

# ENGAGING PERI-URBAN LANDHOLDERS IN NRM

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## ABSTRACT

Engaging landholders in natural resource management (NRM) is a challenge in any landscape, however it can be inherently more difficult in peri-urban landscapes. This paper investigates why this is so and proposes practical options for addressing some of these challenges.

We propose that the current approaches used to engage peri-urban landholders in NRM are in many cases based on conventional methods used to engage rural landholders. We found that whilst the principles underpinning this approach are sound, the design and delivery of engagement must be modified to be effective in peri-urban landscapes.

Importantly, such modifications have implications for the planning, management, cost and delivery of peri-urban NRM projects.

## INTRODUCTION

Some of the most important and highly valued natural resource assets (biodiversity, remnant native vegetation, wetlands and waterways) occur in peri-urban landscapes across Australia.

This is evidenced in a literature review on the State of Peri-urban Regions in Australia, completed by Buxton et al in 2006. The review states that over forty per cent of ecological communities listed for protection under national conservation legislation and more than fifty per cent of nationally listed threatened species are known to occur in peri-urban areas.

Furthermore, numerous wetlands of international importance (listed under the Ramsar convention on wetlands) occur on the coastal fringe within peri-urban landscapes. Examples include the Peel-Yalgorup Ramsar site in Western Australia and the Western Port Ramsar site in Victoria.

Another notable example is the Leadbeater's Possum (*Gymnobelideus leadbeateri*), an

endangered species endemic to Victoria. It has a very restricted distributional range overlapping with the peri-urban area east of Melbourne.

In addition, natural values that occur in peri-urban landscapes such as waterways and intact stands of native vegetation provide ecosystem services like the provision of clean drinking water (Buxton et al 2006). The Maroondah Dam catchment southeast of Melbourne is a good example of this.

Natural assets that are found in peri-urban areas are not dispersed uniformly across public and private land. The area of private land across peri-urban landscapes is proportionally higher than public land (Buxton et al 2006; Parberry et al 2008). As a result much of the remaining natural assets in peri-urban landscapes occur on private land (e.g. river corridors, remnant patches of native vegetation, wetlands). It is also important to note that the management of natural resources on private land will influence the management and condition of natural resources on public land (Buxton et al 2006).

Given many of the valuable natural assets in peri-urban landscapes occur on private land, engaging these landholders in NRM projects is often critical to meet the desired environmental outcomes of relevant agencies and organisations (e.g. federal and state environment departments and local NRM organisations).

However, there are many challenges associated with engaging peri-urban landholders in NRM. In part, these challenges are related to the complex set of interacting factors, which are characteristic of peri-urban landscapes, including; the unclear boundaries of peri-urban areas, their dynamic and transitional nature (e.g. conversion of rural land to other uses, in-migration of new landowners), the large variety of often competing land uses and development pressure (smaller lot sizes and high rates of population growth).

This paper describes the characteristics of peri-urban landscapes and identifies how these and the current approaches used to engage peri-urban landholders have implications for achieving meaningful NRM outcomes. It draws on the findings from reviews and evaluations of peri-urban biodiversity and NRM projects as well as relevant literature and proposes that conventional approaches to landholder engagement, largely developed by working in rural landscapes, are far less effective and not always appropriate in peri-urban landscapes.

We conclude by using the results of the analysis to highlight practical options that can be used in planning, design and implementation of landholder engagement components of NRM projects in peri-urban landscapes.

## METHODS

This paper draws on the collective knowledge and experience of consultants (RM Consulting Group) with over twenty years experience in NRM and input from the Port Phillip and Westernport Catchment Management Authority (PPWCMA) in Victoria.

The experiences and observations used for this paper have been drawn from:

- Reviews and evaluations of peri-urban biodiversity and NRM projects
- Review of the literature relevant to engagement of peri-urban landholders in NRM

Previous peri-urban NRM projects will be used to:

- Describe the complexity of peri-urban landscapes
- Illustrate the challenges of engaging peri-urban landholders in NRM in these landscapes
- Show how the assumptions underpinning conventional rural landholder engagement approaches do not apply in many cases to peri-urban landholders

## DISCUSSION

We begin by describing what we mean by the peri-urban landscape. We then outline the characteristics of these landscapes to show how they differ from others (e.g. rural or urban), and to set the context for illustrating what we propose are the main challenges for engaging peri-urban landholders in NRM.

We then present what we consider to be three main challenges for engaging peri-urban

landholders and describe the implications of these for effecting meaningful NRM outcomes.

