APPENDIX 1 :: Peter Williams

Peter Williams

SENIOR LECTURER, PLANNING - UG Teaching Staff, Planning, PG Teaching Staff, Planning

PhD (UOW), MEnvPlan (Macq), MPubPol (UNE), BSc (UNSW), BLegS (Macq), MPIA

CONTACT ME
Phone+61 2 9385 6829

Fax+61 2 9385 5270

Emailp.williams@unsw.edu.au

About

Peter Williams joined the School of Town Planning at UNSW in 1993 after 14 years in the private and public sectors, including the planning and urban research consultancy firm Plant Location International (Australia) Pty Limited, the Land Commission of NSW, National Parks and Wildlife Service, the Land and Environment Court and the Department of Mineral Resources. Peter set up the Master of Planning (MPlan) degree at UNSW in 2006 and was the Head of the degree fom 2007 - 2012. Peter was appointed Director of the Planning Program from 2009 - 2012, with responsibility for the Faculty's Bachelor of Planning and Master of Planning degrees. He is a regular contributor to *New Planner*, the journal of the NSW Division of the Planning Institute of Australia.

Research

Current research interests include environmental planning law and administration, natural resources planning and management, environmental studies, planning tools, open space management, affordable housing, sustainable urban development and spatial planning policy. In 2003 and 2005 Peter wrote the handbook for planning practitioners *Best Practice in Development Assessment for Local Government*, published by Landcom.

Integrating biodiversity in Australian cities

– managing urban growth and biodiversity in Sydney

Peter Williams

Planning and Urban Development Program

Faculty of the Built Environment University of New South Wales

Address: Faculty of the Built Environment UNSW SYDNEY NSW 2052

KEY COMMENT

To better integrate biodiversity conservation with managing the growth of Sydney, a hybrid framework which utilizes sound metropolitan planning, strategic or planning phase biodiversity certification, statutory-based regulation such as zoning, and market-based mechanisms including TDR and biobanking reinforced by conservation covenants or agreements, should be adopted.

Email: p.williams@unsw.edu.au

Keywords: Biodiversity; urban growth management; planning tools; property rights; Sydney Growth Centre. 3 Abstract: This paper examines the approaches taken to incorporate biodiversity conservation in the management of urban growth in Sydney.

Problems associated with managing Sydney's growth – particularly from the intersection of dealing with perceived property rights and the protection of natural resources such as biodiversity – are identified.

The issues are illustrated through significant State Government development decisions relating to the retention of biodiversity in the new growth areas of Sydney.

The singular reliance on traditional 'command and control' regulatory approaches as both a cause and ineffectual solution to the problems faced in biodiversity conservation is highlighted.

Newer 'market based' mechanisms which are being introduced (e.g. biobanking) or should be adopted (e.g. transferable development rights), as well as management at the strategic level (e.g. biodiversity certification), are considered.

This paper argues that to better integrate biodiversity conservation in Australian cities a mixed approach should be adopted in which a number of tools are utilised – and that this needs to occur in the context of a sound overarching strategic planning framework.

This constitutes a hybrid approach involving a 'fixed' strategic spatial plan informing statutory-based regulation primarily through zoning and other development controls, augmented by a range of

market based tools implemented through statute and common law measures such as conservation covenants.

4 Introduction State and territory planning jurisdictions in Australia have relied primarily on a regulatorybased statutory planning framework, derived from the traditional British system, to implement planning and land use policy.

Australian planning systems are statutory-based in that they are prescribed by various state and territory legislation, including a dominant planning act (in New South Wales the Environmental Planning and Assessment Act 1979).

Such statutes in turn impose a series of controls or regulation through a system of land use zoning, development standards, building regulations, subdivision controls, heritage provisions etc.

The dominant source of government planning regulatory power is thus statutory law in the form of overriding planning legislation and subsequent delegated or subordinate legislation such as planning instruments, ordinances and regulations, although case law – particularly in the form of judicial interpretation of relevant legislation and judicial review of planning decisions – also plays a key role, given Australia's legal tradition as a common law country.

