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Re-creating the Rural, Reconstructing Nature: An International Literature Review of the Environmental Implications of Amenity Migration

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Abstract

The term ‘amenity migration’ describes a broad diversity of patterns of human movement to rural places in search of particular lifestyle attributes. This review of international literature, drawn from the authors’ own prior research and searches on relevant databases, synthesises findings on the implications of amenity migration for the creation and distribution of environmental harms and benefits. Further, we critique common framings of amenity migration-related environmental transformations and offer suggestions for future research. Analysis is positioned within a review of five common themes reflected in the cases we consider: land subdivision and residential development; changes in private land use; cross-boundary effects; effects on local governance institutions; and displacement of impacts. Within each of these themes, we discuss the uneven geographies of environmental transformation formed by diverse conceptions of ‘nature’, patterns of local management of amenity-driven transformations, and ecological contexts. We conclude that, through both intended and unintended environmental consequences of dominant activities and land uses, amenity migration results in a redistribution of environmental harms and benefits at multiple scales, as rural landscapes are (partially and incompletely) re-created in line with the ideals and expectations of amenity migrant populations.

Keywords: amenity migration, land use change, rural landscape, governance, production of nature

INTRODUCTION

‘Amenity migration’, defined broadly as the movement of largely affluent urban or suburban populations to rural areas for specific lifestyle amenities, such as natural scenery,

proximity to outdoor recreation, cultural richness, or a sense of rurality (Marcouiller et al. 2002; Moss 2006a; Argent et al. 2007; Gosnell and Abrams 2011), implies substantial social and ecological transformations for receiving landscapes. ‘Voluntary’ urban-to-rural migration and associated purchase of land is not entirely new, as the extensive literature on counterurbanisation and rural land purchase by wealthy urbanites attests (Best 1968; Bunce 1994; Mitchell 2004; Houston 2005; Travis 2007). Indeed, amenity migration to places as remote as Patagonia in South America has occurred for upwards of 50 years (Otero et al. 2006; Klepeis and Laris 2008), and amenity migration to rural regions such as the Adirondack Mountains in the USA has been ongoing

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since the late 1800s (Jacoby 2001). However, the global expansion of urban-to-rural migration patterns and consequent rural residential development since the 1970s has fostered heightened interest and concern regarding the multifarious implications of amenity migration.

Processes such as migration-related land subdivision and residential development have spurred alarm among those concerned with the environmental quality of rural landscapes, defined in terms of, for example, native species diversity, abundance of wildlife, and water quality (Luck et al. 2004; Fleishman and Mac Nally 2007; McDonald et al. 2008; Bock and Bock 2009; Radeloff et al. 2010). Less obvious, perhaps, are the ways in which encounters between culturally distinct populations—and the heterogeneous forms of rural capitalism these populations imply (Walker 2003)—have engendered social conflict regarding the nature and definition of rural sustainability and environmental quality; the actions necessary to protect, maintain, or restore these; and the environmental implications of associated actions. As such, an examination of the environmental implications of amenity migration entails critical questions regarding not only the power and desire to buy, sell, develop, and manage land but also the power to define and distribute social and environmental harms and benefits.

The concept of amenity migration informs debates in a multi-disciplinary literature. For example, economic geographers are engaged in heated debate about the relative influence of natural amenities versus factors such as job availability on patterns of population change and development (Power 1996; Partridge 2010). Some scholars note that the term amenity migration may be too narrow, thereby hiding the complexities of rural change. Gill et al. (2010) carve out a more inclusive conceptualisation by referring to “new rural landholders”, and Guimond and Simard (2010) draw on the concept of “neo-rural” populations, terms which acknowledge the diversity of motivations and practices of voluntary rural migrants as well as their heterogeneous patterns of integration with existing populations. Further, there is a rich literature in international development studies that considers the transnational acquisition by elites of rural lands (McCarthy 2008). The self-identified amenity migration literature, in contrast, focuses primarily on the role of *national* elites, with most case studies drawn from economically developed contexts (e.g., North America, Europe, and Australia). Because the bulk of the amenity migration and related literature derives from these three contexts, we focus most prominently on them for this analysis, while acknowledging the need for more research to uncover the varied manifestations of amenity migration in diverse locations around the globe.

Fundamentally, this paper is a response to an intensification of interest in diverse patterns of rural change (e.g., Marsden et al. 1993; Holmes 2006; Lawson et al. 2010; McDonagh et al. In press) and associated environmental implications, including concerns centred on loss of agricultural land, food security, natural resource scarcity, biodiversity, and pressure on ecosystems. We provide here a synthesis of recent literature that links the diverse processes of amenity migration to specific

environmental outcomes and identify key tensions, gaps in knowledge, and themes for future research. We are necessarily selective, seeking to highlight issues relating to the definition and measurement of environmental consequences rather than covering all relevant fields. As part of our synthesis of research from multi-disciplinary literatures, we attempt to draw connections between the largely apolitical ‘amenity migration’ literature and recent political ecologies of amenity landscapes; in doing so, we highlight shortcomings in published work to date. This paper serves as a companion piece to an earlier article that focuses more explicitly on the social and economic dimensions of amenity migration (Gosnell and Abrams 2011).

