or greater. Exemptions from requiring a permit to remove native vegetation include: clearing related to fire prevention and control works; specific rural activities; personal timber use; and stock management where there are safety issues associated with retention of the vegetation exist.

A land manager needs to obtain a permit to remove, lop or destroy native vegetation. Local municipalities look after permit applications, and are the responsible authorities for the implementation and enforcement of planning scheme controls related to the clearance of native vegetation.

The local municipality may be required to refer applications to the Department of Natural Resources and Environment (NRE) where:

⁵³ "Auditor General's report – NSW government condemned on land clearing" NSW Nature Conservation Council, *Media Release*, 20 August 2002. See URL: <http://www.nccnsw.org.au>

- The application deals with an area greater than 10 hectares ;
- The vegetation is on crown land managed by the municipality;
- NRE is an adjoining landholder;
- The municipality seeks NRE's technical opinion

In some cases the advice from the Department will be binding on the municipality and in other cases it will be advice for their consideration only.

Once an application to clear is made, an assessment is then undertaken by the municipal planning staff and an NRE officer if it is referred to NRE. The assessment involves a site visit to allow the authorities to collect further information on the proposal and in most cases discuss the proposal with the applicant. A permit may or may not be granted based on the guidelines and decisions made by the responsible and/or referral authorities. The implications of the proposed clearing at a site, and at the local and Statewide context are considered when an assessment is undertaken. Other considerations include the extent and quality of the vegetation type, whether vegetation can be protected, planted or allowed to regenerate or whether the vegetation can be retained through alternative options. The habitat value and salinity impacts of the vegetation are considered during the assessment process.

The native vegetation retention controls are guided by the 'no net loss' of vegetation principle. This principle aims to at least replace the native vegetation removed through the permit process. Generally the conditions applied to a permit will include requiring the replacement of lost vegetation. The Department also advises that applicants include a land management plan that outlines the works program for the long-term management of the property and demonstrates how it relates to the proposed clearing.⁵⁴

In August 2000 the Victorian Government released a draft Native Vegetation Management Framework, and adopted the final Framework in August this year. The Framework has four guiding principles for native vegetation management in Victoria, these are:

- Retention and management of remnant native vegetation is the primary way to conserve the natural biodiversity across the landscape;
- The conservation of native vegetation and habitat in a landscape is dependent on the maintenance of catchment processes;
- The cost of vegetation management should be equitably shared according to benefits accrued by the landholder, community and region;
- A landscape approach to planning native vegetation management is required. Goals for native vegetation management will be based on bioregions, or sub-units, within the Catchment Management Authority region. Priorities for vegetation management should be specific for each bioregion and catchment.

⁵⁴

Adapted from: *Landcare Notes, Native Vegetation Retention Controls*, January 2002. See Department of Natural Resources and Environment Website: URL: <http://www.nre.vic.gov.au>

The primary goal of the Framework is:

- A reversal, across the entire landscape, of the long term decline in the extent and quality of native vegetation, leading to a net gain.

The concept of a net gain is comprised of three components: a reduction in losses in the extent of existing native vegetation; a reduction in the quality of existing native vegetation due to threatening processes; and the achievement of gains in extent and quality of native vegetation through its rehabilitation and revegetation with indigenous species for biodiversity conservation and land and water resource outcomes. The following outcomes is sought with this process, as shown below:

Table 5: Reflecting Conservation Significance in Overall Outcomes for Net Gain

Conservation Significance	Extent of Existing Native Vegetation	Gains in Habitat Quality- Quantity	Net Outcome
Very high	No losses	Substantial gains	Substantial net gain
High	Losses minimised	Moderate gains	Net gain
Medium	Losses minimised	Some gains in medium term	Equivalent gain
Low	Some losses	Some gains in medium term	Short term loss, longer term equivalent gain
Total			Reversal of decline (change from net loss to net gain).

The Framework accepts that the regulatory measures in place to protect native vegetation whilst essential, do not encourage or inform better conservation management. It notes that real progress in achieving a net gain in extent and quality of native vegetation will come from continuing land holder efforts combined with better targeted incentives. One of these is the Bush Tender program, a trial of which was held in 2001. The Bush Tender program was based on a competitive auction process, for establishing management agreements with landholders. Landholders established their own price for the management services they were prepared to offer to improve their native vegetation. This price formed the basis of their bid, which was compared to all the other bids in the trial area. The bids offering the best value for money were identified and the successful landholders received periodic payments for their services under a three year management agreement.

The results of the trial indicated that the auction process can be successfully operated to establish native vegetation management agreements, and that landholders accepted the mechanism and actively participated. The Framework included the action to extend the Bush Tender trial into additional catchment management authority regions and operate it over several years.

Another program indicated in the Framework is that of Bush Broker. Where mitigation for vegetation loss is required, the preference is for offset gains to be generated on the same property. However, in circumstances where this is not possible, there is a need for the offsetting gains to be generated elsewhere by third parties and to be available for purchase.