More recently however, planning approaches influenced by United States systems of financial and planning incentives have emerged to complement this traditional 'command and control' regulation hegemony. Part of a self-styled 'smart regulation' package, these seek to give Australian planning systems greater flexibility through the use of market-based mechanisms and financial incentives. These tools include planning bonuses, green offsets, and the acquisition of development 'rights' pertaining to realty. Often these also involve the utilization of traditional common law mechanisms such as covenants and easements.

One sphere of application of this hybrid mix of planning approaches and tools is the protection of biodiversity and other natural resource values in areas subject to urbanization

. A critique of the role of these approaches as applied to the integration of biodiversity and urban growth management within the framework of the NSW planning system and the context of 5 entrenched perceived property rights is presented in this paper.

Approaches which seek to work with property rights and the property market – transferable development rights and green offsets in the specific form of biobanking and at a strategic level biodiversity certification – in addition to the traditional tools of regulation such as zoning, are seen as pivotal and are advocated in this paper.

Context – City of Cities and the Growth Centres

The context of this analysis of the need for the utilization of an appropriate suite of tools to better integrate biodiversity conservation with continuing urbanization is the current metropolitan strategy for Sydney, City of Cities – A Plan for Sydney's Future, released in December 2005 (DoP, 2005a).

City of Cities, is “probably the most comprehensive planning strategy that Sydney has had since its first strategy” in 1951 (Searle, 2006: 553). However, it was arguably developer-led, being devised in response to heavy lobbying by the property industry, particularly the Property Council of Australia, for a new strategy (PCA, 2004).

It certainly bears the hallmarks of a blueprint to satiate developer desire for the further – and possibly the complete – urbanization of the Sydney basin, with the developer vision “writ large across the City of Cities strategy and its supporting documents” (Searle, 2006: 533).

All major Australian cities have released metropolitan strategic plans in recent years, and so the challenges examined in this paper are not unique to Sydney, and its findings have implications beyond Sydney. The City of Cities strategy is intended as the plan for Sydney over the 25 years between 2006 and 2031.

During this time the city’s population is forecast to increase by 1.1 million people, from 4.2 million to 5.3 million.

To accommodate this predicted population growth and the anticipated fall in average household size, it is estimated that 640,000 new homes will be 6 required.

This target translates to 445,000 new dwellings projected for the existing areas of Sydney, consistent with an ongoing policy of urban consolidation, and 195,000 in greenfield areas, 135,000 of which were to be located in the North West and South West Growth Centres (that is, two new urban release areas), and 60,000 in other greenfield areas (DoP, 2005a).

An additional 25,000 dwellings were originally projected to be built in the Growth Centres between 2032 and 2041, giving a total dwelling capacity in the Growth Centres of 160,000 dwellings; this was subsequently adjusted to 181,000 dwellings following the abandonment of proposed ‘green zones’ by the State Government in 2006 (further discussed below).

A pertinent action of the Metropolitan Strategy in relation to housing is the application of sustainability criteria for new urban development (Action C1.2). Here, proposed land release areas are to be assessed against sustainability criteria and infrastructure funding.

As a precursor, a general qualitative assessment of all land identified for release within the Growth Centres was provided by the then NSW Sustainability Commissioner, Professor Peter Newman in November 2004 (Newman, 2004).

This assessment was based on eight sustainability criteria, with a ranking assigned to each criteria ranging from ‘Poor’, ‘OK’, ‘Good to Best’, depending on how well the Sustainability Commissioner believed that the criteria “have been addressed in terms of global best practice for land development and also in terms of accepted practice in Sydney” (Newman, 2004: 1). Criteria 2: Environmental Protection, aims “to protect and enhance biodiversity, air, water and agricultural land.” Within this criterion the biodiversity benchmark is to “save core biodiversity values and enhance natural ecosystem of the bioregion”; for water quality it is to ‘maintain and improve waterway health”; and for agricultural land to “ensure important agricultural land is conserved.” For new land release areas this criterion rates as “‘good’ to 7 ‘best’ practice as one of the major features of the area is the new ways that the environment will be protected however air and water quality limits are approaching so any development has to be very clean” (Newman, 2004: 4).