Multiple reviews of the amenity migration literature exist (McGranahan 1999; Marcouiller et al. 2002; Stewart 2002; McCool and Kruger 2003; Garber-Yonts 2004; Stein et al. 2005; Kruger et al. 2008; McCarthy 2008; Gosnell and Abrams 2011) and several books address the theme in some fashion (Boyle and Halfacree 1998; Jobs 2000; Burnley and Murphy 2004; Jackson and Kuhlken 2006; Moss 2006b; Travis 2007), but a global synthesis on the environmental implications of amenity migration, as we present here, provides an opportunity for cross-fertilisation (e.g., between social and biophysical disciplines) and comparative analysis. This review is based on an extensive literature search using relevant databases (e.g., ScienceDirect, Environment Complete, Scopus, Web of Science) and draws on the authors’ own previous work. After considering recent rural social science to outline an interpretive framework, we review five distinct arenas where amenity migration carries environmental implications: land subdivision and residential development; changes in private land use; cross-boundary effects; effects on local governance institutions; and displacement of impacts. Each of the five ‘threads’ we discuss concludes with a critical analysis of what questions are left unasked or what theoretical directions are most important. We then discuss the implications of this collective body of literature for ecosystem management and conservation efforts and offer suggestions for future research. Throughout, we focus in particular on the uneven nature of environmental transformations and the multi-scale distribution of both intended and unintended environmental harms and benefits.

RE-CREATING THE RURAL: A FRAMEWORK

Amenity migration is not “a simple movement of people, but involves a re-creation of the rural” (Abram et al. 1998: 236) via material transformations and the ideals and imperatives that drive them. This re-creation of the rural is fundamentally reshaping the character of environmental and natural resource issues in areas subject to amenity migration (Dwyer and Childs 2004). Broader changes across rural landscapes, of which amenity migration is only one part, have prompted researchers to develop landscape schemas that capture both the processes driving change and the results as expressed in land use and tenure, population, governance, and management (Marsden 1998, 2003; Holmes 2006; Barr 2010). Such conceptualisations

of emerging rural landscapes are underpinned both by empirical engagements with the diversity and complexity of rural landscapes and by ongoing efforts to develop theoretical frameworks with which to interpret rural change.

One key concern here is the articulation of the amenity migration literature with other closely-related bodies of scholarship that address, for example, rural restructuring, rural gentrification, and recent political ecology work centered on (primarily) first-world rural transitions. While each of these literatures covers somewhat distinct spatial and intellectual terrain, they share a great deal of overlap relevant to the question of human-induced changes to rural environments. One of the key differences between these bodies of work is in theoretical approach: the very term ‘amenity migration’ implies a focus on the desires and activities of individual migrants themselves, while rural restructuring, rural gentrification, and political ecology attend more explicitly to the processes of physical and cultural production, enacted by multiple agents, implicated in cycles of capital accumulation. Parallel to Phillips’ (2010) observations regarding distinctions between the counterurbanisation and rural gentrification literatures, we suggest that much of the past work on amenity migration has been insufficiently political in approach. While understanding how the motivations, constructions, decisions, and actions of affluent urban to rural migrants affect environmental outcomes is undoubtedly relevant, prior investigations have too often neglected other relevant concerns and theoretical perspectives regarding the production of space, mobilisation of power, and the uneven capacities of various social groups to define and distribute environmental goods, services, and harms.

In reviewing the effects of particular social patterns on natural and semi-natural (e.g., agricultural) environments, it is important to emphasise that the concept of ‘nature’ eludes fixed meaning (Halfacree 1993; Macnaghten and Urry 1998; Castree 2005; Cadieux 2011; Saltzman et al. 2011) and nature within rural settings is no exception (Bunce 1994; Dominy 2001). Indeed, it is the rural setting where tensions arise between notions of, on the one hand, idyllic rurality which includes pastoral uses such as farming and livestock grazing, and, on the other, a celebration of putatively pristine, non-urban spaces that should be targeted for nature conservation. Finding improved ways to make decisions about where to ‘cordon off’ nature and the pastoral against, for example, space devoted to more ‘non-natural’ uses such as residential space is a significant strand of exurban research and planning (Gordon et al. 2009). Rural geographers have also debated how to conceptualise the transition from working (productivist) landscapes to those associated with consumption of natural amenities and protection of ‘nature’ (Holmes 2006).

At the same time, a range of geographical, ecological and land change research emphasises the potential for unexpected and paradoxical consequences of human attempts to ‘re-create’ nature, arising from cross-scale processes and complex socio-ecological relationships (Robbins 2001; Murdoch and Lowe 2003; Peterson et al. 2008). Further, these disciplines provide evidence of long-term trends in

land use, forest cover, ecosystem structure and composition, and agricultural retreat and expansion that confound linear narratives, generalisations across space, and short-term temporal perspectives (Fairhead and Leach 1998; Hobbs and Cramer 2007a; Warren 2007). Scholarship of this type eschews unreflexive framing of research and management responses based on hypothetical or indeterminate environmental baselines, too-ready categorisation of plants along lines such as weeds/invasive/desirable/not desirable, or assumptions about types of landowners and their characteristics and role in shaping environments. Instead, researchers argue for attention to ecological and social context to, for example, guide assessments of the values of ‘novel’ ecosystems (Hobbs et al. 2006), to guide restoration interventions (Hobbs and Cramer 2007b), or to evaluate the presence and impacts of plants (Head and Muir 2004; Robbins 2004; Warren 2007). The relative importance and specific manifestations of production, consumption, and protection values (Holmes 2006) in and across locales is a significant part of this context.

The analytic framework employed in this review attempts to ‘re-politicise’ common theorisations of amenity migration, explicitly considering the ways that conceptualisations and (re) productions of nature by particular social groups are contested and confounded by the particularities of diverse understandings of nature, processes of local resistance, and the multi-scalar complexities of the natures thereby produced. We position our review and critique research within five strands or arenas in which environmental transformations have been studied: land subdivision and residential development; changes in private land use; cross-boundary effects; effects on local governance institutions; and displacement of impacts.

