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## How do amenity migrants learn to be environmental stewards of rural landscapes?

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### **Abstract**

The changing socio-ecological dynamics in rural landscapes associated with amenity migration in post-industrial nations such as Australia has implications for environmental management.

The number of non-farming landholders now occupying regions once valued primarily for agriculture has increased rapidly in the past decade, with property turnover rates in some rural Australian regions as high as 50 percent. Given amenity migrants can shape rural ecologies through land management practice, it is vital that we understand how these management practices are informed. As such, we ask: how do amenity migrants learn to be environmental stewards of their land? We focus specifically on how the tangible interaction between landholder and landscape through experiential learning contributes to the emergence of environmental stewardship. We adopt a conceptual premise that recognises the agency of the biophysical landscape in the experiential learning process. To explore how amenity migrants learn about stewardship we undertook a qualitative case study in the hinterland regions of Melbourne, Australia. We found that initial struggles to implement land management informed by prior urban lifestyles saw landholders turn to experiential learning to fill a void of understanding about ecological processes and management practice. Over time, these experiences distilled into durable dispositions for environmental stewardship that directed either a passive (hands-off) or active (hands-on) approach to land management. Understanding how amenity migrants learn to be environmental stewards has implications for the location and timing of environmental policy engagements with new rural landholders.

**Key words:** amenity migration; experiential learning; private land; stewardship; dwelling;  
exurban

**Highlights:**

- Nonhuman agency is central to experiential learning in environmental management
- Durable dispositions for stewardship emerge through experiential learning
- Environmental policy must consider the timing and location of landholder engagement

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## **1. Introduction**

The increasing migration of non-farming landholders to rural regions is a well-documented phenomenon across many post-industrial nations (Abrams, Gill, Gosnell, & Klepeis, 2012; Gosnell, 2011; Klepeis, Gill, & Chisholm, 2009). Areas once valued primarily for productive agriculture have become increasingly valued for their natural, aesthetic and lifestyle qualities (Argent, Tonts, Jones, & Holmes, 2010; Holmes, 2006). While this paper focuses on Australia specifically, similar trends in rural landscape change have been observed in Canada and the US (Gosnell, 2011), the UK (Phillips, 1993) and across continental Europe (López-i-Gelats, Tàbara, & Bartolomé, 2009; Van Auken, 2010). The shifting socio-ecological dynamics associated with rural landscape change presents uncertainty about how new rural landholders will manage their land in ways that might differ from productively-orientated farmers (Gosnell, 2011; Kondo, Rivera, & Rullman, 2012; Yung & Belsky, 2007).

This paper is specifically interested in understanding the environmental stewardship of ‘amenity migrants’ (defined below) in the hinterlands of Melbourne, Australia, in order to inform environmental management research and policy. In particular, we ask: how do amenity migrants learn to be environmental stewards? For the purpose of this paper, we adopt a deliberately broad definition of stewardship as the way in which landholders conceive of responsible management of the ecologies on their property, in order to achieve both public and private benefits (Gill et al., 2010; Gill, 2013; Worrell & Appleby, 2000). This definition differs from more normative definitions aligned with notions of ‘best practice’ environmental management amongst farmers (Lawrence, Richards & Cheshire, 2004). Given limited existing understanding of how stewardship is informed amongst amenity migrants we wanted to capture the aspects of stewardship that amenity migrants bring with them to rural landscapes

(Mendham et al., 2012), as well as the stewardship that emerge through inter-relationships with nature over time (Gill, 2013).

### *1.1 'Amenity migration' and its environmental management implications*

In this paper we adopt the term 'amenity migration' to describe the process of rural landscape transition (Argent et al., 2010; Kondo et al., 2012). The amenity that migrants seek is often associated with the 'natural' values and aesthetics of rural areas, the recreational opportunities they provide and the pursuit of 'the simple life' that is perceived to come with leaving the hustle and bustle of the city (Argent et al., 2010; Halfacree, 2006). Amenity migrants can include retirees (Curry, Koczberski, & Selwood, 2001), young families and people looking for a second home outside of the city (Kondo et al., 2012). As such, the term 'amenity' is being deployed here in a broad sense, to capture the diverse aspirations of migrants.

In terms of environmental impacts, amenity migration can result in the subdivision of farmland into smaller land parcels and increasingly heterogeneous land use, raising concerns about the fragmentation of ecosystems (Carmona-Torres, Parra-López, Groot, & Rossing, 2011; Gobster & Rickenbach, 2004). The resultant mosaic of smaller properties can complicate landscape-scale ecological management efforts like habitat restoration or weed removal (Klepeis et al., 2009; Urquhart & Courtney, 2011). Pressure may also be placed on ecosystems through clearing of vegetation for house blocks, fences and recreational land use. While many in-migrants have an interest in pursuing environmental management on their properties (Mendham, Curtis, & Millar, 2012) the diversity of actors and land use preferences presents a challenging picture for environmental management.

The shifting social dynamics associated with amenity migration sees new rural landholders

often possessing a different perspective on rural landscapes than farmers (Cadieux & Hurley, 2009; Klepeis et al., 2009; Mendham & Curtis, 2010). For example, the pursuit of an ‘idyllic’ rural lifestyle can manifest in a desire for seclusion on one’s land (Meadows, Herbohn, & Emtage, 2013; Urquhart & Courtney, 2011; Yung & Belsky, 2007). As a result, amenity migrants can become very ‘property-centric’ in their ecological interests (Cadieux, 2011; Gill et al., 2010). A desire for ‘getting on with it’ (Gill et al., 2010, p321) independently on one’s own property contrasts with efforts to work collectively across property boundaries to address ecological challenges – like invasive plants – commonly associated with environmental management in farming communities (Yung & Belsky, 2007).