The Net Gain policy requires appropriate matching of losses and gains, and procedures to ensure that gains are appropriately secured and protected. Therefore a role for a broker to facilitate and oversee this exchange where third parties are involved is available. It was recognised in the Framework that the major challenge for this type of scheme is the method of price setting for the offsite gain. Under the Bush Broker proposal the price for offset gains would be established through the operation of the Bush Tender program, where the competitive auction process would provide a fair market price for proponents seeking to purchase offsets generated under management agreements. The Framework included the action to develop the Bush Broker proposal with a view to its implementation when sufficient Bush Tender agreements are in place.

The Victorian Farmers Federation does not believe the *Planning and Environment Act* is the appropriate mechanism for protecting native vegetation on private land. The Federation believes that separate legislation should be introduced which incorporates the following features:

- Catchment Management Authorities should have responsibility for considering proposals to clear areas of native vegetation on private land (greater than 1 hectare). The Authorities should consider each application in accordance with regional vegetation management plans developed in consultation with the local community.

The Federation considered that grounds for rejection of an application would include:

- If there are significant risks of negative off-site effects as a consequence of clearing, for example, increased risk of salinity, downstream erosion, etc;
- If the land subject to the clearing application is demonstrably of significant conservation value to the community as a whole;

If the permit is rejected because of possible off site effects no compensation should be payable to the landowner. However, if the native vegetation subject to the clearing application has significant conservation value compensation for the retention and appropriate management of the land should be paid to the landowner

The Federation believed that this approach recognises an in principle difference between restrictions on clearing native vegetation to protect broad conservation values and restrictions necessary to prevent or limit off-site effects. The former should be subject to compensation but not the latter.

The Federation believed that the current system of protection of native vegetation using planning controls is not effective in achieving conservation objectives, and considers it would be more sensible to establish formal contractual arrangements between landowners and governments covering the management of native vegetation on private land. This could involve contracts specifying the conservation outcomes sought, clarifying the obligations on both parties and specifying appropriate recompense to the landowner.⁵⁵

⁵⁵ Victorian Farmers Federation, *Policy Statement – Native Vegetation Retention* (endorsed May 1999). See URL: <http://www.vff.org.au/policy/vegetation.asp>

The Victorian peak non-government conservation organisation, Environment Victoria, has stated that although clearing rates have been reduced substantially in Victoria since clearing controls were introduced in 1989, too much native vegetation is still being cleared. It considers that many local Councils, who regulate clearing controls, do not have the resources to adequately monitor vegetation removal or pursue breaches of law. It also notes that about 30% of local farmers actively participate in initiatives like *LandCare*, but landholders receive very little ongoing support. Real incentives need to be introduced to ensure that native vegetation on their properties is adequately protected, monitored and managed. Environment Victoria concluded that many landholders who are facing economic hardship find it difficult to prioritise conservation measures above short-term economic survival, and that Governments at all levels, and communities everywhere, must make a major long-term commitment to solve the land degradation problem.⁵⁶

7.2 Queensland

Queensland has the highest rate of native vegetation clearance in Australia. The Queensland Statewide Landcover and Trees Study (SLATS) compares satellite imagery to compare changes in woody vegetation. Results have shown that:

- The statewide average annual clearing rate for the 1997-99 period was 425 000 ha/year, which was 25% higher than the 1995-97 rate of 340 000 ha/year and 47% higher than the 1991-95 rate of 289 000 ha/year;
- About 28% of clearing occurred on leasehold land, 59% on freehold land, and 3% on crown land and other tenures.⁵⁷

In November 2001 the Queensland Government released a planning framework for the management of native vegetation across Queensland. The framework is comprised of the following:

- The *Vegetation Management Act 1999*, which makes vegetation clearing on freehold land assessable under the *Integrated Planning Act 1997*;
- The *Land Act 1994*, which governs vegetation management on leasehold and other state land;
- State policies for vegetation management on freehold and leasehold land – which includes assessment codes for clearing;
- Regional vegetation management plans – which bring together local experience and current scientific knowledge;
- Community information sharing.

⁵⁶ See Environment Victoria website, URL: <http://www.envict.org.au/main.cfm?MenuId=3&SubMenuId=25>

⁵⁷ Queensland Department of Natural Resources and Mines, *Native Vegetation: monitoring, mapping and conservation status. NRM Facts, Vegetation series*. July 2001 at 1.

Standards included as part of the framework include:

- No clearing of remnant endangered regional ecosystems on freehold land;
- No clearing of remnant endangered and of concern regional ecosystems on leasehold land;
- Retaining vegetation so that regional ecosystems do not move to a lower conservation value;
- Retaining vegetation so that the total extent of remnant vegetation within a bioregion does not fall below 30 percent of the pre-clearing extent;⁵⁸

The *Vegetation Management Act* includes exemptions where approval to clear is not required. These exemptions include:

- Clearing of vegetation associated with building a single residence or associated buildings;
- Clearing for ‘essential management’, which includes: establishing or maintaining fire breaks; vegetation likely to endanger the safety of a person because it is likely to fall; for maintaining an existing fence; for maintaining a garden.
- Clearing of vegetation for ‘routine management’ in areas not mapped as endangered regional ecosystems or declared by the Minister to be of high nature conservation value. Routine maintenance which includes establishing fences, clearing regrowth or supplying fodder for stock in drought conditions.
- In an urban area, clearing vegetation that is not mapped as an endangered regional ecosystem;
- Clearing of vegetation for reconfiguring a non-urban lot.

