



JUNE 2006



SCIENCE *for* DECISION MAKERS

Rural Lifestyle Landholders:

IMPLICATIONS FOR RURAL POLICY MAKERS, NATURAL RESOURCE MANAGERS AND COMMUNICATORS

Heather Aslin

Key Points

1

Rural policy makers, natural resource managers and communicators need to be aware of the nature of rural landholders, including the many rural lifestyle landholders in the more densely settled and better-served parts of rural Australia.

2

These kinds of rural landholders are variously referred to by terms like hobby farmers, peri-urban landholders, and small or lifestyle farmers, but they share the characteristic that while they live on rural properties, farming is not their primary occupation or income source and they have chosen to live on the land primarily for lifestyle reasons. They also form part of the groups now popularly described as 'sea changers' or 'tree changers', and those who are described as 'downshifting' from city lifestyles.

3

Evidence from social surveys suggests that rural lifestyle landholders are an important segment of the rural population in many parts of Australia.

4

In comparison to mainstream commercial farmers, these landholders may be distinctively different in their characteristics, values, attitudes and behaviour; they may raise new policy issues and challenges; and different communication strategies may be needed to engage them.

5

These kinds of landholders and their activities may have important implications for rural land use policies, natural resource management, agricultural production, biodiversity, biosecurity and animal welfare.

6

To communicate effectively and engage with rural lifestyle landholders, policy makers need to develop an understanding of their current values and interests, and use this understanding to identify appropriate communication channels, networks and messages that align with their interests.

Science for Decision Makers is a series published by the Bureau of Rural Sciences. It describes the latest developments in scientific advice, assessments or tools relating to agricultural, fisheries and forestry industries, including their supporting communities.

Its purpose is to make rural science more accessible to those needing to quickly understand the benefits and implications of the most recent research as a basis for decision-making.

For information on how to subscribe to this series, please see the back of this paper.



How is the Character of Rural Australia Changing?

Australian society is changing rapidly. The traditional boundaries and distinctions between rural and urban Australia have been becoming increasingly blurred over the last few decades. Greater personal mobility, improved transport links, and access to new communication and information technology now allow people to move from large cities and live in rural areas

Traditional distinctions between rural and urban are becoming less and less appropriate as Australian society changes.

while still being able to use city services or work in city-based jobs. One sign of this is that the employment structures of metropolitan and non-metropolitan areas have become more similar. Employment in the

agricultural sector in rural Australia has been declining in overall significance. This has been accompanied by marked increases in the significance to rural Australia of jobs in construction, trade, finance, property, business services, public administration, defence, community services and recreation sectors (Hugo, 2002).

One of the major drivers of these changes has been the rise of knowledge-intensive industries and increased demands for city services as a result of population growth and economic prosperity. These changes have contributed to regional 'hot spots' of employment growth, which include:

- the Brisbane–southeastern Queensland area
- metropolitan Perth
- a range of locations along Australia's eastern coast.

The areas surrounding the capital cities have tended to increase their national share of both employment and population. Non-metropolitan population growth has been greatest within the commuter zones of eastern and southeastern Australia. This growth has been accompanied by increasing demand for land for suburban expansion and rural residential development, and rising land prices around the capital cities and in their immediate hinterlands.

Today, there can be great differences in house and land values, and job opportunities, between rural areas close to the major cities

and locations further away; whether in smaller towns or in the country. In other words, in many areas, the traditional distinctions between rural and urban Australia no longer apply, and the importance of access to city services and city jobs recognised, rather than those traditionally associated with rural Australia and with agriculture.

Even among the broadacre farms that make up the majority of Australia's commercial farms, taxation statistics and farm surveys indicate that off-farm income now contributes more in total to household income than on-farm income (Gleeson, Turner and Douglas, 2003, Martin, 2005). This shows how vital access to city-based jobs is to the economic prosperity of rural Australian households, whether farming ones or not.

The changes happening in rural Australia reflect more general trends in many western nations. Traditional farming is being transformed in the face of shifting population values and lifestyle aspirations. This is leading, in many places, to the emergence of a new kind of countryside, where traditional agricultural production is now part of a complex mix of land uses that reflect new demands on the countryside. Among these are demands for things like catchment protection, carbon sinks, soil and biodiversity conservation, alternative energy sources, and provision of ecosystem services generally. This increasing range of interests and demands also means that many rural communities are becoming much more diverse.