While amenity migrants may be motivated to pursue environmental management, their potentially limited familiarity with the rural landscapes creates uncertainty around the practice and outcome of their management efforts (Mendham et al., 2012). For example, amenity migrants can be unaware of local weed species (Klepeis et al., 2009), while having minimal experience with practical land management tasks like fencing (Curry et al., 2001). Moreover, the aspirations of new rural landholders to be environmental stewards can be bound up with other land use motives, like recreation (Urquhart & Courtney 2011) or improving visual amenity (Knoot, Schulte, & Rickenbach, 2010), which can produce unpredictable environmental outcomes. As such, there is significant uncertainty surrounding our understanding of how environmental stewardship emerges and is materialised in the landscape, given the complex socio-ecological transformations associated with amenity migration.

### *1.2 The environmental stewardship of amenity migrants*

Amenity migrants’ diverse land use interests and potentially limited exposure to rural landscapes suggests their existing ideas of environmental stewardship will be built on as they

establish their amenity lifestyles. In farming contexts, stewardship has been shown to have a strong emergent dimension over time, linked to interaction with the physical landscape and knowledge passed between generations of farmers and amongst farming communities (Trigger, Toussaint, & Mulcock, 2010; Turner & Berkes, 2006). As a consequence, the stewardship of farmers shapes the trajectories of ecological change over time, and is a central consideration in environmental policy design and implementation (Burton, Kuczera, & Schwarz, 2008; Burton, 2012; Greiner & Gregg, 2011; Junge, Lindemann-Matthies, Hunziker, & Schüpbach, 2011). We suggest that a more in-depth understanding of the on-ground land management practices of amenity migrants could provide an avenue for critical insights into how new rural landholders learn to be environmental stewards (Gill et al., 2010); these insights will have implications for environmental management practice and policy in rural landscapes. Moreover, new experiments with environmental policy that target rural landscapes where amenity migration is occurring means that the implications of emergent stewardship are both timely and critical for policy makers (Cocklin, Mautner, & Dibden, 2007; Cooke, Langford, Gordon & Bekessy, 2012). To explore how stewardship emerges we conducted interviews and participant observation with landholders to interrogate the experiential learning that occurs through the interactions between amenity migrants and the rural landscapes they come to inhabit.

### *1.3 Environmental stewardship, land management practice and experiential learning*

The land management practices of amenity migrants present a useful starting point for interrogating the emergence of environmental stewardship. Indeed, we are specifically interested in how stewardship emerges *through* the practice of managing, interacting with and observing the landscape in which one is situated. While we recognise that there are a number of avenues for learning that are relevant for exploring emergent stewardship, like social learning (Keen & Mahanty, 2006; Pannell et al., 2006) and NRM extension information (Reed

et al., 2010), we posit that experiential learning, or learning-by-doing, holds particular relevance. There are two key reasons for focusing on experiential learning.

Firstly, extensive research on experiential learning in NRM and farming has highlighted the prominent role of learning-by-doing and trial-and-error management in learning about ecological function and environmental management (Armitage et al., 2009; Berkes & Turner, 2006; Palis, 2006; Pannell et al., 2006). As ecologies change through human intervention and natural processes, trial and error management becomes pivotal for learning how to respond to changing landscapes (Armitage et al., 2009; Berkes & Turner, 2006). Given the knowledge that farmers possess about ecological processes that is generated through the lived experience of landscape over time (Knapp & Fernandez-Gimenez, 2009; Palis, 2006; Van Herzele, Dendoncker, & Acosta-Michlik, 2010), the role of experiential learning in the emergence of environmental stewardship amongst amenity migrants requires interrogation.

Secondly, experiential learning presents an avenue for bringing much needed research attention to the agency of the biophysical landscape, or ‘nonhuman agency’, in affecting management practice and environmental stewardship. Following Ingold (2000), we progress the idea that the biophysical environment is an active agent in shaping management practice. Agency has traditionally been defined as a human capacity for action, expressed through the ability to make choices and develop skills. In saying that landscapes can have agency, we are suggesting that landscape features like plants have a ‘power’ to affect management practices through their growth and spread, for example (Head & Atchison, 2008). While this power may not be conscious and intentional in the same way as human agency, it is nonetheless significant. By recognising landscape agency, we suggest that management practice can be thought of as a type of ‘dialogue’ between people and the landscape over time, rather than the



landscape being a passive recipient of autonomous human action.

The nonhuman agency exerted by the landscape can shape, propagate and complicate management practice (Cloe & Jones, 2001). For example, the growth of trees in an orchard (Cloe and Jones 2001) or the dieback of a front lawn (Robbins, 2007) can initiate human management activities, emphasising the active role of plants in shaping stewardship practice and goals. Taking nonhuman agency into account focuses attention on how people's interactions with the environments of their everyday lives can play a powerful role in generating environmental stewardship (Gill, 2013; Macnaghten, 2008).