### **Characteristics of peri-urban landscapes**

There is no single universal definition for peri-urban landscape in fact it is the subject of much debate within the literature (Buxton and Choy 2007; Mbina and Huchzermeyer 2002). However, it is possible to describe peri-urban landscapes conceptually as the landscape that occurs between dense continuous urban development and the rural countryside (Nelson and Deuker 1990). No clear boundaries exist to demarcate where these landscapes begin and end, instead they exist on a continuum between urban and rural settlements. The conceptual description provided here is what we consider to be a peri-urban landscape for the purposes of this paper.

Regardless of the preferred definition for a peri-urban landscape there are numerous common elements to these landscapes that distinguish them from others (Buxton et al 2006). Peri-urban landscapes are dynamic and transitional, they have new and diverse communities forming and land use change is occurring at a rapid rate. It is these characteristics that make it challenging to engage peri-urban landholders in NRM.

For example, in a 2010 study investigating changes in rural property ownership, Mendham and Curtis found that in the Corangamite catchment (located west of Melbourne, Victoria), areas in close proximity to larger metropolitan centres (Ballarat, Geelong, Melbourne) are being sub-divided into smaller lots and transitioning from rural to amenity land uses.

These changes in land use are resulting in changes to landholder demographics across the area (i.e. a shift away from traditional farmers to lifestyle landholders). In turn, this is creating a more diverse mix of landholders with differing values, property aspirations and economic circumstances (Mendham and Curtis 2010).

Given that these new lifestyle landholders report lower levels of knowledge and skills in land management, and are less focused on agricultural production, conventional approaches used to engage landholders (e.g. through agricultural extension officers) will be far less effective (Mendham and Curtis 2010).

Compared to rural areas, land in peri-urban areas has a larger number and greater variety of land uses, with diversity increasing closer to metropolitan centres. In Australia, this change has been observed most notably along the eastern and south western seaboard over the last twenty years, and it is continuing at an ever increasing rate (Darbas et al 2010).

Lifestyle properties in peri-urban areas are used for a variety of purposes (e.g. horse agistment, vineyards), and smaller lots also support more traditional intensive agricultural production (e.g. vegetables, poultry).

With increases in smaller residential lots comes the need for infrastructure and amenities to service the increasing population moving into these areas (Buxton et al 2006). This further increases the diversity of land uses and commonly includes a mix of: industry, manufacturing, conservation areas, green and open space for recreation.

Conflict over land use in peri-urban areas is therefore common given the diversity of uses (Buxton et al 2006). For example residential housing may be located next to a publically managed grassland reserve that requires burning to maintain ecological function. This can cause concern for residents who may view fire as a threat to their property. Previously the organisation or agency responsible for undertaking fire management activities may not have had to engage the community about ecological burning and similarly new landholders moving into these areas may not be familiar with or understand the importance of ecological burning to maintain the health of the grassland. In turn, this can lead to residents submitting complaints to the local council and ecological burning being stopped. As a result the grassland becomes further degraded.

Rural landholders often comment that there seems to be many similar agencies involved in land and water management, which can create confusion and uncertainty. This is an even greater issue in peri-urban landscapes with both urban and rural land management agencies and groups being involved (e.g. local NRM planning organisations, local councils, state government environment, planning and development departments, water authorities, Landcare, land developers and infrastructure agencies).

This means that often multiple organisations are attempting to engage with peri-urban landholders about many different topics at the same time. Through surveys and focus groups conducted with peri-urban landholders for various projects, we have consistently found that landholders report being contacted by multiple agencies and organisations (e.g. water authorities, Catchment Management Authorities, Landcare, local council) seeking their involvement in NRM activities. In many cases we found landholders have little awareness of the different environment agencies and, if they are interested, can be confused about the most appropriate contact in relation to NRM issues. For instance there were many cases where they

had never heard of the local catchment management authority (CMA) and were unwilling to engage with any such organisation.

We found this was the case in running a series of focus groups and interviews with landholders in south east peri-urban Melbourne (Pearcedale, Koo Wee Rup, Yarra Glen) as part of reviewing a project that focused on protecting threatened species habitat. Some of the peri-urban landholders had not heard of CMAs or Landcare and some were confused about where the grant money to complete on-ground environmental protection works had come from. This meant that even when they were interested in participating in an NRM program they did not know where to go for help when they were having difficulty (e.g. filling out the application forms, ordering plants, getting plants in the ground). In some cases this led to landholders pulling out of the project altogether.

