

Assessing the Role of Land Use Planning in Natural Resource Management

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Key words: land use planning, land use, land management practices, natural resource management, land use change.

SUMMARY

This paper provides an overview of the issues facing natural resource management, and an assessment of the capacity and capability of the land use planning system to respond to natural resource management issues.

The international push for the introduction of sustainable development has had an impact on land use planning and natural resource management. There have been calls for widespread changes to land use, and the introduction of sustainable land management practices, to help arrest natural resource degradation and loss of biodiversity. At present there has not been widespread changes to land use due to limitations in the institutional, statutory, and policy frameworks and the political, cultural and community attitudes to large-scale land use change at the direction of government. Limited regulatory power means that changes to land use are made on a voluntary or commercial decision-making basis, and rely on landholders having a stewardship ethic or vested interests in pursuing such changes.

Statutory land use planning provides a means of legal control over changes in land use and provides an opportunity to allocate land use to areas best suited to that activity. However, because land use planning is not retrospective and essentially only deals with proposals to change land use, it relies on owners or land managers to initiate such changes. The practice of land use planning involves achieving a balance between the community's environmental, social and economic needs and demands; between the rights of private property owners, the role and willingness of government at various levels to set policy and direction, and the right of the community to have input into the policy formed and decisions made. The statutory land use planning process also provides for extensive community consultation and affords the opportunity for the community to be involved in developing responses to natural resource degradation. This provides a basis for responding to degradation and loss of biodiversity, however the extent to which this can effect widespread change in land use is uncertain and is investigated in this paper. The capacity of local government to provide strong responses to natural resource issues is also considered, and recommendations made on improvements to land use planning. This assessment uses the Australian state of Victoria as an example to illustrate the points made.

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1 INTRODUCTION

International publications, such as ‘Our Common Future’ in 1987, the ‘Rio Declaration’ and ‘Agenda 21’ in 1992, and the ‘Johannesburg Declaration’ in 2002, have created recognition that concerted efforts are needed to develop sustainable land use practices to minimise further harm to natural resources and biodiversity. Maintaining and enhancing the quality of our soils, rivers and oceans; availability of fresh water; and the maintenance of biodiversity have emerged as key issues globally [World Bank, 2001], and in Australia [Natural Resource Management Scientific Advisory Group, 1999].

The deterioration of Australia’s natural resources has resulted from substantial clearing of native vegetation; the introduction of European land use practices not suited to Australian conditions [Yencken & Wilkinson 2000]; and the very high per capita consumption of resources that many commentators argue is unsustainable [DiSano, 1999, UN General Assembly 2000, UN General Assembly 2002b]. Australian rural production systems change the nature of the hydrological and nutrient cycles and release increased amounts of water, nutrients, sediments and contaminants into waterways. These changes to natural systems are central to much of the natural resource degradation existing in Australia [NRMSAG, 1999].

Agenda 21 [UN Sustainable Development, 1992] commented that:

“By examining all uses of land in an integrated manner, it makes it possible to minimize conflicts, to make the most efficient trade-offs and to link social and economic development with environmental protection and enhancement, thus helping to achieve the objectives of sustainable development”.

Control over the use of resources on land has emerged as a significant issue in natural resource management [NRMSAG 1999, Yencken & Wilkinson 2000, Conacher & Conacher 2000], and the land use planning system provides an opportunity to control land use. The challenge facing natural resource management agencies will involve changing perceptions over how land is used. Enemark [2003] argued that the combination of an efficient land market and an effective land-use administration forms the basis for “a sustainable approach to economic, social and environmental development”. Jacobs [1988] contended that land use on a particular site is a result of two interrelated phenomena – the decision to purchase a property and use it in a particular way, and individual market-based decisions made within a set of public policies that establish restrictions on how the property may be used. Included in these public policies is land use planning and it provides an opportunity to change the way in which land is used.