Who are Rural Lifestyle Landholders and Where Do They Live?

The focus here is on people who live on rural properties but who are not there mainly to farm for a living but because they like country lifestyles and 'life on the land'. If asked their occupation, these people would typically refer to non-farming jobs or occupations which could involve commuting to work in nearby towns or cities. Their occupations could be in the retail, trades, personal or government services sectors, or in the manufacturing sector. Alternatively, rural lifestyle landholders could be retirees or people who depend on investment income, pensions or government social security

benefits. The principal characteristic that distinguishes them as a rural landholder group is that their income does not come primarily from farming the land on which they live.

Previous work uses a range of terms that may apply to members of this landholder group. Popular terms for them include 'hobby farmers', 'lifestyle farmers', 'small farmers', 'peri-urban landholders', 'sea changers', 'tree changers', and even 'downshifter' (see Box 1).

A range of popular terms refers to rural lifestyle landholders but these terms do not have a precise meaning in relation to income sources.

However, these terms are popular ones and do not have an exact meaning that enables us to clearly distinguish these kinds of rural landowners from mainstream commercial farmers. Financial definitions

can be imposed, for example, by setting cut-off points for the total value of agricultural production from the property, but this can mask great variation among landowners and the extent to which they depend on farm income versus off-farm income.

A recent book (Burnley and Murphy, 2004), identifies and describes 'population turnaround' or 'sea change' regions where Australians are moving from larger cities to smaller towns and rural areas in the capital city hinterlands. The major groups of 'sea changers' are described as being:

- 'free agents' (retirees and people with independent incomes, alternative lifestyle, people with mobile occupations or those able to work from home)
- 'forced relocators' (people effectively forced to move from cities because they cannot afford city house prices or living costs)
- 'periodic populations' (tourists, weekend and holiday visitors, some of whom may own holiday homes, and some of whom effectively live in two places)
- smaller categories of 'gentrifiers' (people who renovate old houses), and interstate migrants (who may also fit into the other categories).

Burnley and Murphy identify these areas as the main ones favoured by 'sea changers':

- Perth hinterland, the southwest and far north of Western Australia
- Adelaide hinterland, western Eyre Peninsula, and Riverland in South Australia and Victoria
- Melbourne hinterland and most of eastern Victoria
- coastal fringe of New South Wales, and western Sydney
- Brisbane hinterland and far north Queensland.

BOX 1

TERMS RELEVANT TO DESCRIBING RURAL LIFESTYLE LANDHOLDERS

- **Hobby farmer** – someone who owns a rural property but is not primarily a farmer by occupation or income
- **Lifestyle farmer** – rural landholder who farms or lives on the land principally for lifestyle reasons not for financial reasons related to farming
- **Small farmer** – rural landholder who owns a small acreage probably insufficient in size to farm commercially
- **Peri-urban landholder** – landholder owning land at the fringe of an urban area, beyond the suburbs
- **Sea changer** – someone who has moved from a large city to a smaller town or rural area (used to refer both to people moving to these situations on the coast or in some parts of the inland)
- **Tree changer** – as for 'sea changer' but meant to refer specifically to people moving to 'the bush' rather than the coast
- **Downshifter** – someone making a voluntary decision to sacrifice financial benefits in favour of a better lifestyle e.g. more leisure time, less stress, healthier environment.



'Sea changers' are not exactly the same as the landholder group of interest here because they include people moving into smaller towns and cities as well as those moving to rural properties. They also include people who may not be living full-time in rural situations but who have second homes or holiday homes in the country, where they spend part of the year.

Recently, the term 'tree changers' has been coined to describe people who are leaving major cities in search of bush blocks and rural-lifestyle properties which may be near the coast or further inland, but are generally close to a population centre. This term recognises that 'sea changers' include not only people moving from the major cities to areas in and around small coastal towns, but also people who are moving from cities to the bush.

Terms relevant to rural lifestyle landholders include 'sea changers', 'tree changers' and 'downshifter' – conveying the idea of people moving from major cities to small towns or the country.