Important definitions under the framework include:

- **Endangered Regional Ecosystem:** a regional ecosystem that has either: less than 10% of its pre-clearing extent remaining; or 10% to 30% of its pre-clearing extent remaining and the remaining vegetation covers less than 10,000 hectares.

A Property Vegetation Management Plan is a plan that incorporates:

- The location and extent of the area proposed to be cleared;
- The location, extent and description of any existing land degradation on the property;
- The action proposed to be taken to prevent the proposed clearing contributing to land degradation in the area to be cleared during and after the clearing;
- The location, extent and description of any remnant vegetation remaining on the property after the proposed clearing; and
- Any proposed rehabilitation or restoration of vegetation on the property.

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Queensland Department of Natural Resources and Mines, *A Guide to Vegetation Management Policy in Queensland*, November 2001, at 6.

The Queensland farmer representation organisation AgForce criticised the *Vegetation Management Act* when it was introduced in 1999. The major criticisms were:

Compensation

AgForce does not believe that farmers should carry the burden of locking up tracts of vegetation to meet wider community expectations.

However, if this expectation persists and any impact is experienced by farmers that they must be adequately compensated for the loss of development rights.

Regional communities will also be affected by restrictions on development, but no provision has been made to assess and offset the effects on local businesses in those communities.

As it stands, there is currently no provision for compensation in the legislation. The current uncertain position regarding compensation is unacceptable.

Lack of flexibility

The legislation as it stands does not allow for flexible operation at a regional and farm level using knowledge of local ecosystems. Restrictive codes do not make allowance for huge geographic and climate variations. Routine drought management of western properties like the common practice of feeding mulga would be restricted under the legislation. The Statewide restriction on clearing remnant vegetation in a region below 30 percent of its original level is too high and totally unacceptable.

Regrowth

The legislation would restrict clearing of regrowth despite assurances by Premier Peter Beattie to the contrary. Control of regrowth is an integral part of property management and any limit on this practice will be strongly opposed. As the legislation stands, large areas can be declared high nature conservation value or vulnerable to degradation and locked up at the whim of the Minister. There appears to be no appeal process where such declarations can be subjected to scientific scrutiny.

Property rights

The restrictions imposed on landholders by the new Vegetation Management legislation are the latest example of erosion of landholder rights. Property owners are being asked to carry the cost of locking up large areas of productive land for the community benefit without the guarantee of adequate compensation. The piecemeal way in which natural resource management is being tackled by the State Government runs counter to expert studies that point to a holistic approach producing better outcomes. The rights of property owners need to be clearly defined and incentives paid to encourage good land stewardship.

This approach has far more chance of producing the desired environmental outcomes than heavy handed policing of unworkable laws backed by threats of huge penalties for non-compliance.

Outcomes sought by AgForce were:

... integrated natural resource management which results in outcomes that are measurable and achievable at the least cost to the community. Such a system will

facilitate and deliver rights and obligations at the same time assessing risks and creating opportunities.

The following elements are central to these outcomes: An information base; regional planning; mechanisms that describe actions and decisions at an enterprise scale; monitoring and evaluation.⁵⁹

In contrast to the farmers' perspective, the Queensland Conservation Council noted that successive Queensland governments have failed to slow or manage the clearing of native woodlands in Queensland. The Council considers that in the short term, broad-scale vegetation clearing needs to be phased out, and reductions in clearing of remnant, endangered and 'of concern' ecosystems is required. The Council believes that the following actions are priorities if woodlands are to be protected:

- Permanent legislative protection of all 'of concern' and rare and endangered vegetation ecosystems.
- An immediate moratorium on remnant vegetation clearing in areas subject to high rates of clearing including all bio-provinces with 50% or less native vegetation cover, to allow a thorough assessment of biodiversity and conservation values.
- An immediate cessation of all clearing in areas of Queensland with a land degradation and salinity hazard.
- Queensland Government and local government to acquire extensive and important remnant vegetation communities to be placed into a secure protected areas system.
- Promote World's Best Practice in vegetation management by carrying out: education programs throughout the state; property land and vegetation management planning including assistance from government field officers; catchment management planning; Bio-regional and bio-province vegetation management planning; and promote and implement genuine indigenous involvement in vegetation management.
- Establish contractual and formal stewardship agreements between landholders and government to manage, protect and enhance the nature conservation values of remnant vegetation on their land.⁶⁰

7.3 South Australia

South Australia was the first State to introduce legislation specifically dealing with native vegetation. The *Native Vegetation Act 1991* and its predecessors, especially the *Native Vegetation Management Act 1985*, have effectively ended most broadscale clearance in the State.