## **2. The application of experiential learning and dwelling perspective**

Experiential learning theory is described as "the process whereby knowledge is created through the transformation of experience" (Kolb, 1984, p. 41). According to the original definition from Kolb (1984), learning occurs through a continuous cycle of action and reflection. The active experimentation (immersion in the world) and reflective observation (observing processes and reflecting on the outcomes) dimensions of experiential learning are highly relevant to environmental management, which explains its widespread adoption in this field (Fazey, Fazey, Salisbury, Lindenmayer, & Dovers, 2006; Kolb, Boyatzis, & Mainemelis, 2001; Leeuwis, 2004; Pannell et al., 2006). Borrowing from more recent critiques of the concept (Lankester, 2013; Leeuwis, 2004; Seaman, 2008), we take a view that experiential learning is not a closed, cyclical process of individual experience, reflection and cognition, but an open process integrated with wider socio-ecological relations. Important conceptual work has recently been done to de-centre the model of the individual learner divorced from a social world that has afflicted experiential learning (see for example Kayes, 2002 and Lankester, 2013 for an NRM context). However, nonhuman agency, like the spread of invasive plants,

remains largely un-conceptualised. The tangible engagement between people and landscape that often characterises environmental management suggests an important need for such conceptualisations of experiential learning in this field.

Here we develop a conceptual premise that connects experiential learning with Heidegger's (1971) *dwelling perspective*, to create space for the physical landscape as an active agent in the emergence of environmental stewardship. Heidegger developed the concept of dwelling to remedy the Cartesian split of mind from body, suggesting that the act of *being* is a 'worldly activity', and that to ignore this world results in a failure to properly comprehend human existence (Cerbone 2008, p31). Dwelling has been reinvigorated in recent years by a range of scholars seeking to probe the relationships between people and landscapes (Cloke and Jones, 2001; Ingold, 2000; McNaghten and Urry, 1998). Borrowing from dwelling, we posit that the 'ongoing togetherness' (Cloke and Jones, 2001, p651) of people and landscape is a critical relationship for exploring emergent stewardship. Integrating dwelling with experiential learning gives a prominent place to interaction, observation, interpretation and response to the agency of the landscape in the learning process.

Figure 1 identifies how experiential learning can be positioned as an influence that interacts with imported land use aspirations and socio-cultural context in shaping the emergent stewardship of amenity migrants. Imported land use aspirations reflect the lifestyle motives that amenity migrants bring with them (noted above), while social and cultural context reflects how the role of social interaction in rural communities and other forms of information exchange can contribute to landholders' emergent stewardship (Larsen & Hutton, 2011; Pannell et al., 2006).

As shown in Figure 1, landscape agency integrates with experiential learning through the process of management practice. The interactions of people with their landscape are ongoing, as landholders ‘act’ on the landscape through management interventions (weeding, planting etc.), and the landscape ‘acts back’ (as trees grow, for example). By integrating dwelling, the active experimentation and passive reflection aspects of experiential learning are tied directly to the situated engagement of people with their surrounding environments over time.

### **3. Methodology**

#### **3.1 Study area**

The site of this research project was the hinterlands of Melbourne, Victoria, Australia. Melbourne’s hinterland was chosen for this research due to the rapid pace of rural-amenity land use transition in this region over the last few decades (Burnley and Murphy, 2004; Mendham & Curtis, 2010). Areas on the coast or coastal hinterland within commutable distance to Melbourne have proved most popular (Argent et al., 2010). Our research focuses on two localities within Melbourne’s hinterland – the eastern part of the Corangamite catchment and the Bass Valley district. Recent research suggested the likelihood of a 50 per cent turn over in property ownership in the coming decade in parts of the Corangamite catchment (shown in Figure 2) (Mendham and Curtis, 2010). The high rate of property turn-over and shifting land use away from intensive agricultural production in this region is symptomatic of the amenity migration phenomenon in Australia and globally (Abrams et al., 2012; Holmes, 2006). The Bass Valley region experienced a 25 per cent growth in population between 1991 and 2006, placing it amongst the fastest growing regions in Melbourne’s hinterland (ABS, 2006). The majority of this population growth occurred outside of existing rural townships, indicating a high rate of subdivision of existing farmland into amenity lifestyle properties (ABS, 2006).

### 3.2 Research design and participants

A case study research design allowed us to engage with participants in the context of their surrounding environments in order to explore the emergence of stewardship. The two research methods directed by this research design were narrative interviews and a form of participant observation called the ‘walkabout method’ (Strang, 2010). The first author carried out both of these research methods with participants. The narrative interviews borrowed from an oral history approach to interviewing, which encourages participants to tell stories about past events and personal experiences (Rosenthal, 2004). However, the oral history approach was adapted to encourage landholders to tell stories about their experiences interacting with and observing their surrounding landscape over time. Participants were prompted for stories about what it was like living on their property, how their landscape had changed over their tenure, and how their land management aspirations and practices had changed over time. These one-on-one interviews were conducted in or around the home of the participant, and aimed at understanding the aspirations that landholders had for managing their property environments when they arrived, the early management activities they conducted and what they learned through those activities.