Another popular term that relates to these kinds of landholders and their motives for moving to rural situations is 'downshifting'. Downshifting is meant to describe the decision some people make to leave high-pressure and possibly high-powered jobs in capital

cities for a slower-paced life in rural Australia. The move may be to smaller towns or cities, or to the country. Some of the people who make this choice are looking for less materialistic, simpler and more 'environmentally friendly' lifestyles, while others may be more focused on escaping city stresses and finding a better sense of community. The people involved in downshifting may be essentially the same ones as those involved in sea and tree changes, but by another name.

People owning small rural properties near population centres are also sometimes called 'peri-urban' landholders. 'Peri-urban' is a geographical term meaning 'around the urban' and does not have a precise meaning. As an example of how it has been applied, a recent audit of peri-urban agriculture (Houston, 2005) developed a definition based on considering population density, proportion of employment in non-rural industries, and proportion of new residents. This definition identifies peri-urban areas as ones that have lower population densities than metropolitan areas, substantial

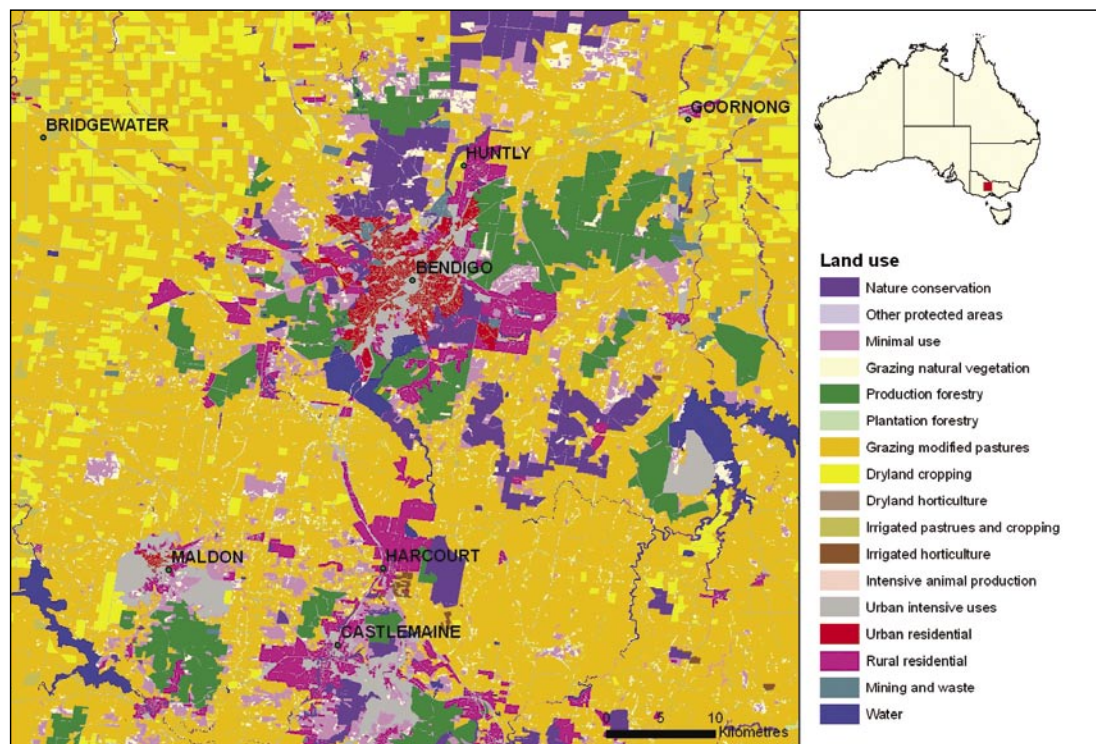
proportions of people employed in occupations not related to agriculture, and substantial influxes of new residents.

Most of Australia's major cities have been growing steadily and their peri-urban fringes have been extending outwards. This means that much rural land around city fringes has been overtaken by suburbs, or has been subdivided to cater for the demand for rural lifestyle properties within commuting distance of population centres where there is a range of employment opportunities and good services like banks, post offices, hospitals, supermarkets, and community or sporting facilities.

Rural landholders in the peri-urban fringe may of course be commercial farmers, particularly if they are involved in intensive kinds of farming that can be carried out on small landholdings. Examples of this kind of intensive farming include poultry farms, piggeries, cattle feedlots, dairy farms, irrigated horticulture and hydroponic vegetable production.