In general, native vegetation on public and private rural land in South Australia is protected by law, and the clearance of this vegetation requires the approval of the South Australian Native Vegetation Council. Native vegetation is defined to include any naturally-occurring local native plants, and covers the full range of native species, from tall trees to small

⁵⁹ AGFORCE Queensland, "Major issues with the Vegetation Management Legislation" *Media Release*, March 1 2000. See URL: <http://www.agforceqld.org.au>

⁶⁰ Queensland Nature Conservation Council, *Bushland Protection Campaign, Solutions*. See URL <http://www.qccqld.org.au>.

ground covers, native grasses, wetland plants such as reeds and rushes, and marine plants. The plants may comprise natural bushland or they may be isolated plants in a modified setting, such as single trees amid pasture. Dead plants, non-local plants (that is, species introduced from other regions of Australia and from overseas), and plants specifically sown by people are not covered by the Act. However, in metropolitan Adelaide all large trees are protected by the *Significant Trees Act 2000*.

The *Native Vegetation Act 1991* established a committee called the Native Vegetation Council, which has responsibility for overseeing all issues concerned with native vegetation. The Council is an independent body appointed by the South Australian Government, and is required to: monitor the overall condition of the State's vegetation; encourage the re-establishment of bush on over-cleared land; and to oversee research into aspects of bushland management. It also determines applications to clear, and establishes conditions under which clearance may be carried out.

The Council comprises seven members who represent a range of relevant interests. For example, the SA Farmers' Federation, 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 Commonwealth Minister for the Environment, while the other two are appointed by the South Australian Minister for Environment and Conservation for their knowledge of land management issues.

Exemptions included in the Act, where approval to clear is not required, include:

- the vegetation to be removed is to enable the construction of a building or other structure;
- the vegetation is within twenty metres of a house;
- the clearance involves taking a specimen or a cutting for propagation;
- the clearance is for a vehicle access track.

In assessing any applications to clear, the Native Vegetation Council considers advice from the District Soil Board and the local council, and it will assess the application according to the clearance principles which are contained in the *Native Vegetation Act 1991*. Clearance which is at variance with the principles will not normally be approved. Clearance principles include the following:

Native Vegetation should not be cleared if:

- it contains a high level of diversity of plant species;
- it is important as a habitat for wildlife;
- it includes plants of a rare, vulnerable or endangered species;
- the vegetation comprises a plant community that is rare, vulnerable or endangered;
- it is a remnant of vegetation in an area which has been extensively cleared;
- it is growing in, or associated with, a wetland environment;
- it contributes significantly to the amenity of the area in which it is growing or is situated;
- the clearance of the vegetation is likely to contribute to soil erosion, salinity or flooding;
- the clearance of the vegetation is likely to cause deterioration in the quality of surface or underground water;

- after clearance, the land is to be used for a purpose which is unsustainable.⁶¹

Recent amendments to the *Native Vegetation Act 1991*⁶² have strengthened enforcement and compliance provisions. For instance, where illegal clearing has occurred, the Environment, Resources and Development Court must give orders to the respondent to: remove the buildings, works or vegetation (if any) that have been erected, undertaken or planted on the land since the clearance occurred; establish vegetation consisting of plants of a species specified in the order in such numbers and on such parts of the cleared land as is specified in the order; nurture, protect and maintain the plants until they are fully established or for such period as is specified in the order.⁶³

Each year the Native Vegetation Council provides financial assistance for the management of native vegetation under Heritage Agreements. Landholders with such agreements are eligible to apply for annual grants to enable them to carry out work to maintain the health of their vegetation. For example, funds may be provided for weed control, pest control, erosion control and other related activities.⁶⁴

The South Australian model is unique in that the Native Vegetation Council has advisory functions, decision making functions on applications and responsibility for management of the Native Vegetation Fund. The Council has noted:

Since the enactment of the *Native Vegetation Management Act (1985)* and *Native Vegetation Act 1991*, South Australia has been a leader in limiting the clearance of native vegetation. This has had important consequences for the protection of biodiversity, for control over land degradation, including salinisation, and for contributing to Australia's obligations to limit greenhouse gas emissions.⁶⁵

In 2001/02 the Council approved clearance of a total of 278 hectares of degraded scrubland and 2396 trees having a canopy area of 77 hectares in areas that had no hope of recovery. Conditions to be met by landholders with these consents included a total of 717 hectares to be permanently protected through different mechanisms.⁶⁶

⁶¹ Department of Environment and Heritage (SA), *Conserving Biodiversity, Native Vegetation, Clearance Principles*. See URL http://www.environment.sa.gov.au/parks/native_education.html

⁶² See *Native Vegetation Miscellaneous Amendments Act 2002* (SA), amendments came into force on 19 December 2002.

⁶³ *Native Vegetation Act 1991*, section 31B

⁶⁴ http://www.environment.sa.gov.au/parks/native_education.html

⁶⁵ Native Vegetation Council, *Annual Report of the Native Vegetation Council, 1999 – 2000*, at 6.