The process of land use control through the division of land into zones or areas - in which certain land uses or developments are not permitted - dates back to Ancient Rome, where

industries posing a nuisance were located on the other side of the River Tiber [Raff, 1996]. Land use planning as a regulatory system has its historical origins in the middle of the nineteenth century in England during the rapid growth of urbanisation caused by the industrial revolution. Concern about public health and safety led to government developing the power to control and regulate the use of property and this represented an extension in the powers of public administrators over private property. Prior to this the protection of private property was seen as a constitutional right, and disputes were settled through the courts based upon precedents developed through common law. McAuslan [1979] contended that judgements by the courts were made with the need to protect land-owners against government, with no regard given to the objectives of the legislation.

The principles developed in the courts prior to the mid nineteenth century to protect the rights of the land-owner, are the basis for the rights of property owners that currently exist in planning law. Land use and development control under planning acts, and housing control under housing acts, are imposed *ab extra* - they are not part of the bundle of property rights afforded the land-owner. The law also provides backing and legitimacy for public administrators to pursue a program of action to advance the public interest – even if this is against the interests of the private land-owner [McAuslan, 1979].

A third competing planning law ideology is that of the right of participation in the land use planning process for other than the land-owners on the basis of democracy and justice. The right of public participation may be at conflict with the desire to enforce public policy and is based on the principle that the public interest cannot be determined and acted upon solely on the basis of the views of the public servants. The public participation ideology is based on well established principles however it has only been implemented in a practical sense in planning law in the last fifty years. Achieving a balance between the competing planning ideologies of public interest, private property rights, and public participation is at the core of land-use planning [McAuslan, 1979]. As a consequence strategic planning has developed processes for community consultation and strong skills in balancing competing interests and ideologies.

Much of the core legislation regarding land use control in the Commonwealth and the United States was introduced during the first half of the twentieth century. Prior to this control of land use by authorities relied on common law principles that mostly applied negative controls over land use and resultant penalties for breaches. One of the most important land use control instruments introduced during the twentieth century was ‘zoning’ [Dale and McLaughlin, 1999]. Zoning was based on the premise that the most incompatible land uses in a city could be determined and separated from each other.

The attention paid to land use planning by the Thatcher Government in Britain has been extensively analysed. Thornley [1993] and Montgomery and Thornley [1990] have argued that the Thatcher Government sought to change the planning system through a process of incremental erosion of controls. Allmendinger [1997] and Newman and Thornley [1996] have both described the approach followed in Britain. Attempts were made to reduce the power of local authorities through a comprehensive review and specific actions, as an essential element to the adoption of a ‘top down’ approach to planning. Normal participatory

rights in the planning process were often removed. Central government imposed a deregulatory planning strategy aimed at creating the framework within which market forces and developers could act. A key element of the planning structure was the introduction of Simplified Planning Zones (SPZs). These were introduced with the support of groups such as the Adam Smith Institute supporting deregulation of planning after the publication of a consultation paper on SPZs. This paper argued that the planning system was reactive, negative and time consuming, and that the new zones would offer increased certainty and efficiency in processing applications. The Minister, Lord Elton, introducing the Bill for the new system in 1986 spoke of the frustration, expense and delay caused by the system to be replaced, and of the need for increased certainty and efficiency in processing applications. Others spoke of the need to privatise planning. Finally, in 1989 there was a move towards local policy within the framework of central strategy, with evidence of local autonomy having to conform to the boundaries set by the central government. Thornley [1993] has described this combination of centralisation and economic liberalism as 'authoritarian decentralisation'. Stoker and Young [1993] have described the general shift in the role of government from that of a 'provider' to a 'strategic enabler'.

It could be argued that these British planning reforms increased the rights of the land owner, and decreased the right of public administrators to make decisions affecting land use, and the right of participation in the planning process.

2 THE VICTORIAN PLANNING SYSTEM

The development of the formal legal system of planning in Victoria to its present prescriptive situation has followed an incremental process. That process has extended the powers of the State and in turn local government to undertake and administer a comprehensive planning system. The planning system in Victoria, particularly in its early legislative framework, was essentially derived from British town planning practice, although there has been considerable later influence in Australian planning practice from the United States. Similar development of the legal planning system has occurred in other Australian states.