A Bureau of Rural Sciences (BRS) scoping study on peri-urban landholders (Aslin, Kelson, Smith and Lesslie, 2004) looked at whether land-use mapping could help identify areas where these kinds of landholders are concentrated. The land-use category used in BRS land-use mapping work that appears to be most relevant to them is the 'rural residential' category (Lesslie *et al.*, 2006). The BRS study points out that while land-use mapping can be helpful, particularly in showing areas where rural residential subdivisions are concentrated (for example around Bendigo in central Victoria, as shown in Map 1), it is often difficult to distinguish lifestyle properties from commercial farms without directly asking landholders about their reasons for being on the land and how they make a living. Many lifestyle properties may be former commercial farms and there may be no obvious land-use changes that can be seen from looking at the property, or at aerial photography or satellite imagery. These are the kinds of information sources commonly used in land-use mapping. The conclusion is that purpose-designed surveys will often be needed to get accurate information about rural landholders, how they make a living, and how they manage their properties.

MAP 1 Land use around the Bendigo area, Victoria. The 'Rural residential' category is one particularly relevant to rural lifestyle landholders. See 'Land use mapping for Australia' at: <http://www.brs.gov.au>



How Significant Are These Kinds of Landholders?

Australia-wide, it is very difficult to get estimates of the overall numbers of these kinds of landholders. This is partly because of issues associated with defining them clearly, but also because it may be impossible to separate them out as a group using previous surveys as critical questions have not been asked, or because they have been excluded on the basis that their farm income is below the threshold for the survey sample or they are not registered as farm businesses.

However, in the case of Victoria, rural lifestyle farms are widespread throughout the state. If these kinds of properties are defined as those less than 100 hectares in size and with an estimated annual value of agricultural production of less than \$75 000, they make up approximately 37% of rural landholdings in Victoria as a whole, and are dominant in some areas (Barr and Karunaratne, 2001). They tend to dominate on the slopes of the Great Dividing Range, and around Melbourne and major Victorian regional centres like Ballarat and Bendigo. But it should be remembered that

these Victorian figures probably include many properties where at least one member of the household is principally a farmer by occupation, even though the farm property is relatively small by Australian standards and other household members earn a living off-farm.

Representative samples of rural landholders owning properties larger than 10 hectares have been surveyed in catchments in Victoria, New South Wales and Queensland. The percentages of these landholders indicating that their primary occupation is not farming have varied from a low of 35% in the Queensland Murray-Darling Catchment (adjoining the New South Wales border and extending north of Charleville), to a high of 58% in the Burnett-Mary Catchment (a large area including Bundaberg, Hervey Bay and Gympie in central eastern Queensland) (Byron, Curtis and MacKay, 2004, 2006).

Western Australian estimates have indicated that there would be 40,000 'small landholders' (people owning properties between one and 100 hectares) in the state in 2005 (Department of Agriculture, Western Australia, 2003).



BOX 2

CHARACTERISTICS AND PREFERENCES OF SMALL LIFESTYLE FARMERS IN VICTORIA

(after Hollier *et al.* 2004)

Characteristics:

- Land size — small
- Connection to major centres — moderate/high
- Disposable income — high
- Outside labour — moderate
- Off-farm income — very high
- Distance from regional centre — low
- Technical agricultural and land management expertise — low
- Business expertise — moderate/high
- Farming history — low
- Connection to industry bodies — low

Values:

- Value rural lifestyle
- Strong land stewardship ethic
- Place low value on production and economics

Social networks:

- Favour horizontal networks (focus on implementing practice change that adds value to social and/or environmental factors and are concentrated in place) — not vertical networks (focus on industry and economic development and relate to industry location)

Information and learning preferences:

- Major information sources — newsletters, neighbours and newspapers
- Favour group-based learning and use of adult-learning principles

What Do We Know About Them?

Rural lifestyle landholders can be potential allies or create potential threats to good natural resource management, biosecurity and animal welfare practices. Work done with lifestyle landholders in Victoria indicates that they tend to have the characteristics shown in Box 2. They are a diverse group, and government staff who are dealing with them need to be flexible and prepared to adjust to their differences.