LAND SUBDIVISION AND RESIDENTIAL DEVELOPMENT

Scholarship on the environmental outcomes of the parcelisation and residential development of land has traditionally been dominated by natural scientists, primarily ecologists and wildlife biologists (see Marcouiller et al. 2002). These investigations typically search for cause-effect relationships between particular activities (e.g., installation of structures, building of roads and fences, additions of water sources) and environmental outcomes measured in terms of metrics such as biodiversity and relative abundance of native and non-native species (Hansen et al. 2005; Bock and Bock 2009). A key conclusion from these studies is that the distinct patterns of development associated with amenity migration are more important than raw population numbers (Theobald et al. 1997; Odell et al. 2003; Theobald 2003; Radeloff et al. 2005a, 2010; Sinclair and Bunker 2007). There is an extensive literature documenting the ecological effects of land cover alteration associated with exurbanisation, also known as ‘rural sprawl’ (Theobald 2003; Dale et al. 2005; Hansen et al. 2005; Compas 2007; Bock and Bock 2009). This form of development is less dense than urban or suburban sprawl, affecting greater areas per unit of population (Radeloff et al. 2005a), and often occurs

in habitats that are sensitive to environmental change (Huston 2005) or important for conservation or other natural values (Edols-Meeves and Knox 1996; Hansen et al. 2002; Gobster and Rickenbach 2004; Radeloff et al. 2010).

Bock and Bock (2009) note that exurbanisation can include both positive (e.g., additions of water or food sources) and negative (e.g., overgrazing by horses) effects on biodiversity. While the low housing densities associated with some forms of exurbanisation may result in little direct landscape modification or habitat loss, additional effects derive from altered land uses, landscape perforation, and fragmentation (Robinson et al. 2005; Kearney and MacLeod 2007; Bock and Bock 2009; Leinwand et al. 2010). Fragmentation associated with exurbanisation leads to the expansion of roads, fencelines, and other dispersal networks for invasive species (Dale et al. 2005), often contributing to an increase in exotic and early-successional species and species adapted to human presence at the cost of other native species (Odell and Knight 2001; Maestas et al. 2003; Hansen et al. 2005; McAlpine et al. 2006). Such effects exemplify the unintended ecological consequences of the particular consumption patterns of amenity migrants. The unintended and largely negative ecological impacts of exurbanisation are particularly acute in areas where private lands harbour ecologically important components of the landscape. These can include, for example, fragile, high-elevation regions (Theobald et al. 1996; Moss 2006b), coastal environments (Gurran and Blakely 2007; Gurran et al. 2007), wildlife migration corridors (Hansen et al. 2002), or areas containing unusual habitat elements or important wildlife habitat (Olson and Lyson 1999; Maestas et al. 2001; Hansen et al. 2002).

The expansion of residential environments has been found to disrupt wildlife migration patterns and result in an increase in pets ('subsidised predators'), which can significantly impact desirable wildlife species (Knight et al. 1995; Daszak et al. 2000; Banks and Bryant 2007; Travis 2007; Lenth et al. 2008). Expanding residential development into previously less-developed areas brings with it the risk of increased human-animal conflicts (Knight et al. 1995), which can quickly alter suburban ideals of wildlife as part of the rural scenery (Daniels and Brehm 2003). In addition to impacts stemming directly from residential development, the increasing size and affluence of rural populations bring larger-scale environmental impacts in the form of new roads, sewers, and schools, as well as recreational infrastructure, such as airports, golf courses, and ski resorts (Lowe et al. 1993; Rasker and Hackman 1996; Billy 2006; Lynch 2006; Travis 2007). The impacts of these forms of development extend far beyond the immediate residential spaces being produced for consumption by amenity migrants.

In landscapes previously converted to extractive or productivist land uses, the impacts of exurbanisation are variable (Bock and Bock 2009). Walker et al.'s (2003) analysis of exurban landscape patterns in California's Sierra Nevada concluded that, relative to previous land uses for agricultural and forestry production, the replacement of production-oriented land uses with rural residential uses in the Sierra

Nevada mountains of California may in some cases have led to improvements in environmental quality as measured by attributes such as forest cover and riparian condition—findings echoed to varying extents elsewhere (Munton et al. 1989; Kristensen 1999; Primdahl 1999; Wacker and Kelly 2004). Haskell et al. (2006) report that exurban developments provide better habitat than some alternate forms of land use, such as intensive forest plantations, and Phillips et al. (2008) suggest that the micro-scale habitat mosaics of gentrifying residential landscapes in rural England can support higher species diversity than the surrounding homogenised agricultural landscapes.

Studies such as these point to the important role of ecological science in defining metrics of environmental quality and measuring these in light of the variable transformations associated with residential development and subdivision of land. However, with some exceptions (e.g., Walker et al. 2003), this body of work has tended to leave unexplored questions related to the complex social productions of nature characteristic of exurbanising landscapes. For example, how do contestations regarding politically-charged ideals of place, nature, and property rights influence the patterns of subdivision and development that occur across a diversity of rural areas (Hurley *In press*)? To what degree do exurban residents themselves embrace the metrics of environmental quality traditionally utilised by ecologists in these studies (i.e., how is environmental quality affected by uneven understandings and valuations of ecosystem services, 'naturalness,' and local and regional environmental histories, as well as judgments about the relative values of 'native' vs. 'non-native' species)? How do exurban dwellers conceive of and manage 'nature' within their properties, and how are these dynamics affected by patterns of property turnover, variable learning processes, and diverse ecological contexts?