Despite the positive ratings of the sustainability criteria of natural resources and environmental protection, two points are of concern. First, in his report the Sustainability Commissioner "raises the question of whether the Land Release areas are needed at all.

Is it possible to somehow stop Sydney growing or at least prevent any further fringe growth?" (Newman, 2004: 4).

Second, it appears that additional urban development outside the identified Growth Centres may be approved if it meets the eight sustainability criteria, (Searle, 2006: 556), which would undermine the reason for the Growth Centres in terms of the objectives of the sustainability criteria such as minimizing Sydney's ecological footprint and to protect and enhance biodiversity, water and agricultural land.

Evidence of developer pressure for further land releases outside the designated Growth Centres release areas includes recent preliminary investigations by the Department of Planning into new releases, such as Macarthur South (Keneally, 2009).

This is a significant development and places heavy pressure to extend the apparently inexorable growth of Sydney. Policy failure, the demise of Sydney's green zones and smart regulation From the perspective of protection of areas of biodiversity value in and around Sydney's growth centres, the current Metropolitan Strategy and the tools drafted into its implementation arguably represent a dramatic example of policy failure in the face of perceived property rights. Failure of measured strategic spatial planning, and in its stead the formulation of ad hoc, reactionary 'policy on the run', was evident in the response by the NSW Government to the politics of property rights exerted by land owners and developers in the Growth Centres.

8 On 3 November 2005, a media release issued by the office of the New South Wales Minister for Planning, the Hon Frank Sartor MP announced the scrapping of two proposed 'green zones' in the SW and NW urban growth centres (Sartor, 2005). This 'green overlay', designed to preserve existing non-urban land for aesthetic, biodiversity conservation, recreation and agricultural purposes, covered 8,400 hectares in the land release areas, and a further 14,000 hectares outside the growth centres boundary. The decision to abandon these green zones or areas – formally described as Landscape and Rural Lifestyle Zone (LRLZ) under the Sydney metropolitan strategy – was taken, stated the media release, "following widespread public consultation". Reasons given for the decision were basically two-fold. First, the Department of Planning had received more than 3,000 submissions on the Growth Centres plans over a four-month exhibition period.

It was clear, stated the Minister, that "the proposed LRLZ caused widespread concern and confusion, with nine in ten written submissions objecting to the new zone, which affected more than 7,000 properties" (Sartor, 2005).

Many landowners complained about a perceived loss of property values and development rights (DoP, 2005c). Second, it was argued that the environmental benefits of the proposed green zones were limited, because 45% of the land identified for the LRLZ zone had already been cleared (Sartor, 2005). Putting aside the issue of the poor quality of Departmental mapping and lack of 'groundtruthing' resulting in the misidentification of appropriate quality green space, the clear message was that public objection to the green zones was the primary reason for their demise, as both cleared and uncleared green areas were abandoned.

This public objection rested on the expectation (whether reasonable or otherwise) that landowners' land – whose current zoning was not residential – in an around the NW and SW Growth Centres

would be 9 urbanised, with the windfall gain accruing to the property owners that this land use conversion process entails. As described in the news media at the time, the 'dumping' of the green zone on Sydney's fringe occurred after "a backlash from landowners angry their properties would not be considered for housing subdivisions" (Goodsir, 2005a: 3), with fears that "land values in some areas will plummet as a result…" (Goodsir, 2005b: 9).

One clear message from this episode is the role played by property rights and concomitant development expectations or rights in opposing – and ultimately determining – public policy designed to protect the environmental and natural resource values of the south-west and northwest fringe of Sydney.