Victoria's planning system operates in accordance with the provisions of the *Planning and Environment Act 1987*. This Act came into existence in February 1988 after a period of over forty years when planning in Victoria was administered under the provisions of the *Town and Country Planning Act 1944* – legislation that was amended a number of times before being repealed. The 1987 Act sets out objectives of planning that prescribe an orderly approach to planning based on supporting the development of the State, the protection of natural features and processes, the enhancement of the quality of life, and the sustainable use of resources for the benefit of all Victorians.

The Act requires all areas in the State (unless specifically exempted) to be subject to the provisions of a planning scheme and empowers and requires planning authorities (usually municipalities) to undertake planning, prepare planning schemes and amendments to planning schemes. Planning schemes are subordinate legislation and are regulating or enabling mechanisms for the use and development of land, and approval of new schemes or amendments to schemes is the responsibility the Minister for Planning.

Essentially, planning schemes only apply to freehold land. In Victoria, planning is considered to comprise the functions of strategic and statutory planning. Strategic planning involves the formulation, evaluation, and determination of land use, development and protection policy, and the process by which these policies may be implemented. All decisions on land use change must be consistent with State and local strategies to gain approval under the planning schemes through the issue of a planning permit. Land use policies are statements of intent and are issued by all levels of government. Policies at the State level tend to be broad, long range and apply to issues of national, state or regional interest. Policies at a local level are more specific, and relate to specific areas or sites and often have a shorter time frame [Eccles and Bryant, 1999].

In 1996 the British model of planning reform became the blueprint for Victoria with all its principal elements adopted. The Kennett Government amended the *Planning and Environment Act 1987* to introduce the *Victorian Planning Provisions (VPP's)*. The VPP's comprised a range of standardised state-wide provisions which are applied for each Council area with a common format and content. These standard provisions comprise state policy, 25 zones, 22 overlays, 31 particular provisions, 31 general provisions and 29 incorporated documents. The legislation required all Victorian councils to incorporate these provisions into new format planning schemes. The zone and overlay provisions were required to be selected from a standard menu of prescribed provisions. Councils cannot amend the standard provisions and a planning authority cannot in practice devise its own zone provisions. The new statutory regime is primarily a discretionary system - many zones allow a large number of uses and developments to be considered, and contain a small number of prohibited uses. The new schemes require councils to consider an extensive range of matters for many applications.

Since the introduction of the VPP's each planning scheme in Victoria includes a State Planning Policy Framework (SPPF), which sets out the State policies for the control of land use and development. Each planning scheme is required to include a Local Planning Policy Framework (LPPF), which comprises a Municipal Strategic Statement (MSS) and a set of local policies. This strategic and policy framework provides the basis for land use planning decisions.

The planning system establishes zones to control land use in geographic areas, however the categories of zones are relatively broad and allow only general control over the use of land. In addition to the standard zones, overlays that apply to specific issues are available for inclusion in the planning scheme. These are divided into the broad categories of environment and landscape; heritage and built form; land management and other overlays.

The powers of local authorities are limited to developing an MSS and local policy, selecting from standard overlay controls, applying the most appropriate zone to particular land and specifying schedules to a number of zones and overlays. The State Planning Policy Framework (SPPF) and the other standard provisions prevail over the Local Planning Policy Framework (LPPF).

There are a number of opportunities within the controls available to those managing the planning scheme to address natural resource management issues. For example, the Environmental Significance Overlay provides an opportunity for a local government to protect biodiversity and natural resources on significant sites. An Erosion Management Overlay can protect areas prone to erosion or landslip by minimising land disturbance and inappropriate development.

Clause 52.17 of planning schemes requires a permit to remove, destroy or lop native vegetation for land greater than or equal to 0.4 hectares, unless the native vegetation has been planted for timber production, agroforestry, or horticultural purposes; is removed in connection with rural activities; or is necessary for mineral exploration or mining under the Mineral Resources Development Act 1990. Clause 52.18 of planning schemes requires that all timber production activities (except agroforestry) comply with the 'Code of Forest Practices for Timber Production' issued by the Department of Natural Resources and Environment, to the satisfaction of the local council.