Peri-urban landscapes are experiencing high development pressure as a direct result of transitioning land uses (Darbas 2010; Millward 2002; Murphy and Burnley 1996). Sub-division of land into smaller lots means substantially more people are moving into peri-urban areas over a short space of time. This is causing fragmentation of natural resource assets and loss of connectivity between assets (Williams et al 2001). Native vegetation is perhaps one of the most obvious examples. Smaller lots cause fragmentation of vegetation as a result of the establishment of infrastructure, fencing, buildings and roads (Darbas 2010). This leads to smaller isolated patches of vegetation across the landscape and ultimately loss of connectivity. Smaller isolated patches of vegetation are more sensitive to edge effects and disturbance (e.g. disease, fire).

The magnitude and intensity of the changes described here becomes greater as you get closer to the urban centre.

### **Challenges of engaging peri-urban landholders in NRM**

We consider there to be three main challenges when engaging landholders across peri-urban landscapes.

1. Addressing competing government priorities
2. The high number and diversity of landholders
3. Using an appropriate mix of landholder engagement approaches

We acknowledge that these challenges are common no matter what audience you engage, however the intensity and magnitude of these challenges is much greater in peri-urban

landscapes compared to others, such as rural. This is in a large part as a result of the characteristics of these landscapes as outlined in the previous section of this paper. These challenges have significant implications for the planning, design and delivery of engagement approaches for NRM projects in peri-urban landscapes.

#### *Addressing competing government priorities*

Peri-urban landscapes are contested spaces. The composition of peri-urban landscapes is a product of the multiple competing government priorities driving development of these areas (Buxton et al 2006).

Planning policies such as Melbourne 2030 have supported the conversion of rural land into residential lots on Melbourne's urban fringe in a bid to improve housing affordability and availability for Melbourne's growing population. In addition, new residential developments demand open space for recreation and increased infrastructure such as road networks (State of Victoria 2002).

In these same areas, economic policies are driving agricultural production for example, vegetable farms in Werribee South and Koo Wee Rup (Wyndham City Council 2010; DPCD 2011) and industrial land use (e.g. development of manufacturing and distribution factories in Dandenong and Laverton) (DSE 2009).

In conjunction, conservation policies are driving environmental protection in these landscapes as well (e.g. the Victorian Volcanic Plains grassland reserves) (CoA 2010).

Often and particularly in peri-urban landscapes economic and social priorities conflict with environmental priorities. This means trade-offs are made and much of the time economic and social priorities come before environmental priorities (Buxton et al 2006).

In some cases it is possible to meet social, economic and environmental priorities in the landscape. However this is extremely challenging in peri-urban landscapes.

Government priorities are in part driving the diversity of landholders in peri-urban landscapes. In turn, this makes it difficult to engage the mix of landholders who have been driven to move or stay in peri-urban areas for different reasons.

The challenge of competing government priorities in peri-urban landscapes has two main implications for engaging landholders and effecting meaningful NRM outcomes:

- Development of realistic and feasible NRM outcome targets
- Development of associated landholder engagement targets

Firstly, we have found that often peri-urban NRM project targets are overly ambitious and do not take account of the landscape context (i.e. number and diversity of landholders across the landscape).

Commonly, in peri-urban NRM projects limited information about how competing land uses might affect achievement of NRM objectives is built into the project planning process (e.g. achieving desired revegetation targets to connect habitat in a fragmented landscape that includes pockets of residential development dispersed with agricultural production).

This was observed in a peri-urban biodiversity project we reviewed focusing on protecting habitat for three threatened species south east of Melbourne. The targets set for habitat enhancement (fencing to protect remnants and revegetation) were not met. We propose that this was in part a result of underestimating how the complexity of land uses across the target area might impact the extent of revegetation and remnant protection that was possible.

Secondly, we have found that landholder engagement targets are usually constructed around environmental outcomes without adequate consideration or understanding of the target audience. Therefore this impacts the level of participation in the NRM project that can be achieved and consequently the biophysical outputs (e.g. hectares of revegetation) that can be achieved.

Inadequate understanding of the target audience is a common issue across many NRM projects and this presents problems for predicting engagement success and therefore setting appropriate landholder engagement targets. This issue is particularly amplified in peri-urban landscapes where there are more landholders in the landscape who are more diverse (e.g. different values and aspirations for their land).