This role was admitted by the Minister in an earlier media release (9 September 2005) when he announced a review of the LRLZ and stated that "the green zones were never intended to change people's existing land use rights" (DoP, 2005b). It should be pointed out however, that the green zone landowners were expecting more than their existing use rights. Rather, they wanted a right to develop or use their land in way that they were not presently entitled, that is, for residential purposes. This has two significant implications.

First, this right that was perceived to pertain to non-urban land does not exist even in land already zoned residential, since development consent is first required before residential subdivision and development can proceed.

Second, landowner insistence on, and State Government accedence to, such rights, can only lead to speculation in areas in and around the growth areas not zoned residential, which has indeed since occurred (Keneally, 2009). Recognition of these implications was acknowledged in the Sydney Morning Herald the next day when it reported:

Developers and groups representing thousands of aggrieved landholders yesterday applauded the State Government's decision to walk away from a green zoning proposal that had denied property owners the right to cash in on future housing estates. (Goodsir, 2005c: 11) 10 A further aspect of the State Government's decision in regard to the abandoned green zones was the announcement that it would attempt to retain some environmental aspirations by focusing on protecting the best sections of vegetation and waterways in the two Growth Centres.

This new approach, developed in consultation with the Department of Environment and Conservation, created four new zones into which land was classified: flood-prone, urbancapable, urban edge and conservation (Sartor, 2005).

Significantly, this approach focuses on biodiversity certification and relies on a new environmental offsets or biobanking scheme, under which developer payments are used to conserve areas of bushland, further discussed below. Planning implementation of the growth centres component of the Sydney metropolitan strategy was deferred to the making of a specific statutory plan in the form of a state environmental planning policy (SEPP), which finalised the release area boundaries and the constituent land zones and controls.

Work on a draft of this SEPP progressed throughout 2005, and major changes were made to its envisaged land use zones following the State Government's decision to abandon the proposed green zones

. A ‘final’ version of the draft SEPP – minus the now moribund green zones – was released in January 2006 for public exhibition and comment. Subsequently, on 28 July 2006 the Minister for Planning gazetted State Environmental Planning Policy (Sydney Region Growth Centres) 2006.

Yet the SEPP as gazetted was modified from that placed on public exhibition, following 750 submissions from members of the public, industry and State Government agencies (DoP, 2006a). Opinions on the nature of the modifications to the SEPP greatly diverged. On the one hand an update on the Sydney metropolitan strategy issued by the Department of Planning was emblazoned with the heading ‘More Green Spaces for Western Sydney’ (DoP, 2006b), whilst 11 on the other the Sydney Morning Herald more pessimistically – and accurately – reported that ‘Housing eats our next park’ (Davies, 2006). These two contrasting views are discussed in turn below.

The increase in green infrastructure in Western Sydney announced by the Minister involved the rezoning under the SEPP of a long-standing undeveloped 560 ha parcel of land owned by Airservices Australia, a Commonwealth Government agency.

Located at Shane’s Park, in Sydney’s north-west, the land is the site of a former international radio transmission station and about 80% was already listed on the Commonwealth’s Register of the National Estate. The site was to be merely rezoned by the State Government from one open space designation to another. Conversely, the SEPP also sought to reduce by over one-half, the amount of land proposed for the Rouse Hill Regional Park. The park, which surrounds Rouse Hill House, one of Sydney’s earliest properties, has been planned since 1989 and a further commitment to create the 115-hectare park was given in 1997.

In a decision that “outraged heritage experts, local councils and even the Government’s own advisers on its metropolitan strategy”, the State Government decided not to acquire Stage 2 of the park, with the Planning Minister arguing that the $120 million to be paid for the 81-hectare site “was too much to pay for views” (Davies, 2006).