Other legislation, such as the *Environmental Effects Act 1978*, also provides powers to manage land use and land use change. Under that legislation, the Minister for Planning may require an Environmental Effects Statement (EES) to be prepared for any proposed development that could have a significant effect on the environment. This can include any proposed public, municipal or private sector developments requiring a planning approval. Eccles and Bryant [1999] stated that "essentially the requirement to prepare an EES relies on the discretion of the Minister and government of the day", and noted that between August 1997 and the date of publication (1999) the Minister had asked for the preparation of an EES on only five development proposals.

Other regulatory mechanisms for changing land use include the ability for governments at all levels to reserve land for public purposes under Section 6(2)(c) of the *Planning and Environment Act 1987*, and the acquisition of land for public purposes. Government can also use non-regulatory mechanisms such as assistance with land assembly where ownership is fractured resulting in inefficient land use, education and promotion of good land management practices, and incentives for effective land use through rate or local tax concessions.

3 THE INTERACTION BETWEEN PLANNING SCHEMES AND REGIONAL CATCHMENT STRATEGIES

The *Planning and Environment Act 1987* contains a strong environmental focus and includes the following objectives:

- "To provide for the fair, orderly, economic and sustainable use, and development of land" (Section 4(1)(a)); and
- "To provide for the protection of natural and man-made resources and the maintenance of ecological processes and genetic diversity" (Section 4(1)(b)).

The *Planning and Environment Act 1987* also seeks to achieve the integration of land use and development planning and policy with environmental, social, economic, conservation and

resource management policies at State, regional and municipal levels. This has important implications for integrating land use planning and catchment management. The Act also provided that municipal planning schemes be the principal means of regulating land use. Environmental impacts must be considered in decisions on land use whether through the issuing of planning permits or in planning scheme amendments.

The Victorian *Catchment and Land Protection Act 1994* provided for the creation of regional Catchment Management Authorities (CMA) and the development of Regional Catchment Strategies (RCS). This legislation contains a number of explicit and implied references to land use planning. It also provides that a Regional Catchment Strategy (RCS) must “set a program of measures to promote improved use of land and water resources and to treat land degradation; and state the action necessary to implement the strategy and who should take it”. An RCS may also provide for land use planning. These goals allow the use of land use planning measures to implement the objectives in the *Catchment and Land Protection Act 1994* aimed at the protection of the natural resource base, particularly land and water, and the maintenance of environmental processes.

The *Catchment and Land Protection Act 1994* also provides a structural connection between the work of CMAs and the land use planning system in that:

- “An Authority that prepares a regional catchment strategy may recommend to a planning authority under the *Planning and Environment Act 1987* amendments to a planning scheme to give effect to the strategy” (Section 25(1)); and
- “Without limiting the *Environment Protection Act 1987*, a regional catchment strategy may be incorporated in a State environment protection policy, in whole or in part, and with or without changes” (Section 25(2)).

Municipal councils can implement the objectives, principles, policies and measures outlined in a Catchment Management Strategy by concentrating on environmental and natural resource issues in the choice of overlays and schedules to overlays, choice of zones and schedules to zones, and through the LPPF. In addition, CMAs can initiate a Special Area Plan, which has the capacity to require, among other matters, the restoration of specified vegetation effectively to restore a habitat. The Department of Natural Resources and Environment (1997) proposed a number of issues that could be considered in both planning schemes and catchment management strategies. These are:

- Floodplain management and prevention of development on floodplains
- Protection of native vegetation and biodiversity
- Irrigation and dryland salinity management including recognition of salinity recharge and discharge areas
- Identification of sustainable land management practices to reduce soil erosion and protect waterways
- Control of pests, plants and animals
- Waterway management

4 LIMITATIONS IN LAND USE PLANNING

4.1 Limitations in the capacity of local government and catchment authorities

The Wentworth Group of Concerned Scientists [2003] has called for a simplification of the “overwhelmingly complex” institutional structures that presently exist. The result of this complexity is poor coordination between the three levels of government on natural resource management issues. The Industry Commission [1998] suggested that “The problems include: overlapping and poor coordination of functions between the agencies – both between and within jurisdictions; fragmentation of responsibilities; and the requirement for some bodies to perform regulatory as well as management and/or service provision functions”. The Allen Consulting Group [2001] argued that these existing institutional and bureaucratic arrangements are disempowering for landholders.