⁶⁶ Bragg, J. "EDO Network Law Reform Proposals' in *I Can See Clearly Now...Land Clearing and Law Reform*, National Environmental Defenders Office, Network Conference, July 2002, at 73.

7.4 Western Australia

Currently Western Australia has a 'patchwork' of legislation relating to native vegetation clearing, including the *Soil and Conservation Act 1945*, the *Land Administration Act 1997*, the *Environment Protection Act 1996*, and the *Wildlife Administration Act 1945*. However, on 26 June 2002 the Hon Judy Edwards MLA, Minister for the Environment and Heritage, announced major reforms to the *Environmental Protection Act*, which included new provisions for native vegetation clearing.⁶⁷ The *Environment Protection Amendment Bill 2002* is currently before the Western Australian Legislative Council (up to Second Reading debate as of 6 November 2002).

Under the new proposed provisions, an application to clear native vegetation will need to be submitted to the Department of Environmental Protection, except for the following instances:

- If clearing is necessary in the process of erecting a lawful building;
- Where the clearance is for a fuel break for fire control not more than five metres wide;
- Clearing within 20 metres of a residence by the landowner;
- Erection of a fence line up to five metres wide;
- Establishment or maintenance of a walking track up to one metre wide;
- Establishment or maintenance of an access track up to five metres wide;
- Re-growth maintenance where the land was used for cultivation in the past five years and is to be used for this purpose again.

All applications will be advertised and public comment sought before an application is determined. Illegal land clearing by individuals will be punishable with fines up to \$250,000 or five years jail (compared with current penalties of \$3,000). Corporations illegally clearing face fines up to \$500,000.

The amendments insert Schedule 5, which outlines principles for clearing native vegetation. It states:

Native vegetation should not be cleared if:

- a) It comprises a high level of diversity of plant species;
- b) It comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia;
- c) It includes, or is necessary for the continued existence of, rare flora;
- d) It comprises the whole or part of, or is necessary for the maintenance of, a threatened ecological community;
- e) It is significant as a remnant of native vegetation in an area that has been

⁶⁷ "Major reforms to Environment Protection Act introduce tough new penalties" *Media Statement*, Hon Judy Edwards MLA, Minister for the Environment and Heritage, 26 June 2002.

- extensively cleared;
- f) It is growing in, or in association with, an environment associated with a watercourse or wetland;
 - g) The clearing of vegetation is likely to cause appreciable land degradation;
 - h) The clearing of vegetation is likely to have an impact on the environmental values of any conservation area;
 - i) The clearing of vegetation is likely to cause deterioration in the quality of surface or underground water;
 - j) The clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.⁶⁸

It is proposed that a site inspection be carried out by Government officers to further assess the environmental impact of an application to clear. Should a permit be granted, it may contain conditions relating to:

- Preventing or controlling environmental harm;
- Reserving vegetation to offset clearing;
- Conservation covenants or agreements to reserves;
- Monitoring the operation;
- Environmental risk assessments;
- Audit reports;
- Environmental management.⁶⁹

Should a permit be refused or contain conditions which the applicant or a third party disagrees with, an appeal may be lodged with the Minister, through the Office of Appeals Convenor. If the appeal cannot be resolved by the applicant or third party, the Minister will make the final decision to either dismiss or allow the appeal.

The West Australian Government noted that the reforms are leading to a 'no net loss' policy to maintain and increase the quality and quantity of native vegetation in the State. The Government has also recently created a native vegetation incentive package, including \$1 million to establish a Native Vegetation Trust Fund to facilitate a range of measures including fencing, revegetation, weed and feral control for bushland coming under voluntary protection. A further \$1 million will be made available to support industry adjustment through land purchase.⁷⁰

⁶⁸ *Environment Protection Amendment Bill 2002*, s 116, inserting Schedule 5, Principles for Clearing Native Vegetation.

⁶⁹ *Proposed Land Clearing Legislation, EP Amendment Bill 2002*. see <http://www.environ.wa.gov.au/article.asp?id=6&catid=72&pubid=1699>.

⁷⁰ *Proposed Land Clearing Legislation, EP Amendment Bill 2002*. see <http://www.environ.wa.gov.au/article.asp?id=6&catid=72&pubid=1699>.

8.0 CONCLUSION

Dr Sharman Stone MP, Commonwealth Parliamentary Secretary Environment and Heritage, recently stated:

We have a problem,... people across this country as we speak are taking out vegetation whether it is in forests or on the land. All of us are sitting here because we know that those rational people are collectively causing damage to our biodiversity and the nutrients in our soil. The soil loss is causing the salinity problems and soil erosion and we know that all those independent, individuals' rational, short-term acts are devastating the future of our lands and somehow we have to get across the message.⁷¹

It is evident that the challenges to protect and sustainably manage native vegetation are immense. The Commonwealth Government accepts that the stated goal of a reversal in the long-term decline in the extent and quality of Australia's native vegetation cover by June 2001 has not been achieved. The question that this invites then is when or whether the stated goal will be achieved under the current administrative and institutional arrangements. The high level of community debate is indicative that a consensus has yet to emerge on the best methods to protect and sustainably manage native vegetation.