Instead, the land was designated under the SEPP to be released for housing. Public opposition to this proposal was so intense however that the Minister quickly reversed his decision, announcing the entire area of the park would be protected by restoring its earlier open space zoning (DoP, 2006d).

Since the publication of City of Cities further potential for undermining of this plan has been evident in the form of developer pressure for land to be released for urban development outside the designated growth centres.

In particular, one major development company with 12 extensive land holdings in the Macarthur South/Appin has actively lobbied the NSW State Government for this land to be added to Sydney’s release areas (Frew and Snow, 2008).

This is part of an area investigated for urbanisation under the 1988 Sydney metropolitan strategy Sydney Into Its Third Century (DEP, 1988) but subsequently deferred due to water and air pollution problems (DoP, 1993; Holliday, 1998; Vipond, 2001).

Clearly, such a release would also undermine a fundamental component of City of Cities of limiting Sydney’s urban expansion to 2031 to the designated growth centres and hasten the urbanisation of

the Sydney basin. Following initial consideration, the Government recently announced the deferral of further investigation of Macarthur South as its development is presently unviable due to prohibitive infrastructure costs (Keneally, 2009).

It should be pointed out that similar challenges are facing other Australian cities. For example, the recent and controversial expansion of Melbourne's urban growth boundary into its 'green wedge' areas (Buxton and Goodman, 2002; Buxton and Scheurer, 2007), has strong parallels with the Sydney situation.

This brief vignette reveals a number of key factors that must be taken into consideration in contemporary growth management on the rural-urban fringe of Australian cities and towns.

First is the deficiency, on their own, of traditional command and control mechanisms such as land use zoning and planning restrictions to guarantee the protection of non-urban land. Second is the apparent inevitability of continued urban sprawl unless appropriate growth management policy responses can be crafted and implemented to counter this apparent biodiversity-damaging form of urbanisation.

Third is the role – rightly or wrongly – that claims to property rights play in land use planning and development decisions.

Fourth is the reluctance of government to rely, otherwise than de minimus, on the public purse to protect non-urban land (for example, through land acquisition for the provision of green infrastructure).

The fifth factor – argued here to be an inevitable conclusion given the 13 previous four considerations – is the role that newer alternative mechanisms such as smart regulation and market-based instruments that operate within the context of property rights can play, particularly in the context of seeking to ensure that natural resource and environmental values are protected in the face of the pressure and expectations of continued urban expansion. It is in the context of these factors that some complementary mechanisms for planning policy implementation – specifically the integration of biodiversity conservation into managing the growth of Australian cities – are now considered with Sydney as a case study

Transferable development rights The concept of property rights is integral to schemes such as transferable development rights (TDR). TDR is described as a property rights-based tool since it recognizes, and seeks to work with, a development right which is perceived as one of a number of rights accruing from ownership or other interest in property (Wiggins, 1988).

Fundamental differences however, can be identified in the practical application and consequences of the concept of property rights.

Specifically property rights-based tools have, depending on the approach taken, been ascribed as constituting an example of a market-based or economic instrument, or alternatively a manifestation of free market environmentalism (Gunningham and Grabosky, 1998). Yet in essence, TDR is one type of planning tool that seeks to compensate landowners whose development rights have been restricted by regulation.

Compensation is achieved by allocating to those owners an amount of development that may be transferred from the restricted site to another site (Bindon, 1992). Fundamentally, development rights are severed from a parcel designated for protection ('sending area'), and the severed rights are transferred to a parcel in an area where additional development is permitted ('receiving area') (Johnston 14 and Madison, 1997: 365).

The scheme thus allows more development on the receiving parcel while reducing or preventing development on the donor parcel.

Under such a program, the development rights of the sending parcel may be either sold by that owner to the owner of the recipient parcel, or transferred directly from the donor to the receiving site if they are under common ownership. The number of development rights that can be transferred depends on how many development-rights 'credits' a planning authority allocates and how much it allows in areas designated for growth (Daniels, 1999: 224). Within the modern system of formalised land tenure the bundle of rights that constitute land ownership are often consolidated in the hands of a single 'owner'.