CHANGES IN PRIVATE LAND USE

In addition to the ecological effects associated with residential development, amenity migration often results in changes to land and resource management practices consistent with a shift from productivist activities (e.g. farming, ranching, or forestry) to multifunctional land uses that may include organic or low-impact agricultural practices, protection or restoration of native ecosystems, and/or intensive recreational uses (Ilbery and Bowler 1998; Wilson 2001; Mather et al. 2006; Gosnell et al. 2007). British scholars have provided broad treatments of the environmental outcomes of the shift from productivist to multifunctional agricultural landscapes. For example, Ilbery and Bowler (1998) and Sutherland (2002) point to the pollution associated with fertilisers, pesticides, and other agrochemicals, as well as a loss of biodiversity, as evidence of the environmental harms of productivist land uses. This is in contrast to the potential for more sustainable, 'idealist' models of agricultural production and agri-environmental integration under multifunctional regimes (Wilson 2007, 2008a, 2009). However, these changes have not generally

been causally tied to patterns of amenity migration per se; indeed, relatively little scholarship to date within the generally prolific ‘counterurbanisation’ literature has explicitly examined the environmental outcomes associated with such patterns of migration (but see Munton et al. 1989; Morris 2010 for exceptions).

Amenity migrants who purchase agricultural or forested estates are typically economically independent of productivist income streams, and this independence is reflected in their land uses (Gosnell and Travis 2005). Several studies conducted in the USA find that owners of smaller farm and ranch parcels, with less financial dependence on commodity production, are more likely than their producer neighbours to favour consumptive (recreational and aesthetic) and protection-oriented land uses (Huntsinger and Fortmann 1990; Schrader 1995; Daley et al. 2009). Similar conclusions have been drawn in work on nonindustrial private forest owners in the USA (Cabbage et al. 1995; Erickson et al. 2002; Finley et al. 2005; Kendra and Hull 2005) and Europe (Kuuluvainen et al. 1996). However, land use by these owners is not solely driven by the issue of financial dependence on land-based income, nor does a division between productivist and non-productivist activity necessarily provide an adequate framework for understanding land use and ecological outcomes on amenity holdings. Amenity landholders have been found to take farming ‘seriously’ (Holloway 2002) and to have significant, if not wholly commercial, herds of cattle, horses, and other stock (Gill et al. 2010). Indeed, far from abandoning production altogether (as the term ‘post-productivism’ implies), some amenity owners may be said to engage in new models of production, a kind of ‘neo-productivism’ (Ilbery and Maye 2010). Frequently, land use revisions instituted by amenity owners represent significant investments of financial resources and effort, not least of which is an investment in “engaging with ‘farming culture’” and creating rural identities grounded in, among other things, “an idyllic version of what farming could or should be” (Holloway 2000: 314). In a characterisation with great significance for landscape trajectories, Holloway (2000: 314) argues that these investments represent “*symbolic* labour, being neither wholly productive nor reproductive”; their form, expression, and relationship to other activities associated with symbolisms at play will shape land use, management, and land cover (Busck 2002).

Amenity migration to forested areas can affect environmental conditions through changes in tree species and forest conditions resulting from the actions of migrants themselves or of developers of rural estates. For example, amenity forest owners may choose to plant exotic tree species that hold aesthetic or sentimental values (Dwyer and Childs 2004). In contrast, Gill et al. (2010) found a distinct intra-property division between native planting outside the garden and the immediate vicinity of the house and a more mixed planting strategy in gardens. In the UK, Morris (2010) reports on various conservation activities by a group of amenity landowners including hedgerow and woodland planting and restoration. Such acts of rural ‘recreation’ by amenity-oriented landowners may be contested

by longer-term residents, particularly those dependent on specific components of the pre-existing landscape for reasons of livelihood or culture (Hurley and Halfacre 2011), and in some cases ‘traditional’ uses may be accommodated by newer owners (Hurley et al. In press). Examples such as these highlight the ways that the production and maintenance of particular ‘natures’ through particular social relationships with the non-human world often lies at the heart of land use dynamics in areas affected by amenity migration.

Landowners motivated by specific recreational pursuits can be expected to alter land uses to favour these opportunities. For example, Gosnell et al. (2007) found that amenity ranch owners motivated by fishing opportunities acted to restore native riparian vegetation and reallocate water from irrigation uses to instream flow as a means of encouraging trout populations. However, these same owners were also more likely than traditional ranchers to install on-site trout ponds, a change with potentially negative implications for native aquatic life in adjacent waterways (Gosnell et al. 2007).

Assessing the land use consequences of amenity migration requires looking at both motivations and actual outcomes, since, for example, good intentions may be stymied by a lack of ecological understanding (Egan and Jones 1993; Hurley and Halfacre 2011). Mendham and Curtis (2010) found that newer amenity-motivated landowners in southern Australia reported higher concern about biodiversity and conservation than the longer-term producers, but that these concerns did not translate into greater adoption of conservation practices such as revegetation. Research elsewhere in Australia (Klepeis et al. 2009; Gill et al. 2010) likewise found varying evidence of ecological change amid strong interest in conservation associated with amenity land ownership. For example, one case study (Klepeis et al. 2009) found that processes of land transfer and variable commitment to weed management among amenity migrants were likely enhancing landscape susceptibility to an invasive grass. In another Australian case, verbal and practical evidence of strong commitment to ecological restoration existed alongside a tendency to manage for conservation by ‘benign neglect’ and fragmentation by heterogeneous management (Gill et al. 2010).

Indeed, a behavioural ‘gap’ (Eriksen and Gill 2010) between attitudes and actions is potentially an important focus for understanding the environmental impacts of amenity migration. To the extent that amenity landowners view ‘passive’ or ‘hands-off’ management strategies as consistent with their environmental values, ecological issues that require active intervention [e.g., invasive species (Dale et al. 2005), fire (Brunson and Shindler 2004; Cottrell 2005; Stankey and Shindler 2006) or overstocked dry forests (Agee 2002)] may remain unaddressed. Passive management can also result from absentee ownership patterns or residential patterns that involve long work commutes, leaving little time for engagement with natural resource management issues (Eriksen and Gill 2010). Even in such cases, the particular natures produced (wittingly or unwittingly) are ultimately political, based as they are both in shifting livelihood

strategies and a particular view of nature as benefitting from an absence of human intervention.