⁷¹ Dr Sharman Stone, MP, Parliamentary Secretary Environment and Heritage, "Opening Address", in *I Can See Clearly Now...Land Clearing and Law Reform*, National Environmental Defenders Office, Network Conference, July 2002, at 4.

Appendix One

An Agreement made on the 31st day of October 1997 between the Commonwealth of Australia, and the State of New South Wales. *Attachment A, Bushcare: The National Vegetation Initiative.*

4. New South Wales Context

4.1 New South Wales will adopt a state-wide “whole of government” approach to the conservation and sustainable management of native vegetation in the social, economic and environmental interests of the State. There will be a shift from the current situation where there are a range of different existing permit and licensing procedures, to a situation whereby clearing is allowed without a permit if it conforms to a Regional Vegetation Management Plan which has been prepared by stakeholders and approved by the Government. These Plans will be specific to regions, but underpinned by state-wide thresholds, consistent with the approach outlined in Objective 1.2 of the National Strategy for the Conservation of Australia’s Biological Diversity and section 4.2 below.

4.2 Consistent with relevant legislation and strategies including the national strategies for ecologically sustainable development and biological diversity, New South Wales will:

- (a) encourage and promote sustainable native vegetation management;
- (b) protect remnant native vegetation of high conservation value;
- (c) improve the condition of existing native vegetation;
- (d) encourage revegetation of land with appropriate native vegetation; and
- (e) prevent inappropriate native vegetation clearing.

4.3 Measures to be undertaken to achieve the aims of 4.2 include:

- (a) enactment of native vegetation conservation legislation which will repeal/rationalise existing native vegetation controls and provide for a coordinated State-wide approach;
- (b) promotion of regional vegetation management plans with a biogeographic basis which have legislative status;
- (c) consultation with the legislative authority regarding threatened species, populations or ecological communities or their habitats;
- (d) ongoing state-wide monitoring program using satellite technology and supplemented by strategic on-ground, assessments which will provide information for monitoring and compliance;
- (e) encouragement of a whole property planning approach where native vegetation management is integrated with all relevant aspects of property management;
- (f) consideration of property agreements (voluntary) with covenants to qualify landholders for incentive schemes;
- (g) assessment and consent for clearing under native vegetation legislation consistent with that proposed in the Integrated Development Assessment system; and
- (h) promotion of codes of practice to undertake clearing for particular land uses which specify environmental, social and economic criteria consistent with the aims and principles of State native vegetation legislation.

5. Performance Indicators

[The Agreement specified the development of performance indicators that

covered environmental, sustainable production, integration and institutions, and people. Highlights from each are reproduced below]

5.1 Environment:

- (a) The rate of native vegetation establishment in Australia exceeds the rate of vegetation clearance.
- (b) Identification of endangered and other threatened ecological communities in regions which may be subject to clearing.
- (c) No clearing of endangered ecological communities.

5.2 Sustainable Production:

- (a) Projects that demonstrate the positive impacts of good vegetation management on farm profitability.
- (b) Development of a full range of vegetation management tools and options for property managers from biodiversity conservation to farm forestry;
- (c) Highest priority degraded riparian areas are revegetated where appropriate.
- (d) Facilitate development of new productive enterprises based on sustainable use of native vegetation.
- (e) Property management planning courses in all States include best practice nature conservation including native vegetation management as a core element.
- (f) Implementation of property management plans reflecting the integration of conservation, native vegetation management, and production objectives within the planning process.

5.3 Integration and Institutions:

- (a) For all agencies whose programs impact upon native vegetation, review those programs to ensure consistency of objectives and outcomes with Bushcare by the end of 1998.
- (b) Development of strategic alliances between government and key industry sectors for improved vegetation management and biodiversity conservation measures.
- (c) Targeted consultation with key stakeholders in each State to seek input on measures to improve vegetation management and biodiversity conservation.
- (d) The extent to which sustainable management of biological diversity outside reserves is incorporated within integrated regional/catchment strategies.
- (e) The development, accessibility and adoption of voluntary conservation agreements, covenants, Land for Wildlife and/or similar programs to provide a framework for conserving biodiversity outside reserves.

5.4 People:

- (a) Improvements in knowledge, involvement and commitment of relevant stakeholders;
- (b) Accessibility of appropriate technical advice on sustainable vegetation

management from a range of government and non-government sources.

- (c) Establishment of training and educational opportunities, and participation in implementation of a national program to develop core competencies for Natural Heritage Trust facilitators and coordinators to better meet biodiversity conservation objectives.
- (d) Increased involvement of women in local decision-making on vegetation issues and projects, and in Regional Vegetation Committees.
- (e) Increased capacity of Aboriginal communities to undertake vegetation management and representation on Regional Vegetation Committees.