Following the interview process, the researcher walked participants’ properties with them to explore how management practices had materialised in the landscape over time. The walkabout method was vital as it explicitly acknowledges that the physical environments that are of importance to people’s lives will serve as repositories of memory of experience in those spaces (Lane, 1997; Strang, 2010; Trigger et al., 2010). Indeed, as the researcher walked the property with participants, evidence of land management embodied in the landscape (like fences and tree plantings) served as catalysts for stories about how those management practices were informed and conducted, how subsequent practices might have evolved as a result of

management success or failures, and what had been learnt about ecological function along the way. During the walks, photos were taken of management activities and ecological features encountered. Notes were also recorded in a research journal to help document the walkabout process, and expanded upon later in greater detail. The participant led the walk and told stories about management activities, prompted by the researcher when passing visible management interventions. The walkabout method allowed the researcher insights into landscape change, how landholders interpreted those changes and how landholders learned to be stewards through their management practices. These walks averaged around two hours in length.

21 landholders were interviewed between June and October 2010 in the two localities shown in Figure 2. As identified in Table 1, the length of tenure of participants in these locations ranged from six years to over 20 years, providing a wide time frame over which the management practices of landholders had been conducted and reflected upon. The majority of landholders moved from suburban Melbourne, with three moving from smaller residential properties in rural townships. Only two landholders who previously lived in rural townships moved to a larger amenity property in the same district, meaning the vast majority of in-migrants were unfamiliar with their region prior to moving there. Three landholders had some previous farming experience, with two having retired on the property they previously farmed. The ecological characteristics of landholders' properties are included in Table 1 to demonstrate the heterogeneous ecologies and land uses present on the properties. The extent of vegetation clearing noted in the form of farm paddocks, modified vegetation and regenerating ecologies is indicative of the history of intensive agricultural land use in both of the study localities.

Also interviewed were four extension officers employed by the Victorian Government to help deliver conservation programs aimed at private land. They provided a valuable perspective on

landholder management learning and practice, based on their lengthy experience dealing with private property owners.

All interviews were recorded and transcribed, with both transcripts and notes from the participant observation compiled using the qualitative software program NVivo and analysed using an open thematic coding approach (Richards, 2009). Thematic coding directs data coding according to a descriptive characteristic, to build towards a theme that brings holistic meaning to descriptive codes. The thematic coding process helped to retain the context of stories landholders shared about their stewardship, meaning individual codes did not become isolated from the wider narratives of participants.

## **4. Results & Discussion**

### **4.1. Amenity as a 'property-centric' pursuit**

The 'amenity' that landholders sought through in-migration was tied closely to the private property parcel. Many participants who had migrated from Melbourne spoke of wanting a rural property that was secluded, with greater privacy and separation from neighbours than they enjoyed in their previous suburban neighbourhood. Nine participants from both suburban and rural residential backgrounds expressed a desire to be the autonomous custodians of a patch of land – wanting to 'own a bit of bushland' (Steve) was something many had long coveted. Strong desire for immersion in 'private nature' (Cadieux, 2011, p348) through property-based experiences accords closely with research noted earlier (Gill et al., 2010; Yung & Belsky, 2007). This property-centric focus of amenity migrants sets the scene for understanding why the property parcel is a critical space for learning to be an environmental steward. The diverse, yet property-centric amenity aspirations for land use and management they brought with them

meant that they tacitly engaged with biophysical environment on their property soon after acquisition.

#### 4.2 Aspiring to an amenity lifestyle through gardening

The formative land management activities conducted by landholders on their properties largely consisted of efforts to establish gardens and ornamental trees around the home. Concerns with gardens, landscape aesthetics and screening out neighbours through tree planting are indicative of their imported lifestyle aspirations. The planting itself was a kind of ‘tinkering’ (Jim) with the landscape, framed as an individual and recreational activity (Cadieux, 2011; Urquhart & Courtney, 2011). The decision by 10 landholders to attempt to plant the same species that they had grown or tendered at their previous home, highlighted that past landscape associations and a priori knowledge that landholders brought with them were formative influences on their management practices. Indeed, establishing a garden that connected to one’s personal history served as an avenue for bringing a sense of familiarity to an unfamiliar landscape (Cadieux, 2011). William, Emma and Sally had all planted ornamental species (rhododendron, Japanese maple and silver birch, respectively) that featured in the gardens of a past suburban home. This reinforced the comfort provided by the ornamental garden; having a ‘bush bit’ and a ‘home bit’ (Emma) provided the ‘best of both worlds’ (William). Establishing a familiar ecology appeared to be independent of the backgrounds of participants or the ecological characteristics of their property. Landholders like Jim and Beatrice, and Nick conducted similar plantings despite different backgrounds and property ecologies (see Table 1). In seeking to create a ‘homely’ and familiar space (Power, 2009), many participants ‘got planting’ (Tina) almost immediately. Most of these early attempts at planting did not go as planned, with eight participants citing major failures:

We tried to plant just a screening plantation [of mixed native and ornamental species] between our property and the next property. But what we've found is planting trees out here doesn't really work. I think the native trees seem to be strong enough and the others just don't survive... What is here is basically what has regenerated. (Hannah)

Hannah's struggle to establish ornamental trees reflected a formative experience amongst many participants – a realisation that their imported land management knowledge and aspirations could not be easily applied to their new rural environment. The realisation that 'we really had no idea early on' (Steve) was a pivotal catalyst for experiential learning, reinforcing the importance of tensions between people's 'aspirations and perception of reality' (Lankester, 2013, p184) as an instigator of experiential learning.