In our review of the threatened species habitat projection project, we found that landholder participation targets were driven by the desired biophysical targets, and were not fully tested against an understanding of the local community. For this project, general mail out of an invitation letter was one of the main tools used to engage landholders. A standard letter (from the CMA) was sent out inviting all landholders across the project area, including lifestyle and rural properties, to get involved.

The mail out seemed to be based on the assumption that landholders across the project area are homogenous and would respond to this invitation in much the same way as rural landholders. This was expected to generate the desired uptake and therefore the biophysical targets would be met. This was however not the case, and uptake was well below what was expected after the first round mail out.

It is therefore important for NRM organisations and agencies to be aware of, and understand, what is driving land use and landholder behaviour in these areas. In turn, this helps projects to be realistic about participation rates and what they can achieve when setting NRM targets. Integrating biophysical and social data into project planning and target setting is important in all NRM projects, but perhaps even more critical in peri-urban areas.

Aligning NRM projects to government priorities and setting targets for these projects is further complicated by the competitive nature of funding and investment programs which drive NRM organisations, in some cases, to set unrealistic targets (based on timeframes and budget available to complete the project). There are two options for addressing these issues, to secure a greater amount of funding or reduce the targets.

#### *The high number and diversity of landholders*

The large variety of land uses and multiple factors that shape peri-urban landscapes creates more complexity for engaging landowners in these areas. This presents numerous challenges for planning and designing engagement approaches in peri-urban landscapes (Kearney and MacLeod 2006).

As peri-urban landscapes are experiencing high population growth, the number of landholders to engage in NRM projects is greater compared to a rural landscape of the same size. This means the time and effort required to engage landholders in these landscapes is also likely to be greater.

Through the work we have done delivering small landholder property management workshops in Tasmania, the various focus groups we have conducted with peri-urban landholders on the outskirts of Melbourne as well as review of the literature on this topic we found that peri-urban landholders:

- Have a wide range of aspirations for the their properties (i.e. what they want to manage it for)
- Have a high variation in awareness of environmental values
- Have a high variation of knowledge and skills in land management and NRM

- Tend to spend less time on their property
- Are moving into peri-urban areas from other districts and urban areas, and therefore are generally not well connected in the local community
- Derive most of their income off-farm and seem to be more willing to spend money on NRM
- Have limited knowledge of NRM and related organisations (e.g. local NRM planning organisations, Landcare)
- May fear or be suspicious of government authorities and their motives

The challenge that this diversity presents is that NRM projects need to be able to appeal across a very wide spectrum of interests. In a rural area dominated by farming, an approach that focuses on just one dimension, such as the benefits to a farm operation, might generate sufficient participation. In peri-urban landscapes the approach may need to appeal to the different interests stated above (i.e. the wide variety of; property aspirations, environmental awareness, NRM skills and knowledge, financial capacities, familiarity with and perception of government and NRM organisations and authorities) all simultaneously in order to generate sufficient participation. This presents enormous challenges in designing and delivering an appropriate set of engagement approaches. An approach that relies too heavily on a narrow view of landholders may not be successful.

#### *Using an appropriate mix of landholder engagement approaches*

Given the diversity and number of landholders in peri-urban areas we propose that multiple different approaches will be needed across the one project area to achieve effective uptake and participation in NRM. It can be a challenge to select the right mix of engagement approaches and this will be different depending on the peri-urban landscape.

In many cases the usual NRM engagement channels / networks like Landcare or local NRM planning bodies (e.g. Catchment Management Authorities) may completely miss the mark. This can be a factor of new landholders moving into the area and not being aware of such organisations (e.g. tree changers, sea changers).

The perceived benefits of doing environmental works will depend on the land use and property aspirations of the landholders. Whilst this is the case for all landholders (peri-urban, rural) the variety of uses and aspirations will be much wider in peri-urban landscapes. Therefore how

the NRM project is pitched or messaged will be important.

For example, in our review of the habitat protection project south east of Melbourne, interviews with non-participating landholders highlighted that the language used in the generic mail out letter was not appropriate for all landholders. Words such as “covenant” and the formal language used resulted in the perception amongst some landholders that their land would be taken away or “locked up” if they got involved. Even so, some landholders who did participate reported that they were comfortable with the letter and participated as a result of receiving the letter.

This clearly shows that a mix of approaches is required to engage peri-urban audiences. However selecting the right mix can be challenging and can also be more expensive.

## CONCLUSION

In the final section of this paper we consider the implications of the challenges to engaging peri-urban landholders in NRM projects that we highlighted in the previous section. We then outline what we consider to be important steps in the successful engagement of peri-urban landholders to achieve meaningful NRM change across peri-urban landscapes.