By allowing voluntary acquisition and conveyance of specific rights for specific uses, trading in partial interests offer this more flexible and refined alternative to a strictly regulatory approach or acquiring full ownership rights (Wiebe and Meinzen-Dick, 1998).

Development rights have been viewed as one of a number of rights embodied in the ownership interest in property. These development rights have been classified as a real property interest, which entitles the owner of a fee simple interest to deal with the land as the owner wishes, subject only to government regulation, principally through zoning (Arnold, 1992).

However, the right to transfer development rights is not ordinarily part of the bundle of rights that comes with land ownership: because in Australia at least there is no right to develop land except within the terms of planning instruments.

Government must therefore enact specific legislation to legalise the sending of a building right from one parcel to another (Daniels and Bowers, 1997).

Once legislatively sanctioned, an owner may separate and transfer one of the rights incidental to ownership whilst retaining the other rights (Arnold, 1992). In the US the acquisition and conveyance of partial interests to land has proven to be a popular, flexible and effective tool for land use and conservation policy. 15 TDR has several attractions to commend it – which revolve around its 'respect' for property rights. TDR is a (hybrid) market based mechanism under which developers pay for preservation in return for additional development potential. Where a TDR scheme is in place, a developer buys development rights, with zoning provisions identifying the number of additional units allowed in designated receiving areas.

TDR is therefore effective when the TDR option is more profitable than the non-TDR option for landowners and developers. The motivation for utilizing this scheme is the ability to sell and transfer development rights – thereby increasing residential densities in targeted sites – and yet retain land and appropriate uses in receiving areas.

Schemes such as the purchase or transfer of these interests or rights have allowed public agencies and private non-profit conservation groups to influence the use of public and private land without incurring the political costs of land regulation or the full financial costs of outright land acquisition (Wiebe and Meinzen-Dick, 1998)

. It is a voluntary approach to influencing land use, by offering landowners and farmers financial incentives for environmental conservation, restoration, and preservation. In Australia there is no such inherent right to develop land; rather a property owner may have the right to seek development consent, after the granting of which, development for the specific purpose approved can legally commence before the consent lapses after a prescribed period.

Nevertheless, in practice the Australian experience is that a landowner may have certain development expectations based on the applicable statutory planning controls. Implicit in the controls is a perceived probability of gaining approval for a certain type and quantity of development (Bindon, 1992).

As a consequence, the fundamental principles behind the US model has been recognised and adopted by several local councils in Australia that have established TDR systems (Williams, 2004).

These include heritage conservation in 16 Sydney, Adelaide, Melbourne and Brisbane (Ryan, 2004), protection of the Mount Lofty Ranges near Adelaide, provision of open space and conservation reserves in Gosford (NSW), urban growth management in Wellington (NSW) and protection of the Illawarra Escarpment near Wollongong (Williams, 2004).

Yet the apparent reluctance for more widespread use of TDR as a planning tool remains. This is despite TDR being identified as a tool worthy of consideration, for example, in the NSW Plan First planning system reforms a decade ago (DUAP, 2001).

Three reasons can be advanced to explain this situation. First, the utilization of market based tools is still relatively recent in Australia. There has been a tradition of reliance on 'command and control' regulation in Australia, which is quite different to the history of market based tools in the US and bargaining for planning gain/negotiated planning agreements in Britain.

Second, there is a lack of understanding of the TDR mechanism by planning decision-makers (both politicians and planners). Third, there is ongoing legal uncertainty and impediments surrounding TDR.

Evidence of the present legal impediments to the more widespread adoption of a TDR scheme in NSW include expression of doubt by the NSW Land Environment Court about the legality of TDR schemes (see for example Leighton Properties Pty Limited v North Sydney Council [1998] NSWLEC 39) concerns raised by a Commission of Inquiry regarding the transparency of Wollongong City Council's TDR for the Illawarra Escarpment (Commission of Inquiry, 1999), and ongoing reluctance by the NSW Parliamentary Counsels Office to support draft statutory plans produced by local councils that seek to include TDR provisions.