While on balance, problems arising from amenity landownership tend to be emphasised, the effects of such ownership transitions are complex and highly uneven. Potentially replacing older or exiting farmers or ranchers who may have reduced management efforts, amenity landowners are not tied to existing cultures of practice (Wilson 2008a) and can bring enthusiasm, resources, and a willingness to innovate. At the same time, differences between amenity owners and more traditional resource-oriented landowners on key natural resource issues may not be as significant as is often assumed (Klein and Wolf 2007). But the displacement of 'traditional' land uses—ranging from extensive grazing, farming, and forestry operations (Sheridan 2001, 2007; Brogden and Greenberg 2003) to the harvesting of key non-timber forest products (Grabbatin et al. 2011; Hurley et al. *In press*)—raises questions regarding the social, economic, and environmental contributions of so-called 'working landscapes' (McCarthy 2005; Cannavò 2007). What are the costs of their displacement? Where will commodity production be increased to compensate for reduced production in areas of amenity migration? With what social-ecological implications? In addition, almost all existing scholarship on the land use implications of amenity migration has taken a distinctly voluntarist approach to human agency, leaving unasked questions regarding how particular environmental subjectivities are created (Agrawal 2005; Haggerty 2007; Robbins 2007) and how these account for patterns of land use across the rural landscape.

CROSS-BOUNDARY EFFECTS

Because many of the highest-priority conservation issues, such as the management of fire, water, wildlife, and exotic plant species, are cross-boundary by nature, the actions of individual landowners often have ramifications far beyond their proprietary borders. Affected lands include not only other privately-held properties but also public lands, which often serve as core conservation areas. Several studies have shown the attraction of amenity migrants to areas adjacent to public lands generally (Johnson and Beale 1998; Frentz et al. 2004; Stein et al. 2005; Radeloff et al. 2010), and wilderness areas (Rudzitis and Johansen 1989) and national parks (Schoenwald-Cox et al. 1992; Howe et al. 1997) specifically. Much has been written about impacts related to development near national forest lands in the USA (McCool and Kruger 2003; Garber-Yonts 2004; Egan and Luloff 2005; Hansen et al. 2005; Stein et al. 2005; Kruger et al. 2008). Concerns raised about an influx of people and development on the margins of public lands, often referred to as the 'wildland urban interface' (WUI), include complications with applying fire on public lands (McCool and Kruger 2003; Schoennagel et al. 2009), increased recreational impacts, and the introduction of non-native plant and animal species to public lands that traditionally served as refugia for sensitive species.

Fire management is a quintessential cross-boundary issue,

and changing rural populations can affect how fire management is perceived, prepared for, and executed. The proliferation of homes and other structures that accompany amenity migration can effectively remove prescribed fire as a management tool across portions of the landscape (Radeloff et al. 2001). Sayre (2005) argues that restoration of natural fire regimes in the grasslands of the southwestern USA may disappear as an option if residential development replaces livestock grazing as the dominant use across the landscape. There is concern that the growth of exurbs in fire-prone landscapes is leading to the (unintended) proliferation of new ignition sources (Cardille et al. 2001; Syphard et al. 2007), creating a heightened fire risk accompanied by an increasingly complicated management environment (Haight et al. 2004; Radeloff et al. 2005b; Stein et al. 2005; Eriksen and Prior 2011). These changes vastly complicate both fire protection efforts and the restoration of historic fire regimes. Changes in land ownership, even without significant development, can alter the community context for fire management. In a Montana, USA case analysed by Yung and Belsky (2007), amenity-driven changes to local land access patterns, rather than residential development per se, effectively removed local fire management options.

From a water management standpoint, population growth and housing developments cropping up where farming once took place provide both opportunities and challenges. Given that residential uses are much less water intensive than irrigated agriculture, the ongoing land conversion taking place in agricultural landscapes around the world would seem to be an overall plus for water conservation (Riebsame 1997). Similarly, the ownership transition taking place on agricultural lands from producers to amenity migrants would seem to indicate a reduced need for irrigation. Skaggs and Samani (2005), however, found mixed results among hobby farmers in New Mexico due to the blending of production and consumption on amenity properties. Although these newcomers had a reduced need for water, they often cited the pleasure they derived from irrigating their land: "I'm retired, what else do I have to do?" asked one of their interviewees. Similarly, in the stressed Murray-Darling Basin in Australia, Howard (2008) argues that amenity migrants to riverside towns and recreational industries dependent on particular configurations of water management and impoundment have impeded reforms to river management for environmental purposes. Given the looming threat of climate change and increased possibility of more frequent and more severe droughts in high amenity arid and semi-arid lands experiencing demographic change, this topic deserves further examination.

Other studies discuss the loss of local knowledge regarding cross-boundary issues such as noxious weed control (Gosnell et al. 2006; Yung and Belsky 2007; Klepeis et al. 2009). Lacking experience in land management, amenity owners may be unaware of the presence of these issues and may lack knowledge of how to address them. Noxious weed management is likely to be especially problematic on lands controlled by absentee landowners (Klepeis et al. 2009). Maestas et al. (2002) attributed the elevated levels of noxious weeds on exurban

developments (compared to nearby rangeland) to ornamental landscaping, overgrazing, and the use of weed-infected livestock feed. They postulated that these developments may act as noxious weed sources for surrounding natural and semi-natural areas. They also found local conservation areas to have greater weed populations than grazed rangelands, a difference they attributed to recreational uses. In all of these examples, the actions of amenity landowners are seen to at least potentially result in unintended environmental harms. This is not to imply that the commodity producers typically displaced by amenity migrants lack their own suite of environmental impacts, but rather that the particular land uses and activities of amenity migrants carry unique implications based, at least in part, on a lack of practical, local knowledge regarding resources and their management.