6. Lead Agency

The Department of Land and Water Conservation is the lead agency for the delivery of Bushcare in New South Wales, in collaboration with the National Parks and Wildlife Service, NSW Agriculture and other relevant agencies.

Appendix Two

Bioregions in New South Wales

Reproduced from: National Land & Water Resources Audit, *Australian Native Vegetation Assessment 2001*. November 2001.

Channel Country

Most of the bioregion occurs in Queensland with parts in the Northern Territory and South Australia. It has an arid climate with very dry hot summers and short dry winters and is characterised by vast braided, flood and alluvial plains.

- Dominated by tussock grasslands, pockets of acacia shrublands and acacia forests and woodlands along drainage depressions in the west.
- In the east chenopod and samphire shrublands, grasslands and acacia shrublands dominate.

Major land uses are grazing and nature conservation including the major part of the Sturt National Park.

Broken Hill Complex

This bioregion extends into South Australia and includes the entire length of the Barrier Ranges. It has a dry, hot to warm climate.

- Acacia shrublands, chenopod shrublands and casuarina forests and woodlands dominate with a small area of callitris.
- A range of vegetation groups occur along water courses including eucalypt low open forests, and eucalypt low open forests, and eucalypt woodlands.

Livestock grazing is the major land use with some nature conservation and native forestry.

Mulga Lands

Most of this bioregion occurs in Queensland. It is characterised by flat to gently undulating plains. Rainfall is summer dominant with increasing winter rain towards the south.

- Dominated in the west by acacia shrublands and in the east with acacia forests and woodlands.
- Other vegetation includes eucalypt open forests, casuarina and chenopod communities in drainage depressions and small areas of eucalypt woodland.

Livestock grazing is the dominant land use with some nature conservation.

Simpson-Strzelecki Dunefields

Most of this bioregion occurs in South Australia and the Northern Territory with a smaller part in Queensland.

- Dominated by dune vegetation of acacia shrublands with a Spinifex (hummock grassland) understorey and linear strips of eucalypt low open forests along drainage depressions.

Dominant land uses are grazing and nature conservation including the north-west corner of the Sturt National Park.

Murray-Darling Depression

This bioregion extends into South Australia and Victoria and is characterised by gently undulating sandy and clay plains frequently overlain by dunes.

- Dominated by mallee woodlands and shrublands, casuarina forests and woodlands, acacia shrublands with some chenopod and samphire communities, grasslands and low closed forests and closed shrublands in the south.
- Pockets of callitris forests and woodlands and eucalypt woodlands occur in the north.
- Two small parts of the region in the east are dominated by mallee communities (Nombinnie Nature Reserve) in the north and grasslands in the south.

Major land uses are grazing and nature conservation (e.g. Mallee Cliffs National Park, Willandra World Heritage Area). Limited clearing of mallee, casuarina and chenopod communities has occurred in the far south.

Riverina

This bioregion extends into Victoria and a small part of the Murray River into South Australia. It has a dry climate and includes parts of the Murrumbidgee, Lachlan and Murray rivers.

- Chenopod shrubs (bladder saltbush) and tussock grasslands dominate.
- Low closed forests and closed shrublands occur along drier watercourses with eucalypt open forests, eucalypt woodlands and casuarina communities along the major watercourses.

Large areas in the south and south east of this region have been cleared. Major land uses are livestock grazing with large areas of irrigation, some dryland agriculture, native forestry and nature conservation (Willandra National Park).

Darling Riverine Plain

This bioregion extends partly into Queensland, contains the Darling River system and is characterised by alluvial fans and plains with a hot dry climate in the west and less dry in the east.

- Dominated along the Darling River by eucalypt open forests, tussock grassland and chenopod and samphire shrubs.
- Remaining area contains a wide variety of vegetation groups including chenopod and samphire shrublands, grasslands, acacia forests and woodlands,

eucalypt woodland, eucalypt open woodland, low closed forests and closed shrublands and eucalypt tall open forests along the Barwon River.

Major land uses area grazing and dryland cereal cropping with some nature conservation, grazing of modified pastures, native forestry, and irrigated cropping and pastures. This bioregion spans parts of the western and central regions of New South Wales with much of the vegetation in the east and south cleared for dryland and some irrigated agriculture (cotton and cereals) or under threat of clearing for cropping.

Cober Peneplain

This region consists of rocky outcrops with limited alluvial soils with a warm to hot dry climate.

- Dominated in the western part by eucalypt woodland, acacia shrublands, callitris forests and woodlands with small areas of acacia forests and woodlands. This area remains uncleared and is primarily used for livestock grazing.
- Patchy areas of eucalypt open woodland and grasslands occur in the east of the region which has undergone clearing for dryland agriculture.

Eleven percent of the bioregion is cleared. Major land uses are grazing of native pastures, cropping and some grazing of modified pastures, native forestry, nature conservation and irrigated cropping (cotton in the north).

Brigalow Belt South

Most of this bioregion occurs in Queensland. It has been substantially cleared for grazing and cropping.