#### 4.3 The transition to experiential learning and the emergence of environmental stewardship

For many participants, it was the 'acting back' of the biophysical landscape in response to management interventions – especially the behaviour of plants – that filled a vacuum of knowledge about local ecosystem function. Hannah's attempts to plant non-native ornamental trees that ultimately died resulted in a view that only native species were 'strong enough' to survive in the landscape. Observing the natural regeneration of native species occurring in parallel with the death of the species she planted reinforced the idea that nature was best left to its own devices. The process of implementing a management action and observing the response of the landscape developed specific ideas about ecological function and appropriate management. For William, the initial amenity motivation for living amongst 'native' nature was disrupted by the spread of non-native shrubs from an adjoining property. When attempting to remove these weeds by hand, William observed native birds nesting in them, causing him to question the benefits of removing all exotic species for local fauna. William had learnt through



experience that you could be a counter-productive environmental manager by aspiring to a 'pure' ecology of only native flora (Head & Muir, 2006). Both William and Hannah typified how landholders' direct management actions, and ongoing observation of those actions, could be a catalyst for generating ideas about ecological function and management.

By generating ideas about ecological function and land management through experiential learning, participants were developing an overarching disposition for environmental stewardship. We use the term 'disposition' here to refer to a durable mentality for stewardship that reflects a tendency to respond to one's environment in ways that suggest an ongoing association with that environment (Burton, 2012; Cammack et al., 2011; Nordlund and Garvill, 2002). Through the types of experiential learning process already outlined, the environmental stewardship of participants took the form of either a passive or active disposition. A passive disposition dictates a hands-off approach to stewardship, while an active disposition shapes a hands-on, interventionist approach. The active stewardship dispositions of landholders like Alice and Sam became evident through a discussion of the changes to vegetation communities on their property.

Alice: So we've got all these bushes springing up. It's supposed to be native... but we're not sure.

Sam: As they pop up we just pull them out... we just take them out because otherwise they'd take over.

When a protracted drought broke in southeastern Australia in 2010, change began to occur to the bushland on Alice and Sam's property at a rate previously unseen. In the decade prior,

Alice and Sam had come to appreciate a static bushland aesthetic on their property due to a long period of dry conditions that stunted plant growth and spread. However, pioneer acacia species (*Acacia pycnantha*) were suddenly flourishing, causing a noticeable disruption to this static aesthetic. In response, Alice and Sam actively removed the colonising acacia species to preserve the status quo ecology to which they had become accustomed. Alice's admission that they were aware the species could be native (based on the observation of a similar plant in a local vegetation guidebook) also showed a prioritisation of experiential learning over other information sources – a point we turn to later.

Active management to maintain a static ecosystem was a common practice amongst participants, with changing ecologies viewed as needing human intervention. As many landholders were only confident in identifying a handful of prominent weed species, the observed colonising behaviour of plants often served as a proxy for 'weediness'. Plants acting in weedy ways – propagating quickly, spreading fast across the landscape and 'taking over' (Steve) – were treated as a suspicious disruption to the ecology on their land.

The emergence of passive stewardship dispositions was closely associated with the failure of trees planted by landholders to grow plants early in their property tenure.

What I did try to do and it wasn't successful, plant some deciduous trees. I planted some oak trees down there... it'd be almost 20 years ago and they're no higher than about [one metre tall]. They just don't grow, so I gave up on that idea. So I don't plant any other trees and I haven't planted trees for years and years now. The [regenerating species are] managing all right. (Emma)

424 Emma attributed her struggle to grow introduced species to poor soil and inconsistent rainfall,  
 425 something to which she perceived indigenous species were well adapted. Thus, while Emma's  
 426 ornamental trees remained stunted (Figure 4), native bushland natural regenerated all around  
 427 them. Just as Hannah had experienced above, observing the contrast between the fortunes of  
 428 native vegetation, compared to the trees Emma had planted herself, informed a view that  
 429 indigenous species 'belonged', and that she should remain a passive observer. While the eight  
 430 landholders with passive stewardship dispositions undertook less management, they were more  
 431 comfortable with dynamic ecosystem change, which stood in contrast to the efforts to preserve  
 432 static ecologies described above.

433  
 434 However, for two landholders, passive stewardship derived from their experiential learning  
 435 made them reticent to conduct management for fear of not knowing 'the right thing to do'  
 436 (Sally). Sally's experience of having trees die shortly after planting them fuelled a belief that  
 437 she should remain a 'conscious not active' land manager. Gareth, an NRM extension officer,  
 438 had encountered this perspective frequently in his dealings with amenity migrants.

439  
 440 I'll come across landholders who are passionate about "their bushland", but are sort of  
 441 still in awe of it, and don't really interact with it. They'll walk the paths, but they'll talk  
 442 about "oh no, we don't go in there because it's pristine, we don't want to touch that"...  
 443 And I say, no, actually it's OK. You can go in to there, and indeed it's a really good  
 444 thing, because you'll see what's going on. (Gareth)

445  
 446 The potential for trial-and-error management failures to deter amenity migrants from pursuing  
 447 management like controlling weed spread has notable policy implications; we address these in  
 448 our concluding section.