Biodiversity certification and biobanking Biodiversity certification and biobanking are two relatively new planning tools in NSW. Biodiversity certification was introduced with the passage of the Threatened Species 17 Legislation Amendment Act 2004 (NSW).

It is designed to integrate threatened species management into the strategic planning stage through the auspices of the formulation of environmental planning instruments (EPIs), rather than being

mired within the 'trench warfare' of assessment under the development application process. Under this scheme, environmental biodiversity studies are required to be prepared up front, and planning options for development and conservation methods identified and evaluated.

A draft EPI is then prepared and forwarded to the Minister for Environment, Conservation and Climate Change who then decides whether to grant biodiversity certification. The outcome of the process is that a developer does not need to prepare a species impact statement, and biodiversity does not comprise part of the environmental assessment of the proposed development.

Significantly, the first EPI to receive biodiversity certification in NSW was State Environmental Planning Policy (Sydney Region Growth Centres) 2006 which contains the main statutory planning controls for Sydney's Growth Centres. Biobanking is an example of an offsets scheme.

Under an offset arrangement, industries or resource users are given the choice of either offsetting the damage they cause or paying an authority to do it on their behalf.

The provision of an offset is a mandatory requirement or condition of the granting of approval to undertake development with potentially adverse environmental impacts. The arrangements operate partly through regulatory mechanisms such as permits or approvals, and partly through a market-based system, which allows one property owner who undertakes some form of environmental restoration to sell offset credits to another owner or industry seeking approval to undertake development. Thus an offset arrangement is clearly a hybrid of regulatory and market-based instruments. 18 The NSW Biodiversity Banking and Offset Scheme was introduced under the Threatened Species Conservation Amendment (Biodiversity Banking) Act 2006 (NSW).

The scheme seeks to provide an additional, market-based, mechanism to assist in conservation management. It aims to achieve more predictable development and conservation outcomes by guiding development to appropriate places, and to promote private land conservation through income generating opportunities for landowners who provide biobank sites.

Landowners create credits by establishing biobank sites and earn income from managing land for conservation.

The scheme aims to be comprehensive – the biobanking provisions include requirements for biobanking statements, creation of biodiversity credits (calculated using published assessment methodology), detailed regulations (including cost recovery), establishment of a BioBanking Trust Fund, BioBanking public registers and enforcement provisions (DECC, 2007). The NSW BioBanking and Offsets Scheme seeks to address the loss of biodiversity by enabling landowners to establish biobank sites to secure conservation outcomes and offset impacts on biodiversity caused by development. Conceptually, this is achieved through the use of an 'improve or maintain' test for biodiversity values, which means avoiding significant biodiversity conservation areas and offsetting impacts in other areas (DECC, 2007: 4).

The offsets are measured in terms of credits, using the published BioBanking Assessment Methodology (DECC, 2009), and developers participating in the scheme are required to meet this improve or maintain test based on the impact of their proposed project. The BioBanking Scheme has four key components (DECC, 2009b): 1

. Establishing biobank sites on land through biobanking agreements between the Minister for Climate Change and the Environment and participating landowners. A 19 biobanking agreement is

similar to a covenant and is attached to the land title. It runs with the land, and generally will have effect in perpetuity so as to offset the impacts of development on biodiversity values.

2. Creating biodiversity credits for management actions that are carried out, or proposed to be carried out, to improve or maintain biodiversity values on biobank sites. The biobanking assessment methodology is the tool used to determine the number of biodiversity credits that may be created for these management actions.

3. The trading of credits, once they are created and registered. 4. Enabling the credits to be used to offset the impact of development on biodiversity values. The assessment methodology is the tool that is used to determine the number and class of credits that must be retired to offset the impact of a development and ensure that the development improves or maintains biodiversity values.