- Eucalypt open woodlands and woodlands and mallee woodlands and shrublands dominate the remaining vegetation.
- Scattered remnant of eucalypt open forests, callitris and acacia forests and woodlands and acacia open woodlands remain.

Major land uses are grazing of native and modified pastures, native forestry and dryland agriculture (cereals, legumes, cotton, oilseeds and oleaginous fruit) with some nature conservation (e.g. Pilliga Nature Reserve) and irrigated cotton.

New South Wales South Western Slope

This bioregion has a small part within Victoria and is characterised by foothills and isolated ranges with a warm to hot and dry climate. It has been extensively cleared (66%) of eucalypt woodlands for cropping and grazing with introduced pastures.

- Remnants of eucalypt woodland, eucalypt open forests and grasslands occur with scattered occurrences of callitris, heath and chenopod and samphire shrublands.

Major land uses are dryland agriculture (cereals, legumes, oilseeds and oleaginous fruit),

irrigated cropping (cereals and cotton), irrigated pastures and irrigated horticulture (e.g. tree fruits).

New South Wales North Coast

This bioregion is characterised by a series of escarpments, foothills and coastal plains and has a subtropical (summer and winter rainfall) to temperate climate further inland.

- Large areas of eucalypt open forests, rainforests and mangroves occur on the coast.
- Large areas on the foothills and coast plains have been cleared.
- More detailed mapping and survey has shown that this area has a high diversity of vegetation and plant species.

The area has been extensively cleared (38%) primarily for grazing of native and modified pastures with other major land uses including minimal use, native and some plantation forestry and nature conservation. The largest areas of rainforest are protected, as are many coastal communities (e.g. Oxley Wild Rivers, Barrington Tops, Myall Lakes and Lamington National Parks). Irrigation occurs along the coast and the south and dryland cropping for cereals and sugar.

New England Tableland

This bioregion consists of undulating elevated plateaus of hills and plains with a temperate (dry and hot summer) climate and extends into southern Queensland.

- Dominated by eucalypt open forests, woodlands and open woodlands.

The area has been cleared primarily for grazing of native and modified pastures, minimal use, some nature conservation, native forestry and dryland cropping (cereals).

Nandewar

This bioregion extends into southern Queensland and is located on the north western slopes of New South Wales with a temperate (hot summer) climate with winter and summer rain.

- Dominated by eucalypt open forests and open woodlands and mallee woodlands and shrublands.

This area has been extensively cleared primarily for grazing of native pastures, dryland cropping (cereals and legumes) and some grazing of modified pastures. Other land uses include minimal use, nature conservation (Kaputar National Park is the largest protected area) and native forestry.

Sydney Basin

This bioregion is characterised by dissected plateaus (sandstones and shales) with a temperate (mild to hot summer) climate.

- Dominated by a large range of vegetation types including eucalypt woodlands, eucalypt open forests and scattered patches of eucalypt tall open forests, eucalypt low open forests, eucalypt woodland, heath, mallee, rainforest, mangroves, grasslands and samphire communities.

Thirty two percent of the bioregion has been cleared (particularly on the Illawarra and Cumberland Plains) for grazing of native pastures, urban development and small areas of irrigation, forestry and grazing of modified pastures. Large areas of vegetation are protected such as the Wollemi, Yengo, Blue Mountains, Nattai and Morton National Parks.

South East Corner

This bioregion extends into Victoria and is characterised by a series of deeply dissected near coastal ranges, gently undulating terraces, coastal plains, dunes and inlets. It has a temperate, mild to warm summer climate.

- Dominated by eucalypt open forests and eucalypt tall open forests on the steep escarpment and undulating foothills.
- Scattered patches of rainforest, eucalypt woodland and open woodland, acacia forests, woodlands and shrublands, heath, mangroves and other wetland vegetation.

Major land uses include native forests, nature conservation and grazing. Clearing of eucalypt open and tall open forests and heath and grasslands on the coast has occurred mainly for urban expansion, livestock grazing and cropping.

South East Highlands

This bioregion extends into the Australian Capital Territory and Victoria, The region consists of undulating plateaus and steep dissecting ranges.

- Dominated by eucalypt woodlands and tussock grasslands in the south.
- Scattered patches of heath, eucalypt tall open forests, rainforest and swamps occur throughout the region.

The region has been extensively cleared with grazing of native and modified pastures the major land uses. Other land uses include plantations, native forests, dryland cropping, nature conservation and some irrigated cropping.

Australian Alps

This bioregion extends into Victoria and the Australian Capital Territory. The alpine region in southern New South Wales is characterised by a series of high elevation plateaus.

- Contains the only alpine and the majority of the subalpine vegetation in New South Wales and is often snow covered in winter.
- Dominated by eucalypt open forests and woodlands and tussock grassland.
- Small areas of eucalypt open woodlands and heath area present.

The majority of this region is protected in the Namadgi and Kosciuszko National Parks. The region is recovering from past grazing and soil erosion. The Kosciuszko National Park is under pressure from tourism and ski development. It is the location of major water impoundments for diversion to the Murray and Murrumbidgee rivers.