449

450 4.4 The influence of wider social relations on the emergence of stewardship dispositions

451 The majority of landholders discussed sources of learning that occurred outside of their trial-  
 452 and-error practices, with local community environment groups, plant nurseries, books and  
 453 plant guides, and neighbours all contributing to their stewardship dispositions. Four  
 454 landholders were particularly thankful for ‘invaluable’ (Maddy) advice on tree planting from  
 455 nurseries in particular. Some participants like Maddy and Tina, actively sought out external  
 456 advice after their initial plantings failed, seeking information about suitable species and  
 457 planting arrangements for their properties. Ken, Steve, and Jeff and Claire explained a similar  
 458 process of seeking out advice after struggling to remove weeds on their property through hand-  
 459 pulling and spraying techniques. Claire had been ‘dead-heading’ a weed species (cutting the  
 460 flower off before it goes to seed) as a way of trying to control its spread – a practice she had  
 461 carried over from an existing interest in gardening. Having observed continual spread of the  
 462 weed species, Claire felt they were ‘going to have to seek advice’ about alternative  
 463 management techniques. As Larsen and Hutton (2011) found, amenity migrants appear to seek  
 464 out information based on specific management needs they identify that relate to their individual  
 465 circumstances.

466

467 When landholders were exposed to external advice or information about land management, this  
 468 advice was often tested against their experiential learning. As seen from Sam and Alice’s  
 469 experience earlier, the decision to remove native species progressed despite identifying the  
 470 species as indigenous in a local native plant guide, because lived experience of surrounding  
 471 ecological change was prioritised over external information that conflicted with that  
 472 experience. However, there was some evidence of landholders changing their land  
 473 management through social encounters. For example, Alice and Simone took advice from

neighbours on the types of tree species they should consider planting after struggling to get other trees established, whilst Emma stopped removing a native shrub species she believed was a weed (after observing its rapid spread) after being told by a local farmer that the species in question was good bird habitat. The potential for stewardship dispositions that were grounded in experiential learning to shift as a result of wider social engagement suggest that landholder stewardship is ‘durable yet changeable’ (Kasper, 2009, p316) in the face of contradictory advice. Stewardship dispositions appear capable of shifting over time in response to ‘trigger events’, like timely interactions with other sources of knowledge when management efforts are not going to plan (Sutherland et al., 2012). Yet, the power of experiential learning meant that stewardship that emerged through trial-and-error could also be resistant to external knowledge.

The prioritisation of experiential learning over learning through social interactions may be indicative of differences between the stewardship of farmers and amenity migrants. As noted earlier, farmers’ collective interest in maintaining productive rural landscapes can produce strong social norms on acceptable management practice and facilitate knowledge sharing (Yung & Belsky, 2007). In the case of amenity migration, where landholders appear to often frame management as an individual, property-centric pursuit, experiential learning may be a stronger influence on the way landholders learn to be environmental stewards.

## **5. Conclusions and implications**

The passive and active stewardship dispositions of amenity migrants captured here invites reflection on which approach might be best for environmental management. However, the findings demonstrate that attempting to judge the extent to which either active or passive stewardship aligns with a notion of ‘best practice’ is a difficult and potentially fraught task, given the complex histories of landscape modification in rural areas experiencing amenity

migration (Abrams et al., 2012). Moreover, whether a passive or active stewardship approach is preferable will be heavily contingent on the ecologies in question and the form and character of landscape agency in each location. Rather than recommending one approach as superior for the purposes of generating ecological benefits, we would suggest encouraging a reflexive active stewardship disposition in environmental management for the purposes of fostering a tangible and conscious connection between landholder and environment. In line with Gareth and Sally's earlier reflections on passive dispositions, we believe active stewardship is particularly important for helping amenity migrants to feel a sense of belonging and familiarity in landscapes that are unfamiliar upon arrival.

#### 5.1 Stewardship dispositions: the implications of spatial and temporal influences

Time and space were critical in the emergence of passive and active stewardship dispositions through experiential learning. In terms of space, the concept of dwelling showed how the property parcel was central to landholder learning about ecological function. The property scale was the scale at which the environment was most 'meaningful' to participants (Macnaghten, 2008). As a result, when efforts to establish garden plantings based on imported management knowledge failed, the experience triggered a highly transformative experiential learning process that was bounded by experience in the property space. The learning derived on the property could become resistant to information and advice that came from outside this space, which often related to ecological function at larger scales than the property parcel. It is important for research engaging with experiential learning and stewardship to reflect on how spatial scale can disproportionately shape the learning of management practitioners (Knapp & Fernandez-Gimenez, 2009). The influence of space on learning may be particularly acute when management practitioners are engaging with an unfamiliar ecology or responding to an unfamiliar ecological change event like drought.

Emergent stewardship practices and dispositions were also bound up with the change and continuity of surrounding ecologies (Cloke & Jones 2001). Learning-by-doing requires time for management interventions to materialise in the landscape and be observed and interpreted by landholders (L. Head & Muir, 2006). For Alice and Sam it was a decade before the spread of pioneering shrub species prompted management interventions. For landholders like Hannah and Emma, the death of early garden plantings meant experiential learning occurred rapidly. Whether experiential learning is immediate or gradual, the learning that can emerge from formative and specific management actions appears capable of shaping a stewardship disposition that is then applied to a range of land management scenarios. In terms of the interaction between experiential learning and other learning processes, time appears to make landholders' experiential learning increasingly resistant to other influences on their stewardship. While the walkabout method did allow reflection on changing landscapes and stewardship over time, future research in this space should consider a follow-up research encounter, which could provide deeper insights into temporal influences.