Ewing [2003] considered local government to be poorly equipped to respond to natural resource issues. Binning *et al* (1999) noted that the capacity of local government is dependant on the council size, population and rates base. Bates [2003] argued that local government also lack incentives to undertake natural resource management. Ewing [2003] considered the integration between catchment management authority’s regional catchment planning processes, and local government strategic and statutory planning and implementation to be poor.

The trend towards integrated catchment management is predicated on strong local and regional institutions, however several authors have noted that local and regional institutions are constrained by a lack of legislative power and limited resources [Industry Commission 1998, Ewing 2003, Wild River 2003]. The issue of resources is particularly an issue with respect to the planning department of many rural local governments, which lack the experienced staff and resources to undertake natural resource management decision-making. As a result many councils are reluctant to amend planning schemes if there is likely to be an increase in the number of planning permit applications and the complexity of matters to be considered. Many municipalities also lack the knowledge of natural resource management issues raised by catchment strategies [Maunsell Australia, 2002b].

The boundaries of local governments are broadly based on local social and economic interests and reflect long held historical and community ties, whereas catchment authority boundaries are based on large-scale physically defined water catchments. The result is that each catchment authority has several local government areas within its jurisdiction, and this complicates the coordination of strategies and actions. Effective partnerships and communication is needed to overcome this difficulty. Inclusion of local government and catchment authorities in the development of strategies is important and effective referral of planning permit applications to catchment authorities is important.

The catchment management authorities are relatively new bodies on the land use management scene. The catchment strategies are largely in a state of development in terms of specifically managing individual areas of land. These catchment strategies were developed at the same time as the introduction of the Victorian Planning Provisions [Maunsell Australia,

2002b]. Buxton [2002] argued that limitations in the planning system, and the lack of strong policy in many catchment management plans, inhibit the implementation of statewide strategies such as the Victorian Biodiversity Strategy. Greater consistency is needed between catchment strategies and municipal strategic statements. In its review of planning schemes, Maunsell Australia (2002a) argued that:

“Some planning schemes do in fact incorporate elements of the relevant RCS while others make mention of the documents. However none of the planning schemes examined provide for the consistent development of catchment/natural resource management issues...Essentially consideration of catchment/natural resource management issues is patchy with no clear logical structure...In addition many schemes do not implement RCS actions in the zones and overlays”.

Similarly, Regional Catchment Strategies (RCS's) do not adequately identify the means of implementing the RCS through planning tools.

4.2 Statutory limitations

The statutory role of local government to address natural resource management generally and specifically through land use planning varies across the States of Australia because each State establishes its own roles for local government through separate legislation. The links between land use planning at the local government level and regional catchment authorities are limited by legislation and operational co-operation on the ground.

The State Planning Policy Framework (SPPF) sets the policy framework for consideration of land use decisions and provides an opportunity for implementing natural resource management objectives. However, many aspects of the current SPPF are very general and difficult to apply in specific situations [Buxton 2003]. Maunsell Australia [2002b] noted that “planning is essentially a reactive discipline and only controls those activities for which a permit is required”.

The land use planning process involves deciding if applications for changes to land use or development are consistent with suitable land use broadly classified in the planning scheme. These land use classifications do not adequately specify the complexity of land use and the impact of land management practices that may be undertaken on a land holding.

Buxton [2003] argued that the current Victorian zones – particularly the three rural zones - could not achieve complex environmental and social outcomes. The ability of councils to select from a limited suite of zones has resulted in inappropriate application of zones to land and, in particular, the widespread avoidance of the Environmental Rural Land Zone for land with environmental value.