### **Higher costs associated with engaging peri-urban landholders**

As there are more landholders to engage (i.e. compared to a rural landscape of comparable size) and because landholders are more diverse (e.g. environmental awareness, knowledge, skills and interest in NRM, differing property aspirations) it is likely to be more costly to undertake engagement in peri-urban landscapes.

Additionally because there are more landholders undertaking smaller projects, the capital costs are also likely to be greater (e.g. engaging numerous landholders in multiple fencing projects rather than the one or two that might cover the same area in a rural landscape).

It will be important for NRM organisations and agencies to address these factors in planning and costing NRM projects in peri-urban landscapes and not rely on assumptions made to cost rural NRM projects. This may also mean that the targets (both biophysical and landholder engagement numbers) may have to be adjusted.

### **Identify and understand the target audience**

Clearly identifying the target audience and having a good understanding of their motivations, drivers and values are critical to the

success of any NRM project, but even more so in peri-urban areas.

Getting to know the target audience should be one of the first steps in project planning. This can be done using local champions with good knowledge of the target audience (e.g. local government environment officers or councillors), baseline surveys, focus groups, and existing data (e.g. ABS Census). This can also be achieved by tapping into the appropriate communication channels used by the target audience. For example, setting up a stall at the local weekend market, pinning brochures up in the local supermarket or childcare centre, or using existing community groups to deliver the message and gather information about the target audience.

In our evaluation of the Community Skills, Knowledge and Engagement outcome of the Australian Government’s Caring for Our Country program we completed a number of case studies to demonstrate the factors of success underpinning engagement of the community and landholders in NRM. In one such project that aimed to increase native habitat and achieve landscape scale conservation across endangered native vegetation communities, we found that a key component driving the success of this project was the project team’s in-depth social-cultural understanding of the targeted landholders they wanted to participate in the project. This was done by undertaking interviews with a wide range of landholders from the project area to gather information about their physical, social and economic environment, attitudes towards land management, environmental management and participation in community networks and Landcare. This provided a rich body of information about the landholders in this area, which was then used to design engagement approaches for this audience. Although this example is from a rural landscape the principles for engagement are the same as would be applied for peri-urban landholders (e.g. getting to know and understand the target audience to inform the design of fit for purpose engagement approaches). The difference in a peri-urban landscape is that there is likely to be a greater number of approaches that need to be used to get the desired uptake.

A detailed understanding of the target audience can inform the development of a tailored mix of engagement approaches that are well matched and aligned. Therefore, with the right engagement approaches, desired rates of uptake and participation are more likely to be achieved. Integrating this sort of social information with biophysical information

increases the chances of effecting meaningful change in NRM.

### **Learn from past experience**

While working in peri-urban areas is challenging, it would be wrong to presume that there is no existing information and experience to draw on. There have been many evaluations of peri-urban NRM and biodiversity projects completed and both positive and negative experiences to build on.

### **Be prepared to try new and innovative approaches**

In many cases it will be necessary to use very different approaches to achieve the required level of engagement to get meaningful NRM outcomes. This may include things like tapping into existing community groups that have little or nothing to do with NRM (e.g. local childcare centre, dog training groups, pony clubs, CFA/Rural Fire Brigade).

The purpose of engaging through these non-conventional channels is simply to connect with people who may have an interest in NRM work. Many new landholders are moving into peri-urban landscapes and they may have no connection to traditional environment groups such as Landcare and may not have a good knowledge of the local environment (Curtis and Mendham 2007).

Engagement may need to begin at a very basic level of simply making a connection to landholders through any channel in order to identify whether they have any interest in the local environment and NRM.

### **Adaptive management**

Given that peri-urban landscapes are dynamic and transitional, NRM projects in these areas also need to be much more responsive and dynamic. Flexibility and adequate review points should be built into the project to frequently gauge the success of engagement. Capturing the right data and information throughout the project will be an important part of monitoring success of these engagement approaches.

Building in higher levels of flexibility into the project from the beginning will mean that partners and investors are not surprised when there is a need to adjust the approach to fit the changing audience.

Finally, a greater focus on adaptive management is required when engaging peri-urban landholders because our understanding of their motivations, interests and barriers to adoption is much less than comparative rural areas (e.g. compared to an area dominated by

dairy farming). As this understanding grows, it is likely to identify yet more cases where changes to approaches and techniques are required.

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