Changing relationships between landowners in amenity landscapes can result in altered social relationships (Larsen et al. 2007, 2011), with implications for cross-boundary coordination and cooperative management arrangements that ultimately affect fish and wildlife (Wagner et al. 2007). In a study highlighting the linkages between amenity migration, the ‘enclosure’ of a de-facto ‘commons’, and altered local ecologies, Haggerty and Travis (2006) found that amenity landowners in the Greater Yellowstone Area (Wyoming, Montana and Idaho, USA) had radically different approaches to elk management, throwing historic cross-boundary wildlife management institutions into disarray. Amenity landowners may choose to encourage charismatic wildlife, which can precipitate ecological changes on their own and neighboring properties (Haggerty and Travis 2006; Yung and Belsky 2007). Similarly, Gosnell et al. (2007) found that many new ranch owners introduced non-native fish species (e.g., rainbow trout) to waters on their property, potentially complicating state-led native species restoration efforts. The specific context is important, however, since some charismatic wildlife species may represent additions of native species otherwise absent from the landscape (e.g., celebrity ranch owners Ted Turner and Tom Brokaw replacing cattle with native bison on their Montana properties).

Amenity migration can also bring changed expectations for land uses on surrounding private properties (Huntsinger and Hopkinson 1996) and precipitate economic effects that impact land uses at a regional scale (Liffmann et al. 2000). Forestry operations may come under increased scrutiny and forest managers may find it necessary to increase both communication and mitigation as amenity-oriented households take up residence near working forests (Edwards and Bliss 2003). At the same time, the proliferation of new owners may necessitate changes in the form and content of natural resource outreach and assistance (Dwyer and Childs 2004). Private forest owners can find the harvest and sale of timber more difficult when local infrastructure (e.g., local sawyers, haulers, and mills) and knowledge disappears as the community transitions to amenity ownership (Sampson and DeCoster 2000).

The management of various commons, whether defined in

terms of resources such as water, ecological processes such as fire, or in terms of mixed-ownership social-ecological landscapes, carries important implications for environmental conditions and the persistence of particular human-nature relationships and livelihoods. While much of the early scholarship on cross-boundary effects of amenity migration has been framed in terms of the impacts of spreading ‘unnatural’ land uses (e.g., housing developments) on the margins of ‘natural’ areas (e.g., national parks), recent years have seen more nuanced treatments of environmental management landscapes characterised by complex tenure arrangements. Some of these investigations (e.g., Haggerty and Travis 2006; Yung and Belsky 2007) reveal the extent to which particular ‘natures’ have been co-constructed through the social relationships associated with diverse cultural and economic occupancies across landscapes, and detail how the introduction of new forms of occupancy can disrupt such constructions. Further work is needed on the transformation of networks at the landscape scale as the creation of new private natures influences the maintenance of larger public natures through both intended and unintended effects. In particular, we see potential in more detailed analyses of changing ‘neighbouring’ practices and how those practices mediate the production of particular natures and the distribution of environmental harms and benefits.

EFFECTS ON LOCAL GOVERNANCE INSTITUTIONS

Increasing population and socioeconomic heterogeneity in rural communities related to amenity migration raises the question of how local environmental governance might be affected by an influx of new residents and landowners. While space does not permit a full treatment of the importance of governance structures as both drivers and mediators of amenity-led environmental change, we will consider two important questions here. The first is whether formal governance entities (e.g., planning departments and associated entities) in rural communities have the capacity to adequately manage the environmental impacts of amenity migrants. The second is how amenity migrants’ values and expectations regarding the rural environment translate into political actions regarding their adopted homes and the landscapes they inhabit.

The extent to which amenity migrants affect environmental quality can be constrained or enabled by the tapestry of national, regional, and local policies on land planning and environmental management (Gurran et al. 2007; Reed 2007). In Oregon, USA, for example, the presence of a statewide land use planning system means that local entities have much less control over land use change in their counties than they do in most of the rest of the American West, where development is largely dictated by local politics and personalities (Walker and Hurley 2011). However, a recent Oregon ballot initiative that essentially eviscerated the state planning policy, and a subsequent initiative that largely restored it, speak to the

potential instability of this governance framework in an era of spreading neoliberalism.

Elsewhere, population growth, rapid development, and concerns over landscape change are motivating efforts to develop new policies in places that have traditionally been averse to land use regulation, for example, in Australian coastal environments (Gurran and Blakely 2007), the American West (Ghose 2004), and fragile mountain environments in Nepal (Nepal 2000). Gurran et al. (2007: 445) report that in coastal Australia, “communities are struggling to accommodate growing numbers of people with urban tastes and rural dreams in areas with governance structures and physical infrastructure designed for occasional tourists.” In a related study, Gurran and Blakely (2007) note that objectives of sprawl containment and environmental protection are common throughout Australian state policies, but a lack of effective linkages between state and local levels prevents these objectives from being realised. A similar lack of regional engagement in governing the effects of amenity migration in Canada was noted by Chipeniuk (2004). At the local scale, land use planners in areas undergoing rapid development and subdivision may not have access to ecological tools and knowledge at the scale needed to protect ecological values in the face of development pressures (Theobald et al. 2000, 2005; Crossman et al. 2007; Gordon et al. 2009). As a result, significant effort is going into the development of software-based tools that can be used for “systematic conservation planning” (Wintle et al. 2005; Gordon et al. 2009) in exurban areas.

A number of popular [and some academic; e.g., Halfacree and Boyle (1998)] accounts characterise new rural residents as attempting to ‘lock the gate’ behind them to prevent further development after their own migration, although some empirical work contradicts this characterisation (Smith and Krannich 2000). Amenity migrants clearly have strong interests in both local environmental quality and the (closely related) protection of property values (McElhinny 2006). They often seek to address these interests through a variety of forms of local activism that can include participation in local government (e.g., planning commissions), interest group advocacy, or market-based entities such as conservation trusts (Marsden 1995; Munton 1995; Walker and Fortmann 2003; Hurley and Walker 2004). Because of the importance of environmental quality as an attractant to amenity migrants’ relocation decisions, this kind of activism is generally in furtherance of environmental protection.