## 5.2 Building on experiential learning theory through a dwelling perspective

Recognising the agency of the landscape through a dwelling perspective shows how the landscape is more than just a setting for the cognitive learning of individuals; it is actively bound up in the process of learning to be an environmental steward. The dwelling perspective provides a much needed avenue for expanding experiential learning beyond a depiction of the self-contained individual learner (Seaman, 2008), complementing existing efforts to connect experiential learning to wider social relations (Lankester, 2013; Leeuwis, 2004). The active role of landscape in the learning process was exemplified by the way in which unanticipated ecological changes that materialised from management practice could instigate experiential

learning. Applications of experiential learning in research into the activities of environmental management practitioners must be attentive to nonhuman agency as part of experiential learning.

### 5.3 Implications for environmental policy in changing rural landscapes

Our understanding of how amenity migrants learn to be environmental stewards has implications for the design and development of policy. Here we have focused specifically on the influence of space and time in the emergence of stewardship dispositions, to provide insights that could assist policy makers and extension officers in their direct engagements with amenity migrants:

- Early engagement with landholders is important for connecting their property-centric interests with landscape-scale conceptions of environmental management, before their stewardship dispositions become too resistant to external advice. As has been noted elsewhere, landholders involved in environmental programs often like to understand how their participation in a program fits within the ‘bigger picture’ of conservation action at a landscape scale (Cocklin et al., 2007). Outlining the bigger picture allows policy-makers and extension officers to discuss ideas about landscape-scale ecological function with landholders, helping to counter issues like Sam and Alice’s suspicion of dynamic ecological change. Early engagement with an extension officer also establishes a potential ongoing source of information about land management for landholders, as they encounter various challenges during their property tenure.
- The location of policy engagement with landholders is critical, given that management advice may be counter to the stewardship dispositions that have emerged through



experiential learning. Engaging with landholders may be most effective in the property-space, where those ideas originally emerged. As the walkabout method demonstrated in a research context, the physical environment can be an important catalyst for management discussions as it embodies the experiences of landholders in that space over time. As such, engaging landholders in management discussion in the property space could serve as a type of trigger event, allowing for subtle shifts in durable stewardship disposition. Direct encounters with landholders using the biophysical landscape as a learning environment could also help overcome the management hesitancy of landholders like Sally, for whom passive stewardship was informed by a fear of doing the wrong thing. Whilst passive stewardship can mean landholders are more accepting of dynamic ecological change, there is a risk that their hands off approach is resulting in benign neglect of local ecologies (Gill et al., 2010). As Gareth (extension officer) noted, showing landholders that ‘it’s OK’ to be active managers may be most effectively done on the property, where the benefits can be observed and demonstrated.

The emerging stewardship dispositions of amenity migrants reveal the powerful inter-relationship of landscape agency and experiential learning in shaping land management practice. In exploring this human-environment relationship, we have provided new insights for the application of experiential learning in environmental management. These insights have demonstrated the contribution of amenity migrants’ land management practices in re-shaping rural landscapes.

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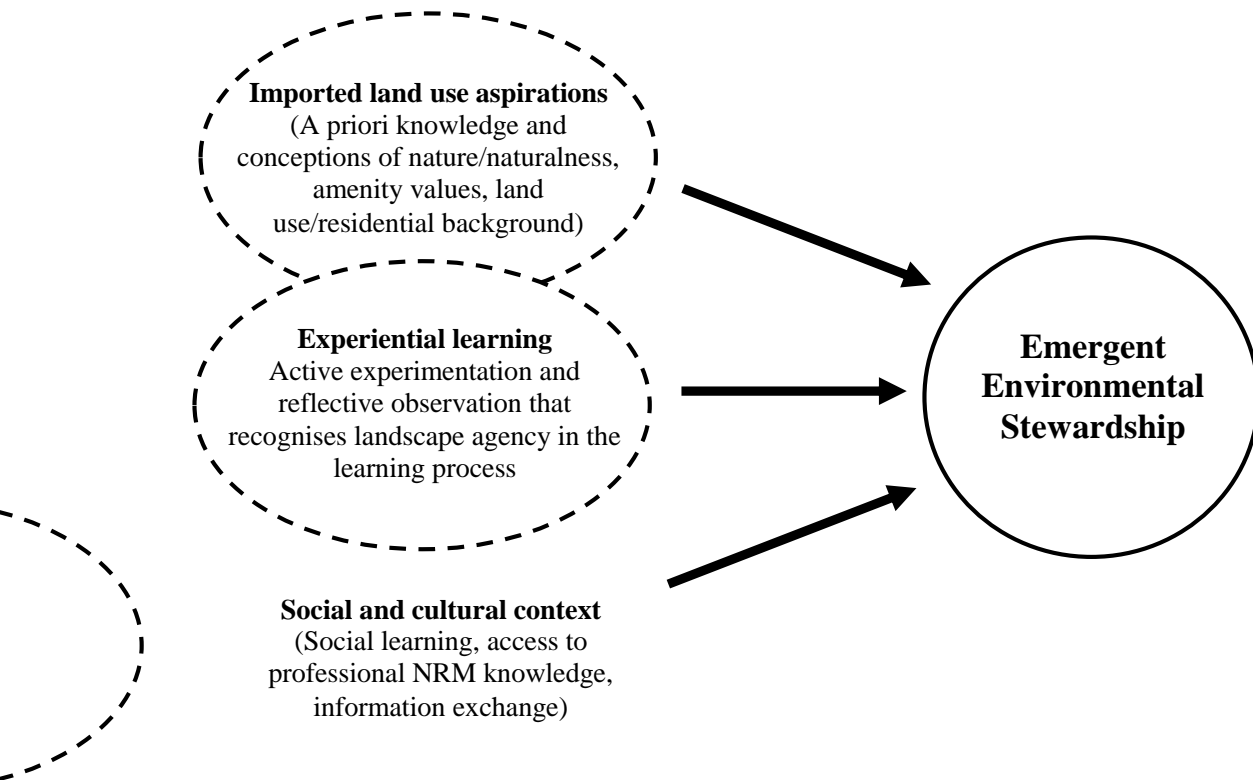
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**Table 1.** Details of research participants (Names are pseudonyms) including where they have migrated from and the basic landscape characteristics of their property.