Some previous rural landholder survey work allows us to compare farmer and non-farmer landholders within different Australian catchments. For example, a survey of landholders in Victoria's Goulburn–Broken catchment (Curtis, MacKay, Van Nouhuys, Lockwood, Byron and Graham, 2000), indicates that non-farmer landholders:

- tend to own smaller properties than farmers
- tend to be better educated than farmers
- are likely to be engaged in low-capital agricultural occupations (if any)

- may not spend much time working on property and may be absentee landowners
- are likely to be mature age and older, including many people of normal retirement age.

In terms of land uses and depending on the property sizes, these landholders typically run small numbers of cattle, sheep, horses or other stock; often have areas set aside as bushland reserves, revegetation areas or wood lots; may have small orchards, vegetable plots or vineyards; and often keep chickens, ducks or geese. They often use their produce themselves rather than selling it. As indicated by the Goulburn–Broken study, rural lifestyle landholders tend to avoid land uses that need substantial capital expenditure, and also those uses that are labour-intensive, as they often have limited time to spend on managing their properties.

Previous work that has focused on managing catchments and dealing with dryland salinity (Curtis, Byron and McDonald, 2003), has found that non-farmer landholders tend to rate the

non-utilitarian or non-material values of their properties more highly than utilitarian or production-related values. The priority values for these landholders tend to be lifestyle, amenity, conservation and environmental values.

What are the Implications for Rural and Regional Policy Makers, Natural Resource Managers and Communicators?

Overall, influxes of newcomers to rural areas, including rural lifestyle landholders, can lead to both positive and negative impacts. Some of these possible impacts are summarised in Table 1.

Land-use conflicts are a potential outcome when many new lifestyle landholders move into traditional farming areas. The newcomers may not appreciate the realities of farming, and may complain about off-site farm impacts like noise or smells from animals such as pigs or poultry; dust from ploughing; spray drift from farm chemicals; noise from agricultural machinery; or the appearance of the farm property. Conversely, farmers may complain that their lifestyle neighbours are not controlling pests



or weeds on their properties; fail to care for their stock properly, leading to potential risks of spreading diseases or parasites; or let their dogs escape to harass livestock on adjoining farms.

An example of these kinds of conflicts that has been studied in detail is the issue of managing derelict apple and pear orchards in South Australia (Creeper and Nicholson, 2004). These orchards and associated 'feral' trees, often along roadsides, are a problem in the Adelaide Hills, where South Australian apple and pear production is concentrated and where

TABLE 1 Possible impacts of rural lifestyle landholders entering traditional farming areas.

Possible positives	Possible negatives
New people and new skills	Loss of farming skills
Breakdown of traditional rural stereotypes and conservatism	Loss of rural cultural heritage and rural character
More diversified economies	Loss of agricultural land and agricultural production
Strengthened rural communities, increased rural population	Rapid property and population turnover
More people to undertake land management activities	Loss of land management experience
Increased land values	Rising living and land costs force farmers out or make it impossible for them to expand properties
Opportunities for farmers to sell up and exit agriculture	Social and land-use conflicts between farmers and lifestylers
More support for nature conservation and environmental protection	Property subdivision, denser settlement and greater environmental impacts
Increased revenues to local governments	Need for new services and infrastructure with associated costs to local government
New government policy and programme opportunities	Challenges to government to adapt policies and programmes to new audiences
Boosts to economies of regional centres, improved services for all residents	Reduced viability of small country towns in favour of larger regional centres, centralisation of services



there are many lifestyle farms, small non-commercial growers and absentee landholders. Unmanaged orchards may be a biosecurity threat to the apple and pear industry because they can harbour infestations of pests and diseases, particularly codling moth. The study found that most of the landholders in the areas surveyed wanted to help address the problem, but were hampered by lack of time and resources. Recommended solutions were to conduct an effective extension programme, provide mediation services to help growers negotiate with their neighbours, and consider legislative changes.

Peri-urban agriculture is very significant to Australia's total agricultural production, and is subject to a range of threats.

In his attempt to audit peri-urban agriculture, Houston (2005) has highlighted the overall economic importance of agriculture in peri-urban fringe areas, the

potential economic impacts of biosecurity threats to agriculture in these areas, and the possible costs in terms of lost production of converting peri-urban agricultural land to other uses. The audit tentatively concluded that on the basis of existing evidence, peri-urban areas in the five mainland states produce at least 25% of Australia's total gross value of agricultural production.

One of the very productive peri-urban areas is Sydney's rapidly changing western fringe. This area provides much of Sydney's fresh produce,

but agriculture here is under great pressure as the suburbs expand and house and land prices escalate, and there are many challenges for government in managing the complex interface between farm and suburb. It has been estimated that agricultural returns in the Sydney Basin as a whole could be \$10 000 per hectare, which compares with an overall average return for New South Wales' agricultural land of only around \$136 per hectare (Gillespie and Mason, 2003).

A recent BRS study (Aslin and Mazur, 2005) focused on possible biosecurity risks posed by the practices of rural lifestyle landholders, and involved case studies in the Swan–Canning area, Western Australia; Bendigo, Victoria; and the Sunshine Coast hinterland, Queensland. The study found that the rural lifestyle landholder category as a whole is diverse, highly mobile, and appears to be increasing in numbers in the case study areas. The experts interviewed in the case studies believed that rural lifestyle landholders contributed to biosecurity risks associated with spreading existing pests and diseases, and with poor pasture, land management or animal husbandry practices. This was partly because these landholders lacked experience on the land and were not part of industry networks through which they could learn how to improve their practices.

How Can we Communicate Effectively with These Landholders?

There is no simple way of communicating with landholders across large areas, other than by very broad-brush approaches using the mass media, particularly television and radio. If it is feasible to target more specific locations at the state, regional or local level, possible methods include using general mail-outs (for example, using ratepayer lists supplied by local government), direct letterbox drops or house calls (this is often required in emergency situations). Figure 1 summarises the major communication strategies that are important at the national through to the local levels.

Rural lifestyle landholders have many different interests and belong to many kinds of groups that relate to what they are doing on their

land, their hobbies, and their lifestyles. If they keep horses, they may belong to pony clubs, dressage or show-jumping groups; may buy equine equipment and supplies from local stock and station agents; and may visit local veterinarians. If they keep or breed animals like goats, deer or alpacas, they may belong to the clubs and associations that focus on these animals. They could also belong to:

- local Landcare groups
- natural resource monitoring groups like Waterwatch or Streamwatch
- have children at school and belong to local Parents' and Friends' associations
- sell produce at local markets.

All these activities suggest possible locations, events or networks that could be used if needed to contact them. The networks these

FIGURE 1 Multi-level communication strategy to reach rural lifestyle landholders
(CMAs — catchment management authorities; NRM — natural resource management; ROCs — regional organisations of councils).

	Nature and scale	Communication channels	Major players
NATIONAL/ INTERNATIONAL	Broad raising of public awareness about issues	Mass media, particularly television	Commonwealth, state and territory agencies with relevant responsibilities and their advisory committees
STATE/ TERRITORY	Identified priority issues for states and territories Issues across jurisdictions	Mass media State- and territory-based media programmes and publications	State and territory government agencies with relevant responsibilities and their advisory committees
REGIONAL	Identified regional or local issues associated with rural lifestyle landholder practices	Regional and local media — television, radio, newspapers, regional newsletters, ratepayer mail-outs, welcome packs for new landowners, local and regional events etc.	Local government Regional organisations (CMAs, NRM groups, ROCs) Landcare networks and coordinators Environment organisations Regional service-provider networks
LOCAL	Specific issues associated with landholder practices in particular locations	Specialist media, programmes, publications and events (including special interest publications and ethnic media)	Special interest groups Service-providers Landholders, family members, friends and neighbours



landholders use will be ones that connect with their current values and interests, and which tap into their sense of community, whether place-based or interest-based.

Policy makers who want to engage with these landholders often need to identify relevant interest groups, networks and service providers on a case-by-case basis. This can be done by accessing local knowledge and consulting local, regional and state-based experts according to the nature of the issues involved and the places where these issues need to be addressed as a priority.

Communication and extension activities for rural lifestyle landholders need to apply adult-learning principles, group-learning approaches, focus on values other than direct monetary ones, and offer activities outside normal working hours, as many of these landholders will have daytime jobs. Tailoring policies and programmes to relate to their current values and interests is the best way of engaging them, raising their awareness of issues, and motivating them to take action if needed.

There may be great advantages in providing ongoing advisory services tailored to these kinds of landholders — services which develop lasting communication channels, networks and relationships — rather than trying to contact them only in the case of emergencies, when the atmosphere may be tense and fears of

government intervention heightened. There are examples of ongoing communication and information services designed especially for these landholders, one of which is the Small Landholder Information Service provided by the Western Australian Department of Agriculture. This service provides a focal contact point for queries, and organises a range of training activities for small landholders with a focus on subjects like property planning, farm management, stock care, rural responsibilities, and weed and pest control.

CONCLUSION

Rural lifestyle landholders appear to be an increasingly significant component of rural landholder populations around the fringes of Australia's major cities and in other locations with high amenity and good access to services. They may differ in a number of significant ways from mainstream commercial farmers and raise particular challenges for rural policy makers, natural resource managers and communicators. People who need to communicate with and engage rural landholders can improve their effectiveness by coming to understand these landholders' diversity, lifestyles, values and aspirations, appreciating their differences from commercial farmers, and applying this understanding in developing policies, programmes and communication strategies.





ACKNOWLEDGEMENTS

The Bureau of Rural Sciences would particularly like to thank the many state and territory agency staff who contributed to previous peri-urban projects and provided examples of issues or potential case studies to help understand rural lifestyle landholders and the policy issues they may raise. Thanks also to Howard Conkey and Greg Flaherty of the Product Integrity, Animal and Plant Health Division, Australian Government Department of Agriculture, Fisheries and Forestry, for supporting work on which this brief is based. Jodie Smith and Rob Lesslie of BRS kindly provided Map 1.

FURTHER INFORMATION

(All websites in this list were accessible as of 15 March 2006.)

Australasia–Pacific Extension Network
<http://www.apen.org.au>

Bureau of Rural Sciences,
 Australian Government
 Land Management Sciences
 Land use mapping for Australia
 and
 Social Sciences

<http://www.brs.gov.au>

Department of Agriculture, Western Australia
 Small Landholder Information Service
<http://www.agric.wa.gov.au> (once at that
 webpage, use its 'search')

Department of Primary Industries, Victoria
 Small Farms and Future Family Farms
<http://www.dpi.vic.gov.au> (once at that
 webpage, use its 'search')

Department of Sustainability and
 Environment, Victoria

2002 Conference — Rural Land Use Change
 Drivers of Land Use Change Project
<http://www.dse.vic.gov.au> (once at that
 webpage, use its 'search')

National Extension Policy Forum
<http://www.extensionpolicy.com.au>

FURTHER READING

Aslin H, Kelson S, Smith J and Lesslie R (2004).
Peri-urban Landholders and Biosecurity Issues
 — a scoping study, Bureau of Rural Sciences,
 Canberra.

Aslin HJ and Mazur NA (2005). *Biosecurity
 Awareness and Peri-urban Landholders: a case
 study approach*, Bureau of Rural Sciences,
 Canberra.

Barr N and Karunaratne K (2001). *Victoria's
 Small Farms*, NRE Technical Report, Centre
 for Land Protection Research, Department of
 Natural Resources and Environment (NRE),
 Bendigo.

Bunker R and Houston P (2003). Prospects for
 the rural–urban fringe in Australia: observations
 from a brief history of the landscapes
 around Sydney and Melbourne. *Australian
 Geographical Studies* 41(3):303–323.

Burnley I and Murphy P (2004). *Sea Change:
 movement from metropolitan to Arcadian
 Australia*, University of New South Wales
 (UNSW) Press, Sydney.

Byron I, Curtis A and MacKay J (2004).
*Providing Social Data to underpin Catchment
 Planning in the Queensland Murray Darling
 Region*. Bureau of Rural Sciences, Canberra.



IN THIS SERIES

- [Agricultural Sleeper Weeds](#)
- [Assessment of Vegetation Condition](#)
- [Australia's Pest Animals](#)
- [Climate Change](#)
- [Coordinated Land Use Mapping for Australia](#)
- [Managing Connected Surface Water](#)
- [Five Steps to Tackling Salinity](#)
- [Old Growth Forests in Australia](#)
- [Plantations and Water](#)
- [Sourcing the Salt](#)
- [Sustainability Indicators](#)
- [Water Banking](#)

Publication sales 1800 020 157
Email info@brs.gov.au

Download free BRS Publications and purchase products at www.brs.gov.au/shop

Contact

For more information contact:
Catherine Mobbs
Programme Leader
 Bureau of Rural Sciences

Email catherine.mobbs@brs.gov.au
Phone +61 2 6272 3382

Photos provided by the Australian Government's Department of Agriculture, Fisheries and Forestry

Byron I, Curtis A and MacKay J (2006). *Providing Social and Economic Data to support Regional Natural Resource Management in the Burnett Mary*. Bureau of Rural Sciences, Canberra.

Creeper D and Nicholson H (2004). *Derelict Pome Orchards in South Australia. Examining removal and management strategies*, Primary Industries and Resources South Australia, Adelaide.

Curtis A, Byron I and McDonald S (2003). Integrating spatially referenced social and biophysical data to explore landholder responses to dryland salinity in Australia. *Journal of Environmental Management* 68:397–407.

Curtis A, MacKay J, Van Nouhuys M, Lockwood M, Byron I and Graham M (2000). *Exploring Landholder Willingness and Capacity to Manage Dryland Salinity: the Goulburn Broken Catchment*, Report No. 138, Johnstone Centre, Charles Sturt University, Albury.

Department of Agriculture, Western Australia (2003). *Biosecurity for Small Landholders*. Bulletin No. 4573, Department of Agriculture, Western Australia, Perth.

Gillespie PD and Mason D (2003). *The Value of Agriculture in the Sydney Region*. NSW Agriculture, Sydney.

Gleeson T, Turner C and Douglas R (2003). *Beyond Agriculture: Changing Patterns of Farm Household Income*, Rural Industries Research and Development Corporation (RIRDC), Canberra.

Hamilton C and Mail E (2003). *Downshifting in Australia: a sea-change in pursuit of happiness*, Australia Institute, Canberra.

Hollier C, Francis J and Reid M (2004). *Rural–peri-urban interface and extension*. National Extension Policy Forum, <http://www.extensionpolicy.com.au/papers.php?arid=34> (Accessed 15 March 2006.)

Houston P (2005). Re-valuing the fringe: some findings on the value of agricultural production in Australia's peri-urban regions. *Australian Geographical Studies* 43(2):209–223.

Hugo G (2002). Regional Australian populations: diversity, dynamism and dichotomy. Paper presented at the Academy of Social Sciences Session on Rural Communities at the *Outlook 2002 Conference*, Canberra, 5-7 March.

Johnson NL, Kelleher FM and Chant JJ (1998). The future of agriculture in the peri-urban fringe of Sydney. In: *Proceedings of the 9th Australian Agronomy Conference*, Wagga Wagga, July 1998, Australian Society of Agronomy, 613–616.

Lesslie R, Barson M, Bordas V, Randall L and Ritman K (2006). *Science for Decision Makers: Coordinated land-use mapping for Australia: information for catchment solutions* (revised edition), Bureau of Rural Sciences, Canberra.

Martin P (2005). *Australian Farm Survey Results 2002-03 to 2004-05*. Australian Bureau of Agricultural and Resource Economics (ABARE), Canberra.

McKenzie F (1996). *Beyond the Suburbs: population change in the major exurban regions of Australia*, Australian Government Publishing Service, Canberra.

Salt B (2001). *Big Shift: welcome to the third Australian culture: the Bernard Salt report*, Hardie Grant Books, South Yarra.

Smailes PJ (2002). From rural dilution to multifunctional countryside: some pointers to the change from South Australia. *Australian Geographer* 33(1):79–95.

Stimson R (2001). Dividing societies: the socio-political spatial implications of restructuring in Australia. *Australian Geographical Studies* 39(2):198–216.

DISCLAIMER

The Commonwealth of Australia acting through the Bureau of Rural Sciences has exercised due care and skill in the preparation and compilation of the information and data set out in this publication. Notwithstanding, the Bureau of Rural Sciences its employees and advisers disclaim all liability, including liability for negligence, for any loss, damage, injury, expense or cost incurred by any person as a result of accessing, using or relying upon any of the information or data set out in this publication to the maximum extent permitted by law.

© Commonwealth of Australia 2006

This work is copyright. Apart from any use as permitted under the Copyright Act 1968, no part may be reproduced by any process without prior written permission from the Commonwealth. Requests and inquiries concerning reproduction and rights should be addressed to the Commonwealth Copyright Administration, Attorney General's Department, Robert Garran Offices, National Circuit, Barton ACT 2600 or posted at <http://www.ag.gov.au/cca>