BioBanking in NSW is still in its infancy – indeed at the time of writing no biobanking agreements had been listed publicly (DECC, 2009c) although several have been shortlisted as either biobank sites, development sites or joint biobank/development sites – and biodiversity certification has presently not extended beyond the Sydney Growth Centres (DECC, 2009d).

Nonetheless, some observations may be made in relation to both these biodiversity conservation tools. Both approaches require an 'improve or maintain' outcome for biodiversity values, which is difficult – if not impossible – to achieve given the high conservation value of the remaining biodiversity and ecological communities in the Sydney Region.

Disagreement exists in relation to the identification of appropriate offset ratios – i.e. the ratio of conservation land to offset developed land – with this generally well in excess of a simple 1:1 ratio.

Problems have also arisen with using biobanking and biodiversity 20 certification to justify the loss of areas of high biodiversity – something which DECC seeks to avoid and the Land and Environment Court has had to adjudicate in the case of specific residential developments in Sydney (see for example Sanctuary Investments Pty Ltd & Ors v Baulkham Hills Shire Council [2006] NSWLEC 733). Concerns have also been expressed by some local councils in the Sydney Region about the location of biodiversity offsets.

Such councils have argued that the offset sites should be located in the same local government area that the development is occurring, whereas some State Government agencies believe that the funds generated under the BioBanking Scheme could be better used to conserve larger areas of land outside the Sydney Region, where land acquisition costs are cheaper.

Further, problems have arisen in situations where developers have sought to offset the loss native vegetation on development sites with biobank sites containing ecological communities of inferior conservation status, contrary to the principles of the BioBank Scheme (DECC, 2009e).

Finally, the attraction of offering biodiversity offsets – generally as individual land dedication agreements outside the formal Biobank Scheme – has been used as a bargaining chip by developers to persuade State Government to give favourable consideration to unscheduled urban releases, particularly in the Lower Hunter region of NSW (Creagh and Munro, 2007).

One such land dedication agreement which attracted significant media attention involved the brokering of the agreement, and subsequent granting of planning approvals, by a former Minister

for Planning for proposed residential developments at Catherine Hill Bay and Gwandalan in the Lower Hunter.

The Ministerial approvals were subsequently quashed by the Land and Environment Court on the grounds of apprehended bias and reliance on irrelevant considerations (Gwandalan Summerland Point Action Group Inc v Minister for Planning [2009] NSWLEC 140).

Pertinently, the invalidated approvals relied on land 21 dedication agreements that were outside the framework of the Government's own BioBanking and Offsets Scheme.

Conclusion

Faced with the rising influence of the property rights movement (along with the contemporary problem of 'down-zoning' land as witnessed in the proposed green zones in the Sydney Growth Centres), the challenge to land use managers and planners has been to devise planning mechanisms which respect the integrity of private property on the one hand, and yet still achieve planning policy objectives on the other.

It is in this context that more creative mechanisms such as TDR and biodiversity certification and biobanking need to be considered as urban growth management tools. In the case of TDR the issue of the lack of understanding of this mechanism by decision-makers (including planners) and the present legal uncertainty surrounding its application need to be resolved – the latter by legislative action.

In the case of biodiversity certification and biobanking the main issue relates to the untended consequences of these tools.

This includes their use to gain approval for inappropriate development in terms of undermining both the promotion of orderly land releases and the protection of areas of high biodiversity value within the Sydney Region.

Part of the reason for these problems lie in the fact that market based tools are still very much in their infancy in the NSW planning system.

To better integrate biodiversity conservation with managing the growth of Sydney, a hybrid framework which utilizes sound metropolitan planning, strategic or planning phase biodiversity certification, statutory-based regulation such as zoning, and market-based mechanisms including TDR and biobanking reinforced by conservation covenants or agreements, should be adopted.