Examples from the UK highlight the role of class-based social constructions of rurality in the link between in-migration of middle-class populations and protection-oriented community activism (Lowe et al. 1993; Murdoch and Marsden 1994). It should be noted, however, that amenity migrants may also bring strong ideals of private property rights along with them to the rural areas into which they move (Walker and Fortmann 2003; Yung and Belsky 2007), complicating the emergent political landscape in areas of amenity-driven growth. Indeed, when protectionist campaigns do occur, they

often do so in the wake of initial exurban development, blurring the distinction between protecting ‘nature’ and protecting property values (McElhinny 2006). The paradox of this trend is well-summarised by Cadieux (2011: 344-345): “In order to escape environments in which they feel nature has been degraded...many exurbanites move to other, more natural environments that are usually not protected enough to resist the transformations their migration will bring—and then they may work to protect that nature.”

Specific manifestations of post-productivist rural governance (Wilson 2004) vary greatly from place to place in response to the particulars of local social, economic, and policy contexts (Campbell and Meletis 2011). The links between amenity migration and governance are complex, and emerging community patterns can take many forms. For example, the increasing heterogeneity of rural populations commonly results in heightened levels of conflict regarding planning and environmental management (Walker and Fortmann 2003; Hurley and Walker 2004; Campbell and Meletis 2011). Absentee homeowners and landowners may choose to steer clear of involvement in local politics that do not directly impact private enjoyment of their estates. Alternatively, amenity migrants may play active roles in environmental regulation through participation in local government or through activity on advisory boards or advocacy groups (Egan and Luloff 2005; Woods 2005; McElhinny 2006), or passively and indirectly through the enclosure of former *de facto* natural resource commons (Brown 1995; Hurley et al. 2008).

Scholarship on the intersections of amenity migration and environmental governance foregrounds the political nature of amenity migrant-environment interactions as mediated by local to regional social action and mobilisation. The amenity migration literature has only begun to examine the implications of these particular productions of nature as they operate within national- to global-scale trends toward devolution and the marketisation of environmental goods and services (Bakker 2005; McCarthy 2005, 2006). Detailing the dynamic relationships between amenity-driven rural demographic change, local governance, larger-scale political contexts, and the shaping of, and access to, particular ecologies is a project in need of further scholarly attention.

DISPLACEMENT OF IMPACTS

An important but understudied nexus between amenity migration and environmental change is the displacement of impacts regionally, nationally, or globally as less-than-idyllic aspects of the production process are pushed out of landscapes characterised by amenity migration. At a regional level, amenity migration often leads to both a spike in demand for services and a rise in housing prices such that local housing options for service workers evaporate, creating additional environmental impacts stemming from the long-distance commuting patterns that result (Loeffler and Steinicke 2007). For example, Travis (2007) describes the so-called “down-valley shuffle” that occurs as service workers commute into

and out of the high-amenity communities they serve but cannot afford to live in.

The transition from landscapes of production to landscapes in which consumption and protection are elevated in importance may factor into patterns of ecologically unequal exchange (Bunker 1984; Hornborg 1998) as environmental harms associated with resource production are displaced from the core of the developed world to internal or external periphery zones. For example, Berlik et al. (2002) argue that the trend toward increasing forest preservation in the USA, combined with Americans' voracious appetite for wood products, creates pressure to conduct road building and logging in previously untouched tropical and boreal forests in other countries. Other studies have likewise anticipated the export of environmental harms as forests and agricultural lands are protected in more affluent nations (Sedjo 1995; Mayer et al. 2006), although none of these have specifically linked such trends to amenity migration. Wilson (2008b, 2009), however, raises the question of whether post-productivism in the developed world may be enabled by the expansion of intensified land uses in less affluent parts of the globe. Such a framing has strong parallels with Rothman's (1998) characterisation of the externalisation of environmental impacts more generally as part of what appears domestically as a case of ecological modernisation or post-materialism. These processes of resource extraction, intensive agricultural production, deforestation, and other land uses with potentially serious environmental consequences can be seen, at least in part, as a consequence of the disconnection of "the sources of demand from the location of production" (Lambin et al. 2001: 266) through increasingly globalised patterns of exchange (Buttel 2003). While amenity migration is far from the sole driver of the global displacement of impacts, it nevertheless may play a role to the extent that it replaces domestic production of food, fiber, and other commodities with oversized residential lots and private recreational terrain.

Wilson (2009) argues that scale is critical in future analysis of rural multifunctionality, including at sub-national scales. There seems to be little analysis of how amenity land ownership may relate to this multi-scalar process. Further, while there is considerable research on how agricultural land uses change in exurban areas, there has been less attention to the direct or indirect relocation of agriculture (Henderson 2005). There are important issues here for farmer decision making (Munton et al. 1988) but also for planning and natural resource management—issues that need to be assessed both within and across regions. As Henderson (2005) argues, current governance of agriculture and associated conflicts in exurban areas, driven by locally-focused nuisance laws and planning frameworks, is inadequate. A complex terrain potentially awaiting research is the significance and nature of interrelationships between metropolitan areas where food production land is under pressure and non-metropolitan food production towns and regions themselves facing exurban development pressure.