Buxton [2003] added “the use of overlay controls is similarly constrained for three reasons. Firstly, they do not include the protection for the broad range of habitats and biodiversity concerns. There is no Wetlands overlay, for example. Secondly, the quality of the overlay controls is variable, and often only provides weak control over development... Thirdly, the

use of overlays is discretionary. Many rural councils, in particular, have not used the appropriate overlays, have used the wrong overlay, or have applied them inconsistently to land with similar characteristics”.

Gibson [1999] noted that excisions of land containing a dwelling, dwellings in rural areas, and small lot subdivisions are common in some municipalities – sometimes on land with habitat value. The existing controls over subdivision of land into residential, rural-residential and rural lots are inadequate. The Rural zone generally provides for the subdivision of land into 40-hectare lots and these produce landholdings that are rural in character but are generally not viable for an agricultural enterprise. The landholders on these lots often have employment off the landholding and limited time to undertake conservation works, weed and pest control, and revegetation.

The ability of local government to affect changes in land use through the statutory planning system is also limited where a detrimental land use exists and is lawful under the planning scheme. Clause 63 of the planning schemes provides that the existing use must have been stopped for two years before council can enforce the existing planning scheme requirements [Department of Sustainability and Environment, 2003a].

4.3 Poor access to natural resource information

Local government decision-making in relation to land use in Victoria is often hampered by limited access to appropriate natural resource information. Wild River [2003] stated that small local governments have poor access to technical expertise and data. Many of the rural council planning departments do not have the number of experienced staff required to make informed decisions on the sustainability of land use and they rely on information from other sources to support the decisions made. Improved information sharing arrangements are needed between state government, catchment management authorities and local government. Catchment management authorities could play an important role in providing natural resource information to local government [Municipal Association of Victoria, 2002].

Troy [2000, p21] argued that existing approaches to land use planning do not provide an appropriate estimate that allows decision-makers to forecast the nature and magnitude of changes to land use, or indeed if they are more or less sustainable. He argued that decisions on land use or development proposals are based on economic considerations with the goal being to achieve the ‘highest and best use’ for a particular site. He suggested a new approach is needed in land use planning which “integrates the concerns of the scientist/ecologist and the measures they can provide of the environmental effects of exploitation of resources with those of the town planner who can introduce the social, economic and aesthetic considerations”.

The right of government to develop and enforce policy for the public good requires knowledge on existing land use. Land use planning processes allow existing and future use to be considered by local government when a proposal for change is made, and therefore site-specific information on existing land use is required. Existing land use planning approaches don’t involve modelling of land use change and this would be of significant benefit to

improving land use decisions. Information on the effectiveness of land use change would be assisted by knowledge of the amount of change over time. There is a need to integrate information on the effects of human activity on the natural resource base with information on land use and land use change. Integration of these datasets will require cooperative efforts in Victoria between the State government, catchment management authorities and local government.

The challenge in recording site-specific land use information is to establish the predominant use of a site to compare with the zoning and overlay provisions. Jacobs [1988] suggested that the actual land use is often a mixture of land uses and coding into a single category is difficult. He argued that this is a strong reason for land use policy to move away from the notion of clearly separated land use zones towards more mixed land uses, vertically and horizontally.

The boundaries of zones and overlays are not always coincident with cadastral parcel boundaries (and vary within landholdings) causing confusion over how the land use controls apply to individual landholdings.

5 RECOMMENDATIONS

The land use planning system provides certain regulatory mechanisms for changing land use, however these are not presently used extensively. The planning system is not geared for extensive natural resource decision-making, resulting in an enormous gap between the possibilities of sustainable land use control and the practical application. Buxton [2002] argued that tinkering with the planning system would not lead to widespread improvements in land use. He stated that the planning system contains only token recognition of the need for change and the land use planning tools provided cannot deliver the required outcomes. He added that the Victorian Planning Provisions are intended to facilitate development, explicitly work against protecting biodiversity, and are weak and general. Changes to the process of land use planning are needed for it to be effective in ensuring unsuitable land use practices are prevented. These changes require improvements to the institutional, statutory and policy frameworks to make natural resource management decision-making a priority.