Participant/s	Age	Landscape setting prior to amenity migration	Characteristics of the property landscape	Property size	Length of Tenure
<b>Jim &amp; Beatrice</b>	40-49	Suburban Melbourne (Beatrice) and farm in local area (Jim)	Intact forest vegetation; cleared paddock	~10 hectares	15 years
<b>Steve</b>	50-59	Residential property in small rural town	Intact open woodland area; revegetated section	5 hectares	9 years
<b>Kelly</b>	60-69	Suburban Melbourne	Intact remnant forest	8 hectares	11 years
<b>Liz</b>	50-59	Rural upbringing before living overseas – returned to rural region as amenity landholder	Intact forest sections; cleared paddock; passively regenerating ecologies	22 hectares	20+ years
<b>Rob</b>	50-59	Suburban upbringing – amenity property was holiday house that is now occupied full time	Regenerated forest vegetation; cleared paddocks	6 hectares	20+ years
<b>Trevor</b>	70-79	Long-time farmer who retired on his now sub-divided farmland	Degraded remnant patches; revegetated area	40 hectares	20+ years
<b>Alex &amp; Simone</b>	30-39	Suburban Melbourne	Intact forest with thick shrub layer; cleared paddock; patch of degraded remnant vegetation	~15 hectares	14 years
<b>Emma</b>	70-79	Suburban Melbourne upbringing; lived on residential property in regional centre prior	Re-growth eucalypt forest with dense patches of understorey	6 hectares	26 years
<b>Sally</b>	40-49	Suburban Melbourne	Intact forest with dense shrubs; cleared paddock	~10 hectares	8 years
<b>Karen</b>	70-79	Suburban Melbourne – amenity property was holiday house that is now occupied full time	Degraded remnant forest; cleared paddock	10 hectares	13 years
<b>Ken</b>	50-59	Suburban upbringing – spent much of adult life working in rural regions	Remnant forest; cleared paddock and regenerating grassland	130 hectares	6 years
<b>Maddy</b>	50-59	Suburban Melbourne upbringing – spent time on family farm growing up	Revegetated forest; cleared paddock	30 hectares	8 years
<b>Alice &amp; Sam</b>	50-59	Home business operators on a rural amenity property (suburban Melbourne upbringing)	Intact open woodland with sparse understorey	~20 hectares	14 years
<b>Pauline &amp; Allan</b>	40-49	Suburban Melbourne	Cleared paddock; linear tree plantings	116 hectares	12 years
<b>Dan</b>	70-79	Long-time farmer who retired on his farm	Open paddock; revegetated linear tree plantings	40 hectares	28 years
<b>William</b>	40-49	Suburban Melbourne	Intact forest vegetation (degraded)	2 hectares	17 years
<b>Lauren</b>	40-49	Suburban Melbourne (grew up on a farm in the region)	Intact and re-growth forest; cleared paddock; tree plantings	40 hectares	22 years
<b>Hannah</b>	40-49	Suburban Melbourne	Re-growth forest and small cleared paddocks	8 hectares	18 years
<b>Nick</b>	50-59	Residential property in large regional town	Degraded remnant vegetation; revegetation; cleared paddock; orchard	60 hectares	7 years
<b>Jeff &amp; Claire</b>	50-59	Residential property in large regional town	Regenerating remnant; cleared paddock	~ 80 hectares	14 years
<b>Tina</b>	50-59	Suburban Melbourne	Revegetated patch; paddock; small hazelnut orchard	7 hectares	22 years

**List of Figures:**



**Figure 1.** Integrating nonhuman agency into learning about management practice, and the emergence of landholders' notions of stewardship. The dashed and overlapping lines reflect that the influences on emergent environment stewardship are not isolated and discrete, but open and inter-related.



**Figure 2.** The two study areas within Melbourne's hinterland that were the focus of this research.



**Figure 3.** The natural regeneration of native acacia's (small shrubs in the foreground) resulted in efforts by Alice and Sam to remove them – a pile of recently cleared acacia's can be seen centre-right. A decade of living in a drought-affected landscape had generated a notion of the Australian bush as a static ecology.





**Figure 4.** The contrast between the stunted growth of the Japanese maple (foreground) planted by Emma, in contrast to the flourishing regeneration of surrounding bushland, cemented Emma's passive stewardship disposition.