DISCUSSION: IMPLICATIONS FOR ENVIRONMENTAL QUALITY AND MANAGEMENT

The particular environmental changes associated with amenity landscapes can be seen as processes of re-creating and reconstituting rural landscapes in line with the ideals and expectations of affluent in-migrants. Importantly, these processes of re-creation and reconstitution are always partial and incomplete within any given context, and uneven across contexts, due to three fundamental dynamics: first, amenity-driven environmental alterations derive from complex ideals applied to diverse landscapes through the activities of multiple agents of change; second, amenity-driven environmental change includes both intended and unintended effects manifesting at multiple scales; third, these alterations—and the ideals from which they spring—are often negotiated, contested, and resisted through various means by the array of social groups with claims to rural space.

On the first point, recognition of the diversity of contexts within which amenity-driven environmental change occurs implies the need to probe specific questions in future amenity migration research. Just as rural spaces have been endowed with myriad ideals centred on such diverse themes as 'frontier', 'wilderness', 'pastoral', 'leisure', and 'nostalgia', so should we expect the rural imaginaries at the cultural heart of particular migration events to be diverse. We therefore suggest a need for research which explicitly links particular visions of rurality with specific processes of environmental re-creation. There is every reason to believe that these visions and associated practices vary not only regionally, but also along the lines of class, gender, ethnicity, and duration of residence in rural social environments. Further, particular environments are malleable in unique and limited ways; environmental parameters associated with water availability, climate, soil type, and the like shape and constrain the specific environmental changes on option in any given area. How particular rural ideals are reconciled with the complex ecologies co-constructed in particular landscapes is a subject in need of further investigation. Additionally, more work is needed in specifying the agents of change in areas of amenity in-migration. While the bulk of the amenity migration literature has centered on migrants themselves (the demand side), we know far less about the influence of other social actors. Real estate developers, neighbouring and exiting agricultural and forestry producers, third-party property managers, renters, and others play key roles in mediating between the actual or perceived motivations of amenity migrants and resulting ecological dynamics.

The outcomes of amenity-driven environmental alterations are not only mediated by the agency of various actors and constrained by ecological context, they are also always at least somewhat indeterminate and only partially susceptible to human control. The unintended consequences of amenity migration are numerous, and these tend to largely be evaluated as negative upon discovery. Examples of unintended effects include environmental changes that may be 'invisible' locally, either because their presence is not widely acknowledged

among amenity populations (e.g., the spread of noxious weed populations or the loss of cross-boundary fire management options), or because they manifest in places that are remote from amenity landscapes (e.g., the displacement of production to other regions or nations). A more nuanced and critical view of human agency vis-à-vis environmental change is called for, one that recognises both the multi-scalar nature of environmental effects (e.g., Wilson 2008b) and the agency of non-human elements within particular social-ecological networks (e.g., Robbins 2001, 2004).

We further suggest that past amenity migration research has not only neglected the roles of those other than the migrants themselves in enacting environmental alterations, but has also neglected the roles of migrants and non-migrants alike in resisting and managing particular processes of environmental change. More attention is needed to the ways in which the effects of amenity migration are negotiated, contested, and resisted and to the resulting co-construction and maintenance of particular 'natures'. Processes of resistance and negotiation appear at multiple scales: regional- to local-scale governance frameworks that both constrain and enable particular amenity-centred land uses associated with residential development, subdivision, agricultural and forestry production, and environmental protection; local resistance to the loss of access to particular resources and land uses; disputes among amenity landowners regarding conditions and activities; and the uneven enlistment of various rural actors into coalitions centred on particular social and environmental imaginaries.

CONCLUSIONS

Amenity migration is perhaps best conceptualised as a redistribution of (variably-defined) environmental harms and benefits at multiple scales, due to a combination of the intended and unintended consequences of the uneven processes of re-creating rural places. The harms imposed on amenity landscapes are most often associated with consumption-related activities: the proliferation of houses, roads, service and recreational infrastructure, domestic animals (e.g., horses, dogs, and cats), and the production of residential spaces through planting, clearing, and other boundary-marking activities. Interests in environmental protection can impose harms associated with 'benign neglect', and small-scale or 'hobby' production may result in its own set of impacts. Harms removed from amenity landscapes are largely those associated with conventional commodity production, as intensive farming, ranching, and forestry practices are displaced by non-productive land uses or more idealised 'sustainable' production models. However, these harms do not disappear entirely, and in some cases may simply be transferred to less affluent regions with weaker environmental governance frameworks at regional, national, or global scales. Environmental goods and services added to amenity regions are generally those that are clearly recognisable (e.g., ecological restoration of degraded lands and waters, reintroduction of large vertebrate populations), or that flow from symbolically 'green' practices. Examples of

the latter include improved soil and water conditions resulting from less intensive production models, air quality benefits from renewable energy production, and protection of 'open space' due to strengthened local governance in support of environmental ideals. Yet, as discussed above, the promotion of such 'green' activities may entail unintended environmental impacts at local to global scales, and may realign human-nature relationships in ways that disenfranchise less affluent 'traditional' rural residents and land users.

Future research on the environmental effects of amenity migration should consider these diverse multi-scalar interactions, going beyond direct cause-and-effect relationships (e.g., the effects of housing, roads, or fragmentation on biodiversity) to broader understandings of the complex interactions between individual actors, social processes, and ecologies. These include both the conservation threats and stewardship benefits of various forms of agricultural and forestry production (Haskell et al. 2006; Wilson 2007), and the ways in which these are helped or hindered by incoming amenity populations. In particular, more research is needed to understand the displacement impacts of amenity migration. To what degree are the conservation measures gained through the transition to amenity landscapes paid for through increasingly intensive production practices elsewhere (Berlik et al. 2002; Wilson 2008b)? What models exist for the constructive alignment of conservation needs and the preservation of increasingly valued 'working landscapes' (McCarthy 2005; Cannavò 2007)? Answering such questions will require going beyond the immediate parcel scale to broader, even global, scales of analysis that include not only the direct implications of land use change related to amenity migration, but also indirect effects, including shifting economic and political activities and social relationships.

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