In addition, catchment management must inform and utilise the land use planning system effectively. Regional Catchment Strategies (RCS) should identify issues, management and planning responses, specifying the type of land use tool, and the details of the measure required for each issue. They should also develop connections between natural resource management and land use planning, showing how each can complement the other for specific issues. The RCS needs to identify planning responses for different land characteristics in all sub-catchments, and local areas. This will require the writing of specific area-based policies in the RCS matched to physical characteristics, and the specification of land use planning responses by identifying the appropriate planning provisions and the content of local policy. These planning provisions would be related to specific catchment management policies and measures. Greater consistency could be sought between local policies of each municipal planning scheme. This kind of strategic and outcome focused work would progress the relationship between catchment and planning well beyond general cross references to both

processes in RCSs and planning schemes. It would also require much closer interaction between the Catchment Management Authority and the planning departments of all councils in the region.

The community consultation processes of strategic land use planning provides opportunities for the community to be involved in discussing natural resource issues and the development of RCS's. The Department of Sustainability and Environment [2003b] noted:

“As a governance tool the planning system is unique in that, while it is responsible for achieving spatially based land-use and development outcomes, it is otherwise not necessarily limited to any range of outcomes or subject matter. As a system for achieving land-use/development outcomes, the planning system is not only a tool for spatially implementing policy driven change, it is also the means by which change is communicated and its impacts mediated to local communities”.

There is a strong tradition of private property interests overlaid by control over land use through the planning system. The planning system has not, however, traditionally controlled the management of land. Changes in land use are harder to achieve than changes to land management practices, and small concessions may need to be made in this area to increase the role of land use planning in natural resource management. For example, planning permits issued in rural zones could contain conditions that the applicant submits an environmental management plan. This could be similar to the Environmental Effects Statements required for applications for certain significant land uses, although on a smaller scale. The planning system can also require applicants to conform to industry codes of practice to reinforce these provisions.

The land use planning system can control changes to land use through the establishment of appropriate zones and overlays, and through developing strategic statements indicating the preferred use across a local government area. There is a demand for small rural lifestyle lots outside the Melbourne metropolitan area, and zones and overlays can help to control the development of these. For example, the zoning arrangements could control the creation of rural residential subdivision lots, aiming to minimise conflicts at the interface between agricultural land and these essentially residential lots. Local government decide how many of these lots are created and could specify that any new lots be created with a covenant enforcing catchment targets such as vegetation cover.

Natural resource management could benefit from the following changes to land use planning:

- Develop a whole-of-government policy framework for the enforcement of changes to land use and responses to natural resource degradation and loss of biodiversity.
- Amend each RCS to identify planning responses for different land characteristics in all sub-catchments, and local areas. This will require the writing of specific area-based policies in the RCS matched to physical characteristics, and the specification of land use planning responses by identifying the appropriate planning provisions and the content of local policy.

- Undertaking capacity building in local government and catchment management authorities to improve their ability to coordinate, make natural resource management decisions and enforce land use change.
- Improving the knowledge of natural resource issues in planning decision-makers.
- Improving the information available to local government on existing land use, the condition of natural resources, areas subject to natural resource degradation and loss of biodiversity, risk and priority areas, and the effect of changes to land use.
- Amend the legislation to establish formal partnerships and lines of communication between state government, catchment authorities, and local government.
- Amending zones in risk and priority areas to include permit conditions requiring Whole Farm Plans or Environment Management Plans to be prepared.
- Making the boundaries of zones and overlays consistent with the parcel-based boundaries in the cadastral mapbase.

While these recommendations specifically apply to land use planning in Victoria, many of the issues raised reflect those experienced in other jurisdictions. The improvements mentioned above would be of benefit to natural resource management by improving the land use planning systems ability to control land use change. Significant opportunities exist for the land use planning system to have a role in supporting natural resource management but changes to the institutional, policy and statutory frameworks are needed before this can be achieved.

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