

Salinity Investment Framework III (SIF3) Project

**Social issues in asset-based management of dryland salinity:
Case studies of commercial and lifestyle landholders in North
Central Victoria and the South Coast of Western Australia**

Research report

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Summary

Many parts of Australia that are affected by dryland salinity or contribute to causing it are undergoing rapid social change. These areas of high landscape and social amenity are experiencing an influx of new landholders whose reasons for owning land and intended use of their land make them very different from previous owners.

This paper reports on a series of qualitative interviews I conducted with lifestyle and commercial landholders in central Victoria and the eastern south coast of Western Australia. These two areas are important for salinity and catchment planning and have a high proportion of lifestyle landholders. The research aimed to determine what would be required to achieve adoption by landholders of land management practices that would be beneficial from a salinity and catchment management perspective.

Lifestyle landholders fall into two major groupings of interest to policymakers. The most environmentally conscious ones are motivated to look after the land and they mostly know how to do it. They need help with logistics and labour to achieve their revegetation goals. Incentive payments are not needed to convince them to revegetate, but would speed up their revegetation.

Most lifestyle landholders are not so environmentally conscious, and they look after the land because it makes for a nicer place to live. They favour revegetation that makes their property look good and that does not place great demands on their time or land management ability. Financial incentives alone are not enough to motivate them. They need advice and guidance, and ideally someone to organise their revegetation for them.

Past decisions about salinity investment generally involved the assumption that most landholders were commercially oriented and would respond to economic signals. In the increasingly socially diverse high-amenity landscapes, social and lifestyle factors are likely to be at least as important as economics in influencing landholders' management practices.

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Introduction

Many parts of Australia that are affected by dryland salinity or are implicated in its cause (or both) are undergoing rapid social change. These social changes are not consistent across the landscape. In some areas commercial imperatives are forcing farm amalgamation and making it hard for traditional small communities to retain their identity. Other areas with high landscape and social amenity are experiencing an influx of new residents and landowners whose reasons for owning land and intended use of their land make them very different from previous owners. Still other areas are somewhere between these two extremes: some of them have been in that state for a number of years, while other areas are in transition.

Salinity Investment Framework 3 (SIF3) is an asset-based framework for helping public investors decide on the best policy response to dryland salinity in a particular situation (Ridley and Pannell 2005). Currently it considers biophysical and economic factors that influence the policy choice, but has limited consideration of social factors. Such an approach is probably satisfactory if the salinity landscape consisted almost entirely of commercially driven farmers who responded to economic signals in a profit-oriented way. The fact that the social landscape of salt-affected areas is so variable (particularly in Victoria) means that future decisions about the best policy response to dryland salinity will need to involve consideration of social factors (Barr and Wilkinson 2005).

This project is a part of the process of adding a more comprehensive assessment of social factors to SIF3. The aims of the research reported here are to identify which social issues might be important to include in SIF3 and to propose how they might be included in SIF3. The actual incorporation of social factors into SIF3 is not the role of this research and will require further work.

The landscapes in which decisions about how best to invest public funds in dryland salinity are most likely to be influenced by social factors are those where the landholders are not solely commercially driven farmers, the socially diverse landscapes and those that have a high proportion of lifestyle-oriented residents. This research therefore focuses on those kinds of areas. The different kinds of landholders in those areas must be identified. I commence by discussing what constitutes a commercial farm, what constitutes a lifestyle property, and the nature of the overlap between the two. Then I develop a typology of rural properties.

I go on to propose a methodology for incorporating social factors into SIF3. As part of this, I suggest some social factors that might be important, particularly for lifestyle landholders. To determine whether the suggested social factors are in fact important I conducted case study research. This involved interviews with a selection of landholders in two case study catchments in two different Australian states about what might influence their adoption of plant-based management options for dryland salinity. The report concludes by presenting the findings of the two case studies.

Social issues in salinity investment

Commercial farms and lifestyle properties

In the past, governments dealing with rural land users have focused on farmers, people perceived as using rural land for commercial purposes, trying to make a living from the land. It is not easy to define a “commercial” farm. Is it a farm that earns a reasonable living for its operator? Is it a farm that provides a certain amount of employment for family or outside labour? Is it a farm that is run for profit, whether or not it actually makes a profit?

The question of what makes a commercial farm is hardest to answer when one considers small farms, as these are the farms that may be excluded, depending on the definition one uses. In their demographic analysis, Barr and Karunaratne (2002) noted several characteristics of Victoria’s small farms:

- Small farms greatly outnumber large farms, but contribute far less than large farms to the value of agricultural production.
- Small farms occupy only a small proportion of Victoria’s landscape, generally the areas with high land values, in the hills and close to towns.
- Families on small farms are dependent on off-farm income, mainly from wages and salaries.
- Farm size is only loosely related to farm family income, because families on small farms use off-farm income to compensate for their lack of farm income.
- Off-farm income can be a transitional (say, during a farming downturn) or a permanent state.
- The increasing reliance of Victoria’s farm families on off-farm work mirrors international trends toward part-time farming and two-income middle class families.
- In some rural communities the self-image of farmers is changing from the idea of the full-time farmer who works solely upon the land to an understanding of farming identity as encompassing salaried work or an off-farm business which allows one to continue farming.

Despite an increased emphasis on off-farm work for farm families, many small farms are nevertheless operated in a commercially oriented way. Some areas have always had small commercial farms. Many original selections were small and some have been amalgamated to a lesser degree than others. Some areas have been used for closer settlement schemes, and while amalgamation of closer settlement properties has occurred it has happened to varying degrees in different areas. Some farm families with small farms struggled to earn enough to be able to afford to expand it. Other farm families have deliberately not expanded their farm, choosing instead to diversify by investing off-farm. I suspect that these small commercial farms are likely to have existed under the same ownership for some time, rather than being new purchases, but data to check this assumption are not available.

Lifestyle landholders are no less heterogenous than commercial landholders, perhaps even more so (Hollier and Reid 2006). Few of them are likely to have the combination of time, money, and farm management skill required to manage a farm commercially. Some may well have all three attributes; most will lack at least one. Some will be “money poor”, others will not be. Some will be “time poor”, others will not be. Many, but not all, will be “farm management poor”. Someone who is time poor will need low-maintenance plants. This means trees, not pasture. Perennial pasture such as lucerne or phalaris requires rotational grazing if it is to persist. This takes time to manage. The stock that graze the pasture also take time to manage. Trees can be left to grow quietly on their own with little time input. Someone who is farm management poor will need low management plants. Again, this means trees rather than pastures. The only way someone with few farm management skills could manage perennial pastures would be by paying a local farmer to manage the pastures for them.

One attribute that I think characterises landholding for lifestyle reasons is the need to own the land rather than to lease it. The need for land ownership applies not only to land that is held for purely lifestyle purposes, but also to the lifestyle component of a commercial landholding. By this I mean that the lifestyle motivations of a commercial landholder are likely to be associated with a desire to own land. It’s just that a lifestyle-only landholder does not have a motive to earn a profit from the land. Lifestyle landholders might not earn a financial income from the land, but they do earn non-financial benefits (what economists and marketers would call “psychic income”) from their land ownership. Schemes are suggested occasionally whereby environmentally important land in commercial production is purchased

and leased to lifestylers, but if lifestylers felt that they needed to own the land it would mitigate against them.

Distinguishing between a commercial farm and a lifestyle property

It can be difficult to tell the difference between a commercial farm and a lifestyle property. A farm of several hundred hectares that earns money for its operator and takes up a large amount of their time is obviously a commercial farm. A property of a couple of hectares that grazes a horse or two while its owner works in town is obviously a lifestyle property. But what about properties at the margin? There are small farms that many people would consider to be unviable, yet they are operated full time and their owner/operator has no other income. These farmers must have very tight belts indeed, yet they have not been sold up. There are similarly sized small farms whose family has some off-farm work. There are large farms whose owner has substantial off-farm business or professional interests. The measured scale of a property or farming operation may therefore not be a useful indicator of whether it is operated for commercial or lifestyle purposes.

The question of whether farming is a lifestyle or a business is raised repeatedly, but cannot be resolved one way or the other. Saying it is both is an incomplete answer. In the same way that many pilots feel a visceral and unexplainable compulsion to fly, many farmers feel compelled to farm. It is a calling; it is all they have ever wanted to do. Many commercial farmers have a life-long tie with their land (Wilkinson 2003). In any case, the term “lifestyle” has different meanings for different landholders. It is not just a difference between farmers and lifestyle residents. Even among farmers there is variation. Farmers have lifestyle motives and profit motives, and the question for each farmer is more one of the extent of their lifestyle motive and the extent of their profit motive. Further, some of the motivation for seeking profits may be to enhance one’s lifestyle. Elements of lifestyle may include being your own boss, a sense of agrarianism (in that the farming life is somehow set apart from and seen as superior to other ways of living), or even escaping the rat race. One might say that, for farmers, the balance between lifestyle and profit may fall almost anywhere along the continuum, while for lifestyle residents the balance is likely to fall toward the lifestyle end. But that implies that there is a continuum between the two. And even if we assume a continuum, who is to say where the cut-off might be between farmer and lifestyle resident? Some lifestyle landholders also express a life-long tie with the land in a generalised sense, not necessarily with any particular piece of land (Wilkinson 2003). For other lifestyle landholders, the rural lifestyle may be only a short-term phenomenon until they move back to town because of changed family circumstances.

There are several other potential ways of telling farmers from lifestyle residents, none of them particularly useful. One is the rate of change of property ownership. There is local and international evidence that small farms change ownership more often than large farms (Barr 1999, Jackson-Smith 1999). Anecdotal evidence is that ownership of lifestyle properties churns every few years. It is possible to estimate the rate of change in ownership of land in a district, and whether ownership is consolidating or fragmenting, based upon census data (Barr 2001). This method works only for people who classify themselves in the census as farmers, so it cannot be used to distinguish farmers from lifestyle residents. It is not possible to tell from census data whether a small farm is a small commercial farm or a lifestyle property.

Another potential way to distinguish lifestyle from commercial landholders is the extent and significance of a rural family’s off-farm income. For a large number of Australian farm families, the farm is no longer the main source of income (Garnaut and Lim-Applegate 1998). Many farm households in the United States, including those with large farms, involve two partners with separate careers, one on the farm and one off it (Hoppe 2001). And pluri-activity, a mix of economic activities undertaken by a farm family, has long been a feature of family farming in New Zealand (Taylor and McCrostie Little 1995). Whilst reasons for farm family members taking off-farm work are often economic, reasons for the widespread occupational self-description of even those with significant off-farm work as “farmer” appear to be based on personal identity. Dependence by farm families on off-farm work is not a new phenomenon: in the United States in the 1930s and 1940s more than one-quarter of farm operators worked off-farm (Hoppe 2001).

Off-farm income may be used in a variety of ways, however, such as to prop up a small farm and enable the family to remain living on it, to provide money to educate children, or even as a separate career for

one or both partners. Someone with a small farm may have very modest expectations of living standards and not need off-farm work; someone with a large farm may have lavish expectations and need off-farm work. The role of many farm women has changed over recent decades, from homemaker to farm worker, to someone with her own career. Whether or not a farm woman works off-farm now has less to do with the size or nature of the farm than in the past.

To tell whether an individual property is used for commercial or lifestyle purposes, the owner's attitude to their property and their land (sometimes expressed as their goals for their land) is likely to be the most useful indicator. The best way to tell this would be to conduct interviews with the landholders in a district. In the absence of a comprehensive survey, the best approach is probably to interview local extension officers who deal with rural residents regularly.

The goals of landholder families or individuals are heterogeneous, and can include the following:

- material wealth and financial security;
- environmental protection and enhancement (beyond that related to personal financial gain);
- social approval and acceptance;
- personal integrity and high ethical standards; and
- balance of work and lifestyle (Pannell *et al.* 2006).

Many more specific objectives can be identified, although they generally relate to one or more of the broad goals outlined above. Makeham and Malcolm (1993) listed the following goals common within the farming community:

- to survive and grow;
- to set and overcome challenges;
- to farm well and be recognised for this;
- to improve the physical state and appearance of the farm;
- to acquire extra land or to control a larger business for the future and for heirs;
- to have a reasonable but not profligate standard of living which compares reasonably with others in farming and society at large;
- to earn enough profit to be able to improve and develop the farm so as not to have to work so hard in old age;
- to achieve capital gain and increase wealth;
- to have good quality animals and crops in good condition;
- to reduce income tax;
- to have a satisfying rural way of life;
- to have children well educated;
- to have enough leisure, increasing over time;
- to be a respected member of the community; and
- to have enough money to pursue non-farm interests.

Some of these goals are complementary, others are in conflict, so trade-offs are often necessary.

Ultimately, any trade-off may be resolved in favour of the family, rather than the farm. As Farmar-Bowers (2004) has described, farm families tend to see their family system as ultimately more important in their hierarchy of decision systems than their farm business system.

There appears to be a frequent social disconnection between landholders who see themselves as commercial farmers (whatever the extent of their lifestyle values) and landholders who are seen by those commercial farmers as lifestylers (whatever the extent of their commercial values). Such a disconnect is reinforced by a tendency for farmers to view themselves as "practical" and others as "impractical" (Geno and Urquhart 2001). However, for at least some of the so-called "lifestylers" (in particular, those who were classified by Fairweather and Robertson (2000) as "smallfarmers"), there seems to be a discrepancy between how they are perceived by commercial farmers (as lifestylers) and how they perceive themselves (as small farmers who are interested in the lifestyle).

To deny lifestylers any commercial motivations is much the same kind of over-simplification as to deny commercial farmers any lifestyle motivations. Holmes and Day (1995), following earlier work by Gasson and Kerridge, described four classes of values that have been attached to family farming:

- Instrumental values, in which farming is a means of obtaining income and security (making satisfactory income, ensuring future income, expanding the business).
- Expressive values, in which farming is a means of self-expression or personal fulfilment (pride of ownership, self-respect, meeting a challenge).

- Intrinsic values, in which farming is valued as an activity in its own right (healthy life, hard work, independence).
- Social values, in which farming is seen in the context of personal relationships (recognition, prestige, family tradition).

Of these, it is the intrinsic values that represent most closely what might also be called lifestyle values. According to Holmes and Day, these intrinsic values appear to be important mostly among small-scale commercial farmers. This is one reason why low-income farmers are reluctant to leave the land, despite adjustment schemes that are designed to encourage them to do so.

Spanish research has described the professionalisation of agriculture, whereby younger, larger-scale farmers identify themselves as professionals and businesspeople, whilst older, smaller-scale farmers identify themselves as labourers and property owners (Gonzalez and Benito 2001). Identities of labourer and property owner can be considered as lifestyle identities whilst those of professional and businessperson can be considered commercial. As the older farmers age, they can be expected to be replaced by more commercially-oriented younger farmers. Applying this Spanish analysis to Victorian circumstances, particularly in areas where there is some natural and social amenity, lifestyle orientations are unlikely to disappear because the small-scale commercial farmers who hold them will be replaced by lifestyle landholders with off-farm income who migrate into the area.

The ultimate problem is not to determine whether an individual is a farmer or a lifestyle resident, but the balance of farmers and lifestyle residents in a district. Neither the Census of Population and Housing nor the Agricultural Census can be used for this task, since they do not identify rural lifestyle residents (although the Agricultural Census does allow the identification of part-time farmers). The best approach is probably to use local knowledge. Agricultural extension officers in a district are likely to possess the best combination of local knowledge about issues such as relative land prices, alternative land uses, and the reputation of a district, along with informed assessment of the balance between farming and lifestyle residents. I would recommend taking their advice.

Farm archetypes

Because it is difficult to differentiate between commercial and lifestyle properties in rural areas, several researchers have attempted to build typologies of landholders. The simplest typology of rural residents I have encountered is that of Salmon and Bock (1978). They classified rural residents into four categories: full-time farmers, part-time farmers for whom farming was a commercial activity, hobby farmers (usually holding 4 ha or more) for whom farming was a hobby rather than a source of income, and rural residents (usually holding less than 4 ha) who carried out no significant farming activities. The rural landholders we are interested in would usually hold at least 4 ha.

In his report on structural change in the wool industry in the 1970s, Gregory (quoted in Makeham *et al.* 1979, p. 170) classified part-time farmers according to the operator's past, present and future commitment to farming:

- Investment owners. Sometimes called disparagingly "Collins Street farmers", they are interested in their land as an appreciating asset, a source of tax concessions and often a long-term interest or hobby that is run only at a moderate level of intensity.
- Businessman-farmers. These are also called "Collins Street farmers". They also have a non-farm occupation, but run their farm at a more intensive level than the Investment owners, often using the services of a manager.
- Weekend farmers. Generally wage earners and small business people, they operate the farm themselves because the scale of their operations is too small to warrant employing anyone.
- Potential full-timers. These people aim to become full-time farmers as soon as possible, but in the meantime have kept their original jobs to allow them to service debt or develop the farm.
- Unwilling part-timers. These people were once full-time farmers who were forced by economic conditions to take a job off-farm, but who intend to return to full-time farming when conditions improve.
- Moving farmers. These people are in the process of leaving farming and will either sever all ties with farming or will become weekend farmers.
- Dual business farmers. These people also have another farming-related business, such as shearing, contracting or stock agency.

- Integrated part-timers. These people have a vertically integrated operation: they may be for example market gardeners with a produce store.

All these categories have a commercial focus in the management of their landholding. There is little consideration in Gregory's classification of lifestyle motivations.

An alternative classification, based on types of small lifestyle farming, was discussed by Hollier and Reid (2006, p. 48):

- The "green" small lifestyle farmer. These people may live on the property or in a local town. Their focus is on improving the land. They are unlikely to use their land for agriculture.
- The "lifestyle" small lifestyle farmer. These people live on the property for the lifestyle and sense of wellbeing it offers. They see their property as a good place to raise children and perhaps produce healthy food for their family.
- The "beginning farming" small lifestyle farmer. These people operate their small farm commercially. They may live on or off their property. They may be in the process of trying to scale up their farming operation or scaling down from a larger farm as part of a staged retirement. People who have inherited a small farm that no longer provides a full-time living and who operate it part-time fit into this category.
- The "absentee" small lifestyle farmer. These people have purchased their property for lifestyle or farming reasons, or for a specific purpose such as investment or to have a place to hunt. They do not live on it and feel little emotional connection with it.

The "beginning farming" category overlaps with some of Gregory's categories, but the other three categories complement Gregory's classification by providing examples of the diversity of lifestyle landholders.

Researchers in New Zealand have also divided small scale rural landholders into those who live in the countryside for the rural lifestyle and those who are interested in agricultural production (Fairweather and Robertson 2000). Noting that most of those who used their land for agricultural production still obtained most of their income from off the farm, Fairweather and Robertson (2000, p. 10) observed that the distinction between "lifestylers" and "smallfarmers" may not be based on differences in the level of agricultural production by the two groups. Instead, it may reflect the fact that "lifestylers" acknowledged publicly that the lifestyle was important to them, whilst the "smallfarmers" tended to downplay the lifestyle while emphasising the production.

In the United States, the Economic Research Service has created a typology of small family farms (Economic Research Service 1999). First, they remove the smallest farms into a category of their own, then they classify the other small family farms:

- Limited resource. These are the smallest farms, with low sales, low assets and low income.
- Retirement. Small farms whose operators report that they are retired.
- Residential/lifestyle. Small farms whose operators report a major occupation other than farming.
- Farming occupation. Small farms whose operators report farming as their major occupation.

Farming occupation small farms are further divided into those with low sales and those with high sales. There are also large and very large family farms, as well as nonfamily farms. This typology is certainly an improvement on one that classifies small farms on the basis of sales alone. However, the distinction between residential/lifestyle small farms and farming occupation small farms on the basis of whether the operators report farming as their major or minor occupation seems to be (although convenient for the purpose of economic analysis) somewhat arbitrary. The vagaries of climate and the market may cause farms at the margin to move from one side of the cut-off to the other from year to year. This problem is, however, mitigated by people's tendency to report their major occupation on the basis of the one that they identify with the most, rather than what they earn the most money from or spend the most time on (Barr 2004). Still, a typology that explicitly reflected people's reasons for owning land and expectations from it would be more transparent than one such as this which relies on proxy variables.

Building on the previous typologies, I now define a set of archetypal rural properties. This includes both properties devoted mainly to agricultural production for profit (commonly referred to with terms such as "commercial", "production" and "farm"), properties devoted to lifestyle, and properties with both components. The "full time equivalent" (or FTE) labour input figures in this typology are admittedly imprecise, arbitrary even, and are used for comparing the scales of the archetypes rather than for indicating the absolute scale of each one.

1. Agricultural production for profit that has usually supported at least one person full time (or more than one person but all part time, in any case at least one FTE). Such a farm would be considered to be “viable” and farm family members do not need to work off-farm for money (but may work off-farm for other reasons).
2. Agricultural production for profit that has usually supported one person part-time (at least half an FTE) and the person has another part time job. The farm work may be part time by choice (the person enjoys the other work) or necessity (the farm on its own does not produce enough income). The farm takes up more of the operator’s time than does their other job.
3. Farms whose operator is not the owner. This archetype includes two kinds of farm. One is owned by a former farmer who has leased it out to another farmer. They may have retired or found another occupation that they prefer to pursue, but for whatever reason do not wish to sell the farm. The other kind is a farm owned by a wealthy person who employs a manager to run it.
4. Agricultural production for profit that has usually involved one person’s labour full time but does not necessarily support that person. The person may have other income but not another job. Retirement farms fall into this category. So do “battlers” with no other income but very tight belts.
5. Agricultural production for profit that supports (and involves) less than half an FTE, and the person has another job that may be part time or full time. Many of these farms are run by “lifestyle” farmers whose main income is from elsewhere, but who are nevertheless farming their land with commercial intent. They may not make a profit but at least try to minimise their losses. The farm takes up less of the operator’s time than does their other job, but it may form a disproportionately large component of their personal identity.
6. Former farmland that is bought by people who see it as degraded and want to repair it, generally by ceasing to use it for commercial purposes and then revegetating it. The attitude of wanting to repair degraded farmland is not confined to urban refugee lifestyle: I know some unarguably commercial farmers who have done this on parts of their farm. This category, however, is for people who are not farming their land commercially. Some of these people seek advice from extension officers; others do not.
7. The traditional lifestyle block, owned by people who just want a bit of space in the country. They may have ended up with more land than they wanted because they needed that much land to get a building permit, and now they don’t know what to do with all that land. Or they may have just a small area, which may be bushland or pasture enough for their couple of horses.

Archetypes 1 and 2 are clearly commercial farms, even though it is likely that their operator will have some lifestyle goals. Archetype 3 is also a commercial farm but because its ownership is disaggregated from its management, major changes to farming practice may require some negotiation to achieve. Archetypes 6 and 7 clearly fit in a lifestyle category and are not run for profit. Archetypes 4 and 5 are harder to classify, as there are obvious elements of both profit and lifestyle motivation on the part of the owner.

This results in a collapsing of the classification of landholders into three main types: commercial (archetypes 1, 2 and 3, motivated mostly by commercial factors but likely also to have some lifestyle component), lifestyle (archetypes 6 and 7, motivated almost entirely by lifestyle factors), and hybrid landholders (archetypes 4 and 5, for whom commercial and lifestyle motivations are both substantial). Such a collapsing is similar to that demonstrated in the United States, when respondents to a 1995 survey were asked about their highest ranked goal (Hoppe 2001). For high-sales small family farms, and for larger farms (equivalent to my category of commercial farms), the highest ranked goal was that the farm was able to survive adverse markets or weather. For retirement and residential/lifestyle farms (equivalent to my lifestyle properties) the highest ranking goal was that the farm provides a rural lifestyle. For limited resource and low-sales family farms (equivalent to my hybrid properties), those two goals were tied for highest rank.

The collapsed typology of commercial, lifestyle and hybrid landholders is used in the next section of this report to classify likely responses by landholders to policy interventions aimed at reducing the impact of dryland salinity.

Towards a methodology for assessing social issues in salinity investment

Pannell's public and private benefit framework

By generalising from the analysis conducted as part of SIF3, David Pannell has proposed a framework for choosing policy tools based on the public and private net benefits that are estimated to accrue from a particular project (Pannell 2006). In this framework, a "project" is a specific package of changes in land management in a specific location. A "location" might be as specific as a farm or as general as a district.

"Private net benefits" refers to benefits minus costs accruing to the private landholder as a result of the proposed changes in land management. They depend on:

- the financial returns from the new land uses;
- the financial returns from the land uses that are replaced (the "opportunity costs");
- any change in risks faced as a result of the change;
- indirect impacts on other aspects of the farm system or on the farmer's lifestyle;
- the farmer's own interest in the environmental outcomes.

In Pannell's framework, as in SIF3, private net benefits are estimated and expressed in economic terms, although they could include non-financial benefits or costs.

"Public net benefits" refers to the net benefits accruing to everyone else, apart from the individual landholder. They depend on:

- the value or importance of the environmental assets that are affected by the changes;
- the degree of degradation that the assets were facing or had already suffered;
- the extent to which that degradation can be prevented or alleviated by the changes;
- any lags in the response of the biological or physical system to the land-use changes.

In Pannell's framework, public net benefits are expressed in economic terms. In SIF3, they are initially estimated using hydrogeological and agronomic factors.

By applying a few simple rules, Pannell arrives at a basic framework that identifies which policy tool is likely to be the most efficient for a particular project, given its particular combination of net public and private benefits (Figure 1).

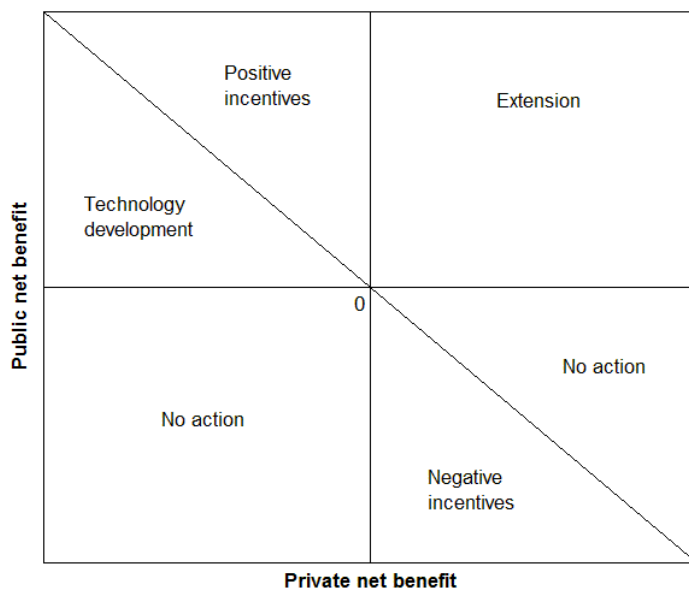


Figure 1. Recommended policy options based on a simple set of rules (source Pannell 2006)

Pannell develops the framework further, by allowing for additional factors such as time lags before adoption occurs, costs incurred by the landholder in learning how to manage a new technology, and the benefit-cost ratio required by the public agency that is trying to encourage changes in land management (Figure 2).

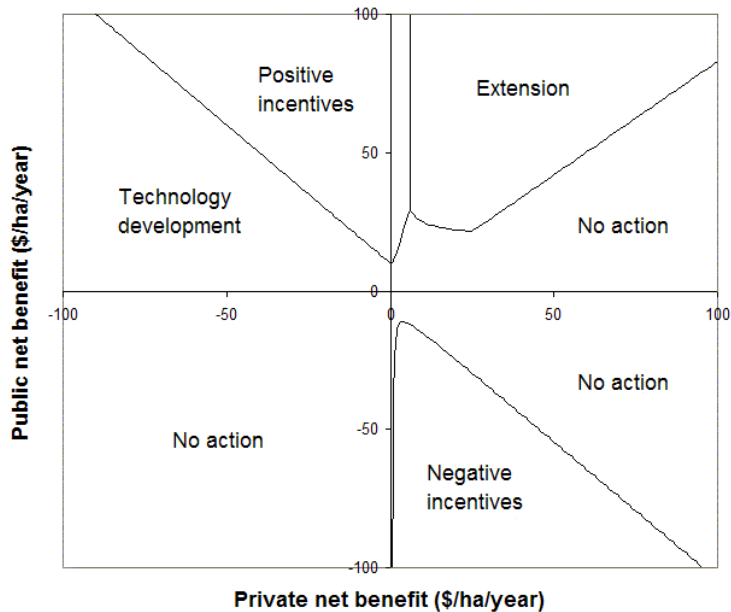


Figure 2. Expanded framework for deciding on the most efficient policy mechanism, accounting for adoption lag, learning costs, and required benefit-cost ratio for public investment of at least 1 (source Pannell 2006)

Pannell’s framework provides a suitable way to introduce social issues into SIF3. It offers a more transparent and structured set of rules than does SIF3, yet is more generalised than SIF3 in that it can be applied to any natural resource management problem. If social issues can be applied to this framework, they can then be included in SIF3. They can also be included in a framework to deal with any other natural resource management problem that requires land-use change by private landholders, or even a framework to deal with multiple problems.

Building social issues into Pannell’s framework

The hydrogeological and agronomic factors that form the public net benefit in SIF3 and Pannell’s framework are constant and do not vary according to the kind of landholder. Where the landholder does influence the framework is in how their perceptions of the hydrogeology and agronomy, as well as their perceptions of the proposed solution to the salinity problem, combine to influence their private net benefit. Different perceptions held by different landholders are expressed within the framework as different private net benefits. Thus, the main place where the social factors considered here affect the framework is on the private net benefit axis.

At the moment private net benefit is expressed in SIF3 as relative profitability. This needs to be seen as perceived profitability, because it is the way that the landholder perceives the relative profitability that influences their perception of the private benefit of a land management change (Cary and Wilkinson 1997). Reliance on perceptions of profitability as a proxy measure of private benefit is likely to work best for commercially oriented landholders, who we would expect to respond to a great degree according to their perceptions of relative profitability. Even then, a commercial landholder might still respond to non-financial perceptions of private benefit, depending on their goals. Some farmers place the desire to make more money low on their list of priorities (Hawkins and Watson 1972; Presser and Cornish 1968; Vanclay 2004). For most, making money will not be their core goal, but it will be an important tool for achieving higher value goals such as a secure family lifestyle or keeping the farm property in the family

(which means that perceived economic return is still an important influence on their behaviour). Further, even landholders with a low emphasis on generating additional cash income are unlikely to be attracted to adoption of practices that would involve large economic losses (Pannell *et al.* 2006).

In contrast, we might expect lifestyle and hybrid landholders to respond to a range of perceptions that may or may not include something financial. Lifestyle landholders may display only a small response to financial benefits. And hybrid landholders are likely to respond to both lifestyle and economic factors. Depending on the land-use change being contemplated, the private net benefit calculation for hybrid and lifestyle landholders may need to be done differently from the way it is done for commercial landholders. We might also need to modify the private benefit calculation by some kind of probability distribution around where on a lifestyle–commercial continuum an individual (or even a district) lay.

As well as the private net benefit, there is also I think a small component of the public net benefit assessment inherent in social factors, and that is the transaction costs incurred by the state in dealing with all the individual landholders. It takes a lot of lifestyle landholders to make up the area of land controlled by a single commercial landholder. So a project officer is going to have to deal with a lot more of them to achieve the scale of land management change that they might achieve through dealing with a single commercial landholder. If a hillside that a project officer wants to revegetate is half owned by one commercial farmer, and half by ten lifestyle landholders, it is obviously more efficient (at least in terms of transaction costs) to deal with one farmer than ten lifestyle landholders, some of whom may be absentee owners. A complication comes when you consider the propensity of the different kinds of landholders to do the practices you would like them to do. For example, if the lifestyle landholders want to plant trees and the farmer doesn't, that might shift the balance of extension effort.

Overall, I suggest that social factors be built into the private/public net benefit framework as follows:

- Public net benefit be left alone (apart from some consideration of transaction costs incurred in dealing with landholders).
- Private net benefit for commercial farmers be defined in economic terms, as currently done in the framework.
- Private net benefit for lifestyle landholders be defined using a lifestyle-based social definition.
- Private net benefit for hybrid landholders be defined using a combination of commercial (economic) and lifestyle-based (social) definitions.

Potential social components of private net benefit

Based on my own experience, here are some potential lifestyle-based components of private net benefit that could be used in the calculation of private net benefit for lifestyle and hybrid landholders.

Ease of management

Lifestyle landholders generally have low land management skills. If a lifestyle or hybrid landholder wanted to adopt a particular technology but its management was difficult or the landholder had no (or limited) land management knowledge, private net benefit of the technology would be less than if the landholder had the management skill. On the graph (Figure 2), the technology would sit to the left of where it would be for a landholder (probably a commercial farmer) who did possess the necessary skill. Extension of management knowledge may help to encourage its adoption, as long as the technology was sufficiently attractive once the landholder possessed the necessary skills to manage it.

For example, a particular stand of native pasture might require rotational grazing to encourage its persistence, but a lifestyle or hybrid landholder might not have the skill to manage a rotational grazing regime. Say the landholder had a stand of native pasture that they wanted to encourage, and a mob of stock they wanted to graze. Rotational grazing would have a net public benefit because it would help the native pasture to persist. Without extension, rotational grazing may well have a net private disbenefit because, although the landholder wants to encourage the stand of native pasture, they also want to graze the stock and without the skills to manage it they would not be able to satisfy both goals. Extension might be able to provide the landholder with basic knowledge of rotational grazing management. With extension, any latent private net benefit could be realised.

One of the roles of extension might be to conduct skills training to shift a technology to the right, along the private net benefit axis. It may be that, for lifestyle or hybrid landholders, positive incentives alone are not enough to make a technology with a small negative private net benefit into one with a positive private net benefit. By releasing the latent private net benefit, skills-oriented extension might be at least as important as positive incentives.

Low time input

Lifestyle landholders who have a full-time job off the farm are probably time-poor. So anything that lessens the time they have to spend maintaining their property would probably be welcome. Some might of course use their property maintenance time as an opportunity to tune out from the demands of their off-farm work, but even then there will probably still be an incentive to minimise the drudgery. To simplify the social framework, I think this could probably be put in with ease of management. The combination of ease of management and low time input could be called “convenience”.

Fit with landscape goals

A lifestyle landholder who wanted to revegetate their property is unlikely to require a financial incentive to do so. Because of the non-financial benefits to the landholder, the private net benefit of a revegetation project would be pushed to the right, toward the “no action” end of the graph. For some of these landholders, extension may play a role in enhancing their revegetation skills. Other landholders may already have fixed ideas about what they want to do with their land, and may be impervious to the influence of extension.

The evidence about what kind of landholders might be more inclined to have landscape goals for revegetation is equivocal. Social research in the North Central region of Victoria has found that those with smaller farms are likely to plant a higher proportion of their farm to trees (Wilkinson and Cary 1994). Yet a survey of landholders conducted partly in the North Central region of Victoria at the time of the first trial of the BushTender scheme for encouraging vegetation protection concluded that the proportion of income obtained from farming was not correlated with either awareness or participation in BushTender (Ha *et al.* (2003). Landscape goals may not be consistent among lifestyle farmers, but neither are economic goals consistent among commercial farmers.

Fit with personal identity

Personal identity is a strong motivating factor for individuals, even if they cannot articulate it. Many people consider themselves to be farmers, and to be commercially oriented, even if they or their partners mostly work off-farm. Analysis of census data shows that many people report themselves to be farmers even when the workplace to which they committed most of their working time was off the farm (Barr 2004). Farm families’ increasing reliance on off-farm income is part of a trend in both urban and rural Australia toward two-income households. A distinction such as the use of terms like “reliance” on off-farm income for lifestyle landholders and “supplemented” by off-farm income for commercial landholders can be made, but this implies that the boundary can be discerned easily. I don’t think that such a boundary can be drawn easily.

Self-identification as a farmer is pervasive. Many lifestyle landholders also want to be seen as farmers. If a lifestyle landholder wants to feel like a farmer they will tend to undertake farmer-like activities, but those activities may well be directed toward looking like a farmer and feeling like a farmer, rather than actually doing what a farmer does. So if adopting a particular technology will make their property look like a commercial farm (even if on a small scale) its private net benefit will be increased. This is not something that could have a dollar value put on it easily.

Here is an example of a hybrid landholder I know who identifies as a farmer. This landholder went and bought his fox bait like he was supposed to, during a fox baiting campaign when everyone was getting it. He was thus visibly one of the farmers. That bait is still in the cupboard. Laying the bait was too much hassle and not as publicly visible as buying it when everyone else was. A decrease in lambing percentage as a result of predation of lambs by foxes wouldn’t be noticed by anyone else. I suspect that even many commercial farmers exaggerate when discussing their lambing or marking percentages at the saleyards.

Another example of how farming identity might influence behaviour is participation in farm planning. As farm planning gets promoted more widely (e.g., through Landcare groups) then it becomes important to participate and be seen to have a farm plan. Implementing it is another thing: after all, there are all kinds

of reasons why that might not happen, none of which can be checked up on by others easily. The main thing is to be seen to have a plan.

Assessing private net benefit from a social perspective

The research in this project needs to answer three questions:

- How to assess private net benefit for a non-commercial landholder.
- How would a non-commercial landholder respond to the different policy tools.
- How might the private net benefit of non-commercial landholders be applied to the public-private net benefit graph.

The first question is how to assess private net benefit for a non-commercial landholder. I have identified three (if low time input is put in with ease of management) potential components of private net benefit for lifestyle and hybrid landholders. The existence and pervasiveness of these potential components needs to be tested in some field work involving interviews with landholders around selected key assets. I think that fit with landscape goals will apply mostly to lifestyle landholders and fit with personal identity (which is likely to be as a farmer) will apply mostly to hybrid landholders. For commercial landholders there is already an “economic” goal. For lifestyle landholders there might be an “ease of management” goal and a “fit with landscape goals” goal. For hybrid landholders there might be an “economic” goal and a “fit with personal identity” goal (and perhaps an “ease of management” goal). The usefulness of these different goals in aiding decisions on the use of policy tools now needs to be tested with field research. I suspect that the hybrid landholders will be the ones that will be hardest to assess, because they are the ones who are adding the most complexity to the system.

The second question is how would a non-commercial landholder respond to the different policy tools. It is closely related to the first question and would be tested in the same field work as the first question. Because a non-commercial landholder is likely to perceive their private net benefit differently from a commercial landholder, their position along the private axis of the graph is likely to be different from that of a commercial landholder. Further, the effect of the policy tools on a non-commercial landholder may well be different from their effect on a commercial landholder. To a landholder for whom economic considerations play little part in their land management decisions, economic incentives may not be the most efficient policy option.

The third question is how might the private net benefit of non-commercial landholders be applied to the public-private net benefit graph. In other words, having proposed a set of landholder goals for testing, how might the goals framework thus developed be applied to the private net benefit axis of the public-private net benefit graph? The framework needs to be applied on an asset-by-asset (or district-by-district) basis. The landholders around each asset (or in each district) will be often heterogenous. A particular technology might be perceived differently by different landholders, so its net private benefit would vary along the x-axis of the graph for different landholders. Different policy instruments might then be indicated for the same technology. The problem lies in deciding how to aggregate up the different perceptions of the various types of landholders. There are several options:

- Do a separate calculation of net private benefit for each landholder. We would need to decide for each landholder which of the 3 types they were so we could apply the appropriate private benefit measure. We would need to classify each individual landholder in the district. This would be a big job.
- Decide which of the 3 types of landholders are present in a district in enough numbers to warrant including their type in the calculation. We could then calculate private net benefit for each of the kinds of landholders that are present in the district, then create a weighted average likely response for the district. This seems to be a more practical option than the first one.
- Determine, on balance, what type of district it is, based on the district archetypes, and apply a commercial landholder calculation to the first district archetype, a hybrid landholder calculation to the second district archetype, and a lifestyle landholder calculation to the third district archetype.

This is the simplest of the 3 approaches: whether it is too simple to be useful needs to be tested. Answering this third question is not a job for field work. It requires a judgement to be made on which method allows the complexity in the system to be retained sufficiently, yet still be easy enough to apply.

At present the SIF3 framework considers four separate situations: recharge areas with salinity impacts on waterways, recharge areas with salinity impacts on small-scale terrestrial assets, recharge areas with salinity impacts on dispersed assets, and salt-affected agricultural land. Within each of these cases there are between one and three biophysical factors and one economic factor. Each of these factors has two or three states, so the total number of cases for each situation varies between six and 24. To add a social factor to the tables might double or triple the number of cases.

The calculation of private net benefit for hybrid and lifestyle landholders might manifest itself as another column in one or more of the SIF3 tables. Alternatively, the farm-level economics column in the SIF3 tables might become a private net benefit column. Another option is to construct an alternative table for areas where an existing table is unlikely to provide an appropriate response. Because districts are heterogenous, a range of policy instruments might be needed for any particular technology. If different broad kinds of landholders can be identified as sitting at a particular point on the x-axis of the graph, then the policy instruments can be at least broadly targeted.

The case studies

Background

SIF3 is an asset-based approach to salinity investment decision-making. Because of this, it focuses on target assets rather than target areas. This represents a shift in the emphasis of salinity planning. The field stage of this project involved a series of case studies around high priority assets in North Central Victoria and the South Coast of Western Australia that are threatened by dryland salinity. The case studies involved interviews with landholders whose land management decisions may affect the state of the assets, mostly those who live adjacent to or near the assets.

The purpose of the proposed case studies was to determine whether the recommendations arising from use of the SIF3 decision-making framework need to be modified to take account of social issues and, if so, in what way. Such changes are most likely to be needed not for assets that affect and are affected by commercial landholders, but assets that are associated with lifestyle landholders of a mix of both commercial and lifestyle landholder. Interviews were conducted with a mix of landholder types to allow variation between landholder types to be compared with variation within landholder types.

The key questions that needed to be answered have already been described. They are:

- How to assess private net benefit for a non-commercial landholder.
- How would a non-commercial landholder respond to the different policy tools.
- How might the private net benefit of non-commercial landholders be applied to the public-private net benefit graph.

This report concentrates on the first two questions. The third is best left to David Pannell.

Research method

In discussions with SIF3 project researchers, the research questions were cast in the following way. The overall research question was:

- Given the practices resource managers are trying to encourage among landholders in a position to influence the condition of key assets, how do landholders (lifestyle or hybrid) perceive the adoptability of those practices and how would they then respond to the policy tools within SIF3? What would it take to achieve adoption?

The subsidiary research questions were:

- How do they perceive the adoptability of the practices?
- How have they responded to the current policy tools?
- How would they respond if no policy tools were used?
- How would they respond to the various policy tools that could be used?

In Victoria, two case study areas were chosen, Axe Creek and Wild Duck Creek, both toward the southern end of the North Central region, the Victorian case study region for the SIF3 project. The two creeks are key assets, identified as high priority for salinity by both scientists and the community. They both carry high salt loads into the Campaspe River, in Wild Duck's case above Lake Eppalock and in Axe Creek's case below Eppalock. Both were assessed in the first round of SIF3 assessments in the North Central Catchment Management Authority (NCCMA) area, but neither are current salinity target areas. The target area scheme seems to focus on commercial landholders, and in these two catchments lifestyle and hybrid landholders predominate.

The Axe Creek catchment lies immediately south east of Bendigo. It includes Strathfieldsaye, which is almost a dormitory suburb of Bendigo and the fastest growing part of Bendigo. There are also rural living areas around Mandurang and Junortoun, where the blocks are approximately one or two hectares, areas a little further out around Sedgwick, Axe Creek and Longlea, where the blocks are about 10 ha, and also a number of blocks of up to 40ha. Between Sedgwick and Sutton Grange, the areas furthest from Bendigo, there is a handful of large commercial farms of around 500 to 1000 ha. Axe Creek is an area with a large population, of which very few are farming for a living. Most residents obtain the majority of their income from working in Bendigo, and there also are some retirees. Subdivision of large tracts of

farmland into smaller blocks occurs frequently. Larger landholdings are used for extensive grazing of cattle and sheep, while smaller blocks may be used to graze a few alpacas, sheep, cattle or ponies. Some people have a few horses. Parts of the catchment are open bushland that is mostly ungrazed.

The Wild Duck Creek catchment area sits west and south-west of Heathcote. The country is undulating and suitable for grazing. There is a handful of larger farms (of perhaps 300ha or more) and a lot of small holdings. A lot of subdivision occurred in the 1980s and a lot of blocks between about 8 and 80ha were created. Many of these blocks have had houses built on them. Residents generally work in Bendigo or Heathcote. Some owners of small blocks live in Melbourne and come up to Wild Duck Creek on weekends. Small block owners are mostly using their land for lifestyle purposes: they may graze a few animals, run a couple of horses, or perhaps grow some grapevines. A few blocks are leased to commercial farmers.

In Western Australia, one case study area was chosen, the Lake Warden catchment at the eastern end of the South Coast region. The South Coast region is one of the two case study regions for the SIF3 project. The catchment management body, formerly South Coast Regional Initiative Planning Team (SCRIPT), is now called South Coast Natural Resource Management. The Lake Warden catchment was chosen because of the presence of a key asset needing protection, the clearly defined catchment and the presence of an existing catchment project which has concentrated on commercial landholders but is now attempting to work with lifestyle landholders.

The Lake Warden catchment surrounds the isolated town of Esperance in the south east of the state. What is generally called the Lake Warden catchment is actually the catchment of a group of hydraulically connected lakes that together is known as the Lake Warden wetland system. Lake Warden itself is the best known of the lakes. The value of the Lake Warden wetland system as an asset is clear from its listing as a wetland of international importance under the Ramsar Convention on Wetlands. The lakes provide habitat to migratory wading birds. Water levels in the lakes have been high lately due, it is thought, to runoff. To help keep the water in the lakes low enough to create shallow feeding environments for the wading birds, and to maintain the vegetation around the lakes that provides nesting and feeding grounds for the birds, a program of extension and incentives for planting trees and deep-rooted perennial pastures has been instituted in the catchment.

The mallee country to the north of Esperance was settled in the 1920s, but the sandplain country closer to Esperance was not settled closely until the 1950s, when an understanding of how to manage the trace element deficiencies in the sandy soils was developed. Over the decades since then, large farms in the lower parts of the Lake Warden catchment (near the lakes) have been gradually subdivided into smaller properties, so that now only a handful of farms could be regarded as viable. More recently there have been subdivisions of several properties into estates of lifestyle blocks, many of them as small as 2ha. Because of its mild coastal climate, Esperance is favoured as a recreation area for residents of the goldfields, about 400km to the north.

In-depth interviews were conducted personally with selected landholders in the case study catchments. To ensure a range of landholders were interviewed, they were selected using a variety of methods. In North Central Victoria, lists were obtained from various agency staff within NCCMA and department of Primary Industries (DPI) and landcare group contacts. In Western Australia, lists were obtained from various agency staff within the Department of Agriculture, Esperance Regional Forum (ERF) and South East Forests Foundation and contacts within the Esperance Small Landholders Group. Snowball sampling was used, in which interviewees are asked to suggest other people who might be suitable for interview (Denscombe 1998). And, to ensure some people who may not have had any contact with agencies or landcare groups were interviewed, I spent time over a weekend in Victoria and another weekend in Western Australia cold-calling residents in known lifestyle areas.

In Victoria, a total of 20 landholders were interviewed, 12 from Axe Creek and 8 from Wild Duck. Based on the scale of their landholding and what they were doing with their property, I classified 11 interviewees as lifestyle landholders, 4 as hybrid landholders, and 5 as commercial landholders. For eight of the interviews, two family members were present (usually, but not always, husband and wife). For the other 12 interviews, only one interviewee was present. All Victorian interviews were conducted at the interviewee's home during September 2006.

In Western Australia, a total of 22 landholders were interviewed. I classified 13 interviewees as lifestyle landholders, 5 as hybrid landholders, and 4 as commercial landholders. For three of the interviews, two family members were present (husband and wife). For the other 19 interviews, only one interviewee was present. Most Western Australian interviews were conducted at the interviewee's home, but four were conducted elsewhere (generally the interviewee's workplace). The interviews were conducted during May 2007.

The interview schedule was developed and refined in consultation with SIF3 project researchers.

Interview topics included the landholder's:

- history on the property;
- intentions for the future of property, including their vision for the future landscape of the property;
- personal identity as a landholder (couched in terms of what they are trying to achieve from their property);
- perception of any off-farm effects of their practices (unprompted);
- (following an explanation of what the key assets are in the area) perception of any effects of their practices on these assets (prompted);
- current use of practices that influence (positively and negatively) the condition of the key asset;
- awareness and use of current policy tools (mainly extension and incentives);
- perceptions of the recommended practice or practices, including knowledge of it, ease of management, time required to manage, perceived net economic benefit (balance of costs and returns in short and long term), fit with their landscape goals, and fit with their personal and family identity;
- likely future use of practices that are recommended to improve the condition of the key asset;
- likely response to different policy tools that might be used to encourage adoption of the recommended practice. In the case of incentives, explore the likely response to different levels of incentive payment, one-off up-front payments, later payments based on performance and regular ongoing payments; and
- overall, what would encourage landholders generally to use recommended management practices.

The interview schedule is provided in Appendix 1.

Interviews were not recorded, but detailed notes were taken, using the interviewee's own language where possible. The quotations presented in this report (in italics) are not necessarily verbatim, but I have tried to be faithful to each interviewee's language. Within the quotations, my questions are in normal font, within square brackets. Sometimes words or phrases are inserted within the quotations, to make the interviewees' points clearer, and these are also in normal font, within square brackets. Each quotation is followed by an interviewee code (AC1 to AC12 for Axe Creek, WD1 to WD8 for Wild Duck, or LW1 to LW22 for Lake Warden, then L for lifestyle or H for hybrid or C for commercial. The same code applies to all family members in an interview. Apparent contradictions between quotations from the one interview can be explained sometimes by their sources being different family members. An alternative explanation is that the issues that I discussed with the interviewees are so complex and intertwined that many of the thoughts that they expressed naturally conflicted with each other. Some minor details may have been changed to help preserve the anonymity of the interviewees, but the thoughts and emotions conveyed in the quotations are genuine.

The data took the form of words, phrases and sentences uttered by the interviewees in response to my questions. A basic thematic analysis was conducted on the data. This involved typing up the notes from each interview, choosing a series of topics around which to sort the data, then sorting the interview notes by topic. Within each topic, the notes were further sorted by landholder type.

This is a report on a qualitative study. The data (interview notes) cannot be analysed by counting the number or proportion of interviewees who expressed a particular point of view, nor can the findings be extrapolated to any population of landholders in a statistical sense. The purpose of this research is, having selected case-study landholders in a range of circumstances, to describe their circumstances and motivations and develop an understanding of how they might be encouraged to adopt certain practices. Analysis takes the form of looking for patterns that can help to explain the reasons why they do the things they do on their properties and how they might be influenced. Such an approach is necessary before any useful quantitative research can be conducted.

The presentation of findings is structured around three themes: the landholders' motivations behind their property management, their adoption behaviour, and their perceptions of salinity and its management within their catchment. Within the first theme, landholder motivations, findings are presented based on

sub-themes that emerged from my analysis, and these were based partly on the theoretical material presented earlier in this report. As the two case studies were conducted separately, they are reported separately. The discussion and conclusion section that follows the presentation of case study findings is based on both case studies.

Victorian case study

Landholder motivations

Length of ownership

All of the commercial landholders came from families that had been in the area for multiple generations, as did both the hybrid landholders from Axe Creek (who had both been commercial landholders but had since retired and sold off some of their land). For some of these landholders, there was evident pride in their forebears having been original (or at least very early) settlers.

My family settled in 1863. We're about the only ones left there now, original settlers.
(WD3 C)

And:

My great great grandfather came here to the goldfields. There was too much dirt and not enough gold, and not enough food, so he walked back to Sydney, got a herd of cows and came back and started the first dairy farm. (AC12, H)

In contrast, all the lifestyle landholders and the two hybrid landholders from Wild Duck had all purchased their properties themselves. They had owned them for between 27 years and 6 months.

No one talked of selling their property, not even the two hybrid landholders who had been commercial farmers and were in the process of selling down their landholdings. One of them had just built a new house on what was left of the property and the other was planning to build. Several of the lifestyle landholders talked about not selling their property.

I'm not in a hurry, because I'll never sell this place. I don't have to have it done for next week. (WD4 L)

And:

We'll probably be here for a long time. I can't see us moving, unless something unforeseen takes place. (AC7 L)

This landholder described similar sentiments among lifestyle neighbours.

They want to be living on the block in 20 years time. We're as stable as farmers. Some of them will be there for the rest of their lives, even though they work in town. It's not just a stepping stone in life like perhaps suburban stuff is. (AC6 L)

Some lifestyle landholders recognised the impermanence of their tenure.

We like living here, but we're getting older. Putting in something intensive would not be a good idea. We need low labour. (AC2 L)

And:

I give myself another 10 years here and then I don't know. It's the upkeep. I actually bought myself a ride-on mower last year. Even the general upkeep I find difficult sometimes. (AC8 L)

Even those who recognised the eventual necessity to sell the property found a sale difficult to contemplate.

One day I'll have to sell it. I wonder who I'd sell it to. There's Trust for Wildlife, and they have a magazine you can advertise in, so you're more likely to get someone of like mind looking at it. (WD6 L)

For commercial landholders, particularly those whose families had been on their land for several generations, selling the family land was something they just did not even consider.

I'm the sixth generation on this property ... You become pretty attached to the land. I never think of it as the monetary value. You never think of selling it, try and do your best with it. Once there was houses on it you'd never get it back. Once it's gone, it's gone. (AC3 C)

And:

We're doing this for our lives, and for the next generation. And the next generation. Our grandson, it's bred into him ... It's ours, we want a living off it, but you've got to leave something for the grandkids. (WD5 C)

Such long-term motivations are not confined to commercial landholders.

I'd like to hand it on to my granddaughters, if they're interested. But if they're not, well, I'd like to leave it better than I found it. (WD1 H)

Those who had inherited their farm described having had no real choice of where they would live. Their choice had been to run the family farm or not. For those who had purchased their property, different factors were important to different people. Views were mentioned by several landholders.

I went, 'rocks!' Robert went, 'views!' We went, 'wow!' (AC1 L)

And:

It was the view when we came over the hill that sold it to us. (WD2 L)

And:

It's got fabulous scenery. Great views for a house. The front of our house looks to Mt Alexander. (AC11 L)

And:

Wonderful views, all around! (AC4 H)

Some just wanted a place in the country.

I got transferred from Melbourne to Bendigo and I didn't want to live in the suburbs. (AC10 L)

Others described more practical criteria.

The primary things I was looking for were shelter, fencing, water. Views would have been nice, but that's the only thing I didn't get. It doesn't have the hills. But it's still a lovely property. It was very much a lifestyle choice for me to come out here. (AC8 L)

And:

I looked at six places that were being cut up from the one property. This one looked like it had the best country. (WD4 L)

Agriculture and income

The commercial properties ranged from 400ha to 800ha in area, the hybrid properties from 16ha to 120ha, and the lifestyle properties from 2ha to 70ha. Of the five commercial properties, three had more than one family trying to earn a living on them, and they needed some form of outside income or intensive land use to provide enough income.

It's not big enough for 2 families. My parents still draw an income off it as well as us. It's certainly big enough for one family ... If I can work off the farm for 3 or 4 months of the year, the more I can put back into the farm. I can afford to buy lime, I can afford to buy super. (WD7 C)

And:

We both couldn't be here with grazing on 1000 acres ... We came up with the idea of going partners in the pigs. (AC9 C)

The need for outside income or intensification on a commercial farm is not new. Both the hybrid landholders who had once been commercial farmers described similar experiences.

I used to shear for a couple of months a year. (AC4 H)

And:

It was a small farm. When grandfather had it and dad had it, it was quite sufficient ... When I came back on the farm I started growing a block of tomatoes. That was my income. (AC12 H)

The hybrid landholders were earning some income from their properties, but not much. They showed a mix of both lifestyle and commercial motivations.

It's not farming land any more. What I've got now is a very dear hobby. The few cattle I sell, all they do is pay the rates and the water. They don't make any money. But it's a nice lifestyle. (AC12 H)

And:

You're not going to make any great amount of money, it's seeing the stock at the end. Seeing a lovely healthy animal that you'd be proud of. You've got to have something to work for. (AC4 H)

Some of the lifestyle landholders were contemplating a commercial enterprise.

It was not a cheap thing to buy. We are wondering how to earn some money from it. Maybe pistachios and table grapes. (AC1 L)

And:

I could possibly end up running a few animals. I haven't worked out what yet. (AC7 L)

Also:

I guess ultimately the option to run some animals. Not that we're doing that as yet, but we're working on that. [You've had the place for nearly 20 years, it must be a very long term plan.] We've only lived here 5 or 6 years. (AC11 L)

Other lifestyle landholders already had a small-scale enterprise, but were earning little money from their properties. This appeared to be founded on a sense of duty to their land.

We're on good ground, we feel a responsibility to be productive ... We have this privilege of irrigation water. (AC2 L)

And:

We have a water right and I wanted to do something agriculturally ... We have a bit of a responsibility, if you have a bit of land, to do something commercially viable with it. (AC5 L)

And:

We've put in a bit of farm forestry, but it feels like a waste of good soil. (AC2 L)

Even these lifestyle landholders, who were using some of their land for production purposes, recognised that their motivations were primarily related to lifestyle.

Basically, we've got a vast garden, which is just for fun. (AC2 L)

This lifestyle landholder had tried to get some production from the land and given up.

It's not really used for anything much any more. It's just used for leisure. We've only got one horse. We used to have cows on it, 3 or 4 cows, but I won't do that again with the water the way it is, the lack of rainfall ... There's not enough pasture there to run stock on. For all the mucking round with a couple of cows it's barely worth all the grief. I had the idea of running a few cows. We made a bit of money out of them. But then the drought came and the prices dropped and we had to get rid of them and we lost everything we'd made. And it's the time factor to look after them. I had too many things to do. (AC10 L)

Lifestyle

Lifestyle motivations for owning rural land were acknowledged almost universally. The term 'lifestyle' covers a diverse range of aspects, including:

- peace and quiet
It means space, peace and quiet. A hobby. (AC11 L);
- freedom from restrictions
I was looking for lifestyle. I grew up on a dairy farm ... We were living in Sydney. One of the benefits of moving here to a large regional town was that we could live out of town a bit ... We just wanted a bit of peace and quiet. It's less restricted than in town. If you want to light a bonfire you can. It's good to be able to come out and just breathe. It's great. (AC7 L) and
What it means is a bit of space around me. I can work in my shed until midnight and it doesn't matter. (AC10 L);
- recreation
It's a fairly big swag [of my life], I reckon. Just in terms of upkeep. 12 to 15 hours of recreation time per week. It is my recreation. We see it very much as a lifestyle thing. (AC5 L) and
I've got a motorbike, the young lad's got a motorbike, I wanted somewhere to ride it. I'm going to get my daughter a pony. (AC7 L) and
I can't handle sitting on the beach. The country gives me something to do. I come up and tinker. (WD4 L);
- enjoyment
We looked for a place that would give us a nice lifestyle ... Basically, we've got a vast garden, which is just for fun ... We want to have fun. If you don't enjoy doing it, why do it? It's not economically viable, it's a nice way to live. (AC2 L) and
I've got a big dam near the house. I enjoy sitting here in the late afternoon, looking over the water. It's a nice place to be. (WD4 L) and
We bought the land originally as an investment and a place to play around with. Eventually we thought we were going to subdivide it and sell it. But we got to like it. We changed our ideas about selling it ... We just got to like the area and like living here. It was an escape from Melbourne. I got interested in birds ... It's really just a play block ... There's no big enterprise here, it's basically a lifestyle thing, a retirement venture. (WD6 L);
- and a place to recapture one's sanity

*It's probably my sanity! The lifestyle part of it is very important to us. It was a big tick in the box to consider moving here. (AC7 L) and
If I have a bad day at work I come here and stay the night. It's really important to me.
It gives me a release mentally. (WD4 L).*

As the preceding examples show, a landholder might have several of these motivations. These examples all come from lifestyle interviewees. The commercial and hybrid landholders I interviewed had lifestyle motivations too, but found them difficult to express. Some of the lifestyle interviewees recognised it in them, though.

Farming is a way of life, and it's a passion for some people. It's in families, it's just a way of life. (AC8 L)

And:

To me, farming is a business, even if you inherited it. But to them, it's their life. They don't see it as a business. (WD2 L)

The interplay between commercial and lifestyle motivations was illustrated in the interviews with two of the hybrid landholder couples. One family had subdivided and sold their rougher hill country as lifestyle blocks and kept the creek flats. They had just built a new house.

[Would you have liked to build your new house on a hill over the road, instead of here on the low country?] Husband: *Don't ask!* Wife: *Yes!* [Why?] *Wonderful views, all around! There were a couple of marvellous hills, you could see all around. (AC4 H)*

In the other family, the husband described their property in practical terms.

I was determined to buy a piece of good ground ... It came on the market. No one else would pay the asking price, but I knew how good it was. It is a piece of good ground by our standards. (WD8 H)

In contrast, the wife used more emotional language.

I love it out there. No power. Peace. It's the nicest place. It's just heaven on earth. I used to go out there every Easter for a week with my sister. You could walk all over the hills. (WD8 H)

These two cases were, however, the closest I could uncover to disagreement between partners.

More than lifestyle

The motivations of some so-called 'lifestylers' go beyond merely lifestyle. Some want to heal the land.

We want to improve it, regenerate it. It's been grazed for decades. Apart from 20 remnant gums it was all bare and rock. (AC1 L)

And:

I wanted to do some land work. I wanted to hold a bit. I see so much messed up ... When I got this place it was nothing, just bare, been flogged to death ... It's old degraded farming land. It needs work. When it rains I always check that the water that runs off the place is clean. It wasn't when I came here. I take a little bit of pride in that. (AC6 L)

And:

We're just revegetating it, putting natives back in ... Just like all the places in the area, soldier settlement places, they cleared all they could, established English pastures and just ran sheep on it ... We're custodians of the land. We paid for the land but we don't have it forever. We can't make any money out of the revegetated area, but it's not about making money, it's about leaving this place better than you found it ... I believe in active conservation. You don't chain yourself to a tree. You plant a tree. (WD2 L)

Looking after the land can give meaning to life that takes it beyond simply being a hobby.

Fishing would be my hobby. This place is more than a hobby. It's what you live for. When I'm in a crappy hotel in Sydney or wherever, I'm thinking about being here ... If we just wanted to get away from people we could have just had 10 acres. (WD2 L)

For this landholder, building a relationship with the land was what was important, rather than actually owning it. Ownership of land was seen as something that was almost distasteful.

I find it hard to actually say it's ours. My husband says we're custodians of it. Putting a house on it is putting ownership on it and I find that hard to do ... I even find it hard giving it a name. That puts ownership on it. We just call it 'the land'. Even the planting we have done recently has domesticated it, because it's in lines, rows. But how else are we going to get the trees back there? (AC1 L)

In contrast, another lifestyle landholder emphasised the benefit of owning a property that he could rehabilitate, having previously rented a nearby property for a long period. Ownership of the land gave the landholder a personal stake in its rehabilitation.

I've been here 7 years. I lived around the corner for the best part of 20 years. I didn't own that one. I own this one ... I wanted to do some land work. I wanted to hold a bit ... I'm pleased I bought what I did when I did. (AC6 L)

These lifestyle landholders' descriptions of looking after their land are similar to the sentiments widely expressed by commercial farmers about leaving their land better than they found it.

We've got to make a living off it, but we're guardians of the land ... You never really own the ground, you just look after it ... We're proud of what we've done ... You've got to love this ground to stay here. (WD 5 C)

Landscape goals

Landholders' goals for their landscape covered several aspects. One of these was aesthetics. Several of the lifestyle landholders and some of the hybrid and commercial landholders were interested in revegetation of their properties.

[I want to] improve it, regenerate it. It's been grazed for decades. Apart from 20 remnant gums it's all bare and rock. We want to green it up a bit ... [with] indigenous trees. (AC1 L)

And:

We're just revegetating it. Putting natives back in. (WD2 L)

And:

I don't think you can have too many trees, to be honest. (AC1 H)

And:

We've done a hell of a lot of tree planting in the last 5 years. We've planted 30,000 trees ... I'm sold on it. (WD7 C)

The term 'revegetation' in many cases means 'planting trees' but for all these landholders it was more complicated than just planting trees.

This complication took several forms. I have already described the importance of views to several landholders.

Wonderful views, all around! (AC4 H)

The need to not compromise these wonderful views by blocking them with too many trees was mentioned.

We want to green it up a bit, but we're still a bit selfish, we don't want to block the views ... We don't want trees on all of it. (AC1 L)

And:

You used to be able to see Mt Alexander. Now you can hardly see it with all the trees that have grown. (AC4 H)

One landholder, despite an eagerness to plant a lot of trees, wanted any plantings to look 'natural' but accepted that this was not always easy to achieve.

Even the planting we have done recently has domesticated it, because it's in lines, rows. But how else are we going to get the trees back there? ... NCCMA wants to plant more trees, but I don't want rows of trees. I want scattered trees or clumps. (AC1 L)

For some landholders, the presence of too many trees ran counter to what they wanted from their block. This landholder wanted to ride motorbikes and run a few animals as *a bit of a hobby thing for the kids, pocket money for the kids.*

I love trees, trees are great, but I wouldn't like the whole block in trees. There's no point living in a jungle. It's a fire hazard. You can't do much anyway. (AC7 L)

And this landholder had actively rejected the idea of a bush block.

I want to get a lot of trees around the house. I want to get enough for shade, but I don't want to return it to bush. I could have bought plenty of places with a lot of bush on them. [Why didn't you want bush?] Because I want to do something. I don't want to sit among the trees, what would I do? That would be like having a place at the beach ... I can't handle sitting on the beach. The country gives me something to do. (WD4 L)

Having a biologically diverse rural landscape was important to several landholders. This took many forms. Native biodiversity was one. These two lifestyle landholders wanted to return their properties to their earlier woodland state, with trees in conjunction with native grasses.

We're just revegetating it. Putting natives back in ... The idea is to restore it to what it used to be, which is heathy woodland. We need an understory and native grasses. They come back anyway. If you put the canopy back in first, other things will come back anyway. (WD2 L)

And:

I think the area was open field, not forested. I like the scattered remnant look with open grasslands. There is some kangaroo grass. I would like to encourage the native grasses. Getting the sheep off is the key thing. I just hope they come back. (AC1 L)

The desire for native biodiversity included faunal species as well as floral. Wildlife habitat was desired, particularly by lifestylers but also by one of the hybrid landholders.

I put a corridor along the front for the wildlife ... There's been a huge amount of regeneration in the area. There's about 5 blocks here where people don't graze. It's a worthwhile area for wildlife ... The only thing I'm sorry about is our dams are too deep. I wanted one for the birds, there's not the shallower areas. (WD6 L)

And:

My idea was to try and create bird corridors. (AC5 L)

And:

We'll have a really great valley once all the trees grow ... The one thing I would really love is one day to have koalas in my valley. It's probably a bit silly because there aren't any koalas around, but I've planted some manna gums and maybe one day they might put some koalas here. The locals think I'm crazy because I won't shoot the kangaroos ... I just love wildlife. (WD1 H)

Diversity includes exotic as well as native species. People seemed to want variety. This landholder already had a mix of windbreaks, woodlot, woodland and exotic horticulture.

We've still got one paddock, it's 2 ha, and we're still mulling over what to do with it. We might put it into grapes ... [Have you thought about planting trees?] I wouldn't turn it into a woodland, I would plant a crop of trees. The woodland here is along the creek and a little patch up the back ... The woodland is paying our debt back to nature. (AC2 L)

These landholders had predominantly native trees, but also wanted some exotics.

I've got 20 or 30 different kinds of fruit trees, I'm trying to grow some fruit. My son left the gate open and the sheep got in ... I've been struggling with the fruit trees, putting a bit of water on them to keep them alive. (WD4 L)

And:

We've planted a lot of trees. 70 oaks along the front. I've got something similar to Ironbarks between these two paddocks. Up the drive we've got about 100 trees, predominantly casuarinas. And there's been a lot of regrowth of the indigenous trees. (AC11 L)

This person chose between native and exotic vegetation for different aesthetic purposes.

I might put in a few deciduous trees in for colour ... I'll plant all along the front, probably natives, I might put a few deciduous near the dam. (AC7 L)

As well as aesthetics and biodiversity, landscapes were seen as having functional uses. For some landholders, this was the most important aspect

I want to get a lot of trees around the house. I want to get enough for shade, but I don't want to return it to bush. (WD4 L)

There are 'industrial' trees and there are 'landscape' trees. Some landholders distinguished clearly between the two.

Trees appeal to me, but they've got to get cut down at some stage and it breaks my heart. If I plant trees I'd like them to become part of the landscape. (AC8 L)

And:

I wouldn't turn it into a woodland, I would plant a crop of trees. (AC2 L)

The term 'timber' was used by two landholders, one commercial and the other a hybrid landholder who used to be commercial, to refer to landscape trees.

There was quite a bit of timber in the place across the road ... At least 10% of it was timber. (AC4 H)

And:

I want to put a corridor in. We want to plant decent timber. (WD5 C)

The term 'timber' implies an industrial use for these trees, but this is not what the two landholders meant. It may be similar to the common usage among farmers of the terms 'dirt' or 'ground' to mean 'land' or 'soil'.

Personal identity

There was little evidence of lifestyle and hybrid landholders having formed a personal identity as a farmer. The lifestylers recognised their lifestyle aims and did not describe any desires to be a farmer. The two hybrid landholders who had been commercial farmers presented themselves as retired farmers who had kept a bit of land and were farming it but not commercially. The other two hybrid landholders both recognised their agricultural pursuits coexisted with income-earning activities off the property by one of the partners.

The one symbol of personal identity as a farmer appeared to be the tractor. Several lifestyle landholders either had one or wanted one.

I've had money for a tractor 4 times, but had to spend it on something else. This is a discretionary spend, up here. [Local farmers would have tractors.] But I want a tractor! ... If I had a tractor I'd like to be able to put some super in. (WD4 L)

They had all kinds of jobs they wanted to do with their tractor, but even those who had one bemoaned that it was too small for real work.

I might start ripping up the hill. [But] I've only got a little tractor. (AC10 L)

The tractor itself is symbolic of a farmer, but no one had enough implements to make real use of their tractor. Just as the camera body plays only a small part in a single lens reflex photography system in which the lenses are much more significant, so is the tractor only a small part of a farming equipment system.

I've got a little grey Fergy, but none of the gear to work up country. (AC11 L)

Of course, they could form a loose cooperative and share a larger tractor, but that would go against the dearly held ethos of having your own and being independent.

Round these smaller blocks, it lacks a sense of cooperation. We could do with a mob of sheep for a couple of weeks. The bloke down the road could do with a mob of sheep for a couple of weeks. Everybody's got their own little tractor. There's not one big tractor that could do the whole lot. (AC6 L)

Even the people who didn't hanker for a tractor did not talk about hiring a contractor to do the work. This landholder might find that a contractor could provide both the equipment and the technical knowledge to sow an improved pasture.

I've got too much capeweed, I think that means it's too compacted. I don't have a tractor to dig it up ... I thought about ploughing up and sowing the old trotting track area but I don't have a tractor and I don't know anything about ploughing it up and sowing it down. (AC8 L)

This fascination with the mechanical trappings of the farmer was not confined to tractors.

I love my ute! (AC8 L)

Several lifestyle and hybrid landholders described how they were different from the commercial farmers in the area.

We would be very unusual compared with the farmers around. (AC1 L)

And:

The locals think I'm crazy because I won't shoot the kangaroos. (WD1 H)

Despite wanting very different things from the land compared with commercial farmers, it is possible for lifestyle landholders to become accepted into a farming community.

We're not your typical blocky, we've got involved. We organised the local farmers to control foxes. We're doing fox drives in the area. We want to protect the native wildlife, the local farmers want to protect their stock. Because of that, the local farmers have taken us under their wing more than the average blocky who just keeps to themselves. (WD2 L)

Because they are willing to get involved in community affairs, these landholders say they are accepted by the locals. I did not have to accept their word that they are part of the local community. They were certainly part of the 'bush telegraph' that announces the presence in the district of somebody going around interviewing landholders, as a nearby commercial landholder that I interviewed a few days after my interview with them had already heard about me from them.

Sharing and contestation of views

Whilst the environmentally-oriented landholders described enthusiastically how they were going about reversing land degradation on their properties, even those who would not have called themselves environmentalists recognised degradation.

I want to rip up the hill and plant it in trees. The land's degraded. It's been overgrazed over the years. You'd get a fair bit of erosion. (AC10 L)

These landholders also recognised pressure on them from environmentalists.

Bruce [environmentalist neighbour] would want me to plant nothing more than natives! I might put in a few deciduous trees in for colour. (AC7 L)

Even among the most environmentally-oriented landholders there was interest in conducting some form of agriculture as well as revegetating their land.

It was not a cheap thing to buy, we are wondering how to earn some money from it. Maybe pistachios and table grapes. (AC1 L)

And:

I'd like to plant more trees in such a way that it could be grazed. I'd like to run a few cows or sheep. I think the land should be used. Long term, it's got to have an agricultural use. (AC6 L)

A common theme among lifestyle landholders was that, although they had planted trees, they were not yet using their land for agricultural purposes. Agriculture did not seem to be a priority.

I haven't got the time to grow anything on it. (AC5 L)

And:

I guess ultimately the option to run some animals. Not that we're doing that as yet, but we're working on that. (AC11 L)

There were some differences in view between commercial and lifestyle landholders. Some commercial farmers expressed disdain for their lifestyle neighbours not using grazing land for grazing.

[My lifestyler neighbour's] place, he's put it into trees, he's fenced the creeks way back and put in a heap of trees. I don't know what's going to become of it. The kangaroos will probably get it. (WD3 C)

The lifestyle landholders were aware of this.

When we first came here the local farmers thought we were letting the land go. (WD6 L)

Some landholders have recognised a change in their attitudes over the years.

When we bought it, we loved the look of the willows and hawthorn. After 15 years we'd come around to seeing them as woody weeds. (AC2 L)

And:

We have some 'weeds' [points to willows] that the Soil Conservation Authority planted 20 years ago. (AC4 H)

This last comment indicates a change in the attitude of more than just the landholder.

Adoption

Planting trees

Almost all the landholders I interviewed had planted trees on their properties. They had planted trees for various reasons. Some (generally lifestyle) landholders felt a generalised obligation to the land.

We wanted land to regenerate and improve. (AC1 L)

And:

The woodland is paying our debt back to nature. (AC2 L)

And:

We're planning to do between 500 and 1000 trees a year. So we'll probably never finish, but we'll probably leave it better than it was. (WD2 L)

Other landholders gave more specific environmental reasons for planting trees, such as waterway protection and salinity rehabilitation.

We've fenced the Axe Creek off and planted trees along there. (AC9 C)

And:

We've got a salt scald down the back, we were planting trees on it yesterday. There are 2 other salt scalds that I've cleaned up, but this one I can't get on top of. (WD1 H)

And:

We've done a hell of a lot of tree planting in the last 5 years. We've planted 30,000 trees. That's had a benefit. We've done a lot of tree planting on hilltops, that's stopped a lot of water getting into the watertable. And I've fenced off some gullies and treed them. (WD7 C)

Some lifestyle landholders also gave specific environmental reasons for their tree planting.

Erosion and salinity. We've got a big, bare hill, that's bad for salinity. I want it to look green. (AC1 L)

Trees had also been planted for practical purposes.

I've got 20 or 30 different kinds of fruit trees, I'm trying to grow some fruit ... I want to make sure I've got some shade in the paddocks. (WD4 L)

And:

If you put in 10% trees initially you get 10% less production, but in the end you get windbreaks and shelters, in the long run you get increased production. (WD1 H)

One landholder had been required to plant some trees.

To put a road in for the subdivision we needed to cut down some trees, so we had to plant some more. (AC4 H)

Planting trees simply made some of the landholders feel good

One of the reasons we've planted trees is to give us a longer-term feeling of being in the country. (AC2 L)

Trees evoked good feelings even among some landholders who had not planted any.

It would be nice to plant some nice trees around the place. (AC8 L)

Several landholders expressed what can only be called love for trees.

A tree's got incredible value. (AC6 L)

And:

I don't think you can have too many trees, to be honest. (WD1 H)

And:

I couldn't bear to give it to anyone else in case they come and chop everything down. (WD6 L)

Natural regeneration, particularly of redgums, was observed by several landholders, and was almost a source of wonder for those who had noticed it, even the commercial landholders.

With not grazing, we've got these great redgums coming up through the paddocks. (AC6 L)

And:

If you break up the surface anywhere on the flat here, up come the redgums. They come up on the ground we've worked up for flowers. The number of suckers is quite incredible, they're beautiful trees. (AC4 H)

And:

There's an area of unbelievable redgums, 50 square meters of redgums. They just grew. We didn't plough them up. We're doing the job naturally, just letting them grow. (AC9 C)

And:

Because the creek is fenced out we've found a lot of vegetation is regenerating. Especially the redgums. (WD1 H)

Regeneration sometimes did not even require the removal of grazing pressure.

There's been a huge amount of regeneration in the area ... I put a corridor along the front for the wildlife ... I was going to fence the corridor but the regrowth came up anyway so I didn't bother. (WD6 L)

Some landholders obtained enjoyment from being among trees by using someone else's forest. This lifestyle landholder had a well-treed property but it was small.

The bloke next door has 40 acres, and he's never at his property. We've only got 5 acres, so we spend more time in there than we do here, just walking through it. (AC5 L)

This landholder had few trees but adjoined state forest.

I back onto the state forest. It's a lovely block because you can walk in the bush with the dogs. (AC8 L)

A minority of the landholders I interviewed were not interested in planting trees. Any trees they had on their properties had been mostly planted by others.

I haven't planted any trees. Where the gutters have come into the paddock, there's already trees planted there. The Soil Conservation put them in prior to me owning it. (WD8 H)

And:

I've got a few trees. The stock camps, the creeks are under trees. A lot of trees were planted during the Eppalock scheme ... I haven't planted a lot of trees. (WD3 C)

Both these landholders found reasons why, if trees should be planted at all, it should be done by someone else.

I'm on the flats. They reckon the water goes in on the top of the hills, in the rocks, and comes out down the bottom. And the hills are all in lifestylers. And it's all going into trees. The country's all changing. The hills are going into trees and you can't see 100 yards. And they reckon the trees are taking all the water. (WD3 C)

And:

My paddock is lower than a lot of country. I don't know enough about salinity. But I don't know about growing trees on my place, because it's low. The land around me should have trees on it. (WD8 H)

These landholders tended to focus on their stock rather than other aspects of their properties.

I supered half of it every year for 20 years to look after the pastures. Fences and yards don't feed stock, they just keep them in. (WD8 H)

In contrast, this landholder had a constructive reason for not planting many trees.

I want to get a lot of trees around the house. I want to get enough for shade, but I don't want to return it to bush. I could have bought plenty of places with a lot of bush on them. (WD4 L)

The two hybrid landholders who had been commercial farmers explained why they had planted few trees.

There's a lot of redgums along the creek. There's very little trees in the paddocks. This is a legacy going back to father and grandfather's day, where they tried to maximise a small farm. You needed every little bit of ground to grow feed on. They probably removed more trees than they should have. (AC12 H)

And:

After living with stock all your life it's pretty hard to go into trees. (AC3 H)

Commercial landholder often assume that lifestylers have plenty of money to pay for tree planting.

Fencing is so costly. It's all right for Melbourne people. It's not coming out of their farm, it's coming out of their business. (WD3 C).

However, not all lifestylers have plenty of money.

I haven't developed it because of finances. I got a card from Adrian someone about putting in trees. I've never gone and done it. I've never had the finances ... It would be nice to plant some nice trees around the place. But the fencing is so expensive. (AC8 L)

Both positive and negative attitudes toward planting trees were expressed by the same person (or at least by people on the same property).

We've fenced the Axe Creek off and planted trees along there. We've planted trees around here ... We can't keep locking up blocks of trees. (AC9 C)

Encouraging native grasses

Native grasses were, for the most part, seen favourably. From a production point of view they were seen as a useful feed source, often in conjunction with clover.

We haven't supered for years and we're getting a lot of native grasses coming back. The farmer says the sheep are fat on here because they can find feed. It's amazing how they take off, the native grasses. It's everywhere now ... The native grasses are coming back. Stipa, microlaena, wallaby grass, kangaroo grass. (WD6 L)

And:

We've got wallaby grass, kangaroo grass, microlaena, clover. I'd like to put some new native grasses in ... Native grasses are good for alpacas. Clover is good. You don't want ryegrass, it will give them staggers. (WD1 H)

And:

We're pushing the native grasses now, trying to look after them more, they're drought tolerant ... A lot of native pasture is in the hills, you can't get anything up there to improve it ... You need a good base of subclover with the native grasses. When you're farming it, you need a balance. (AC3 C)

However, encouraging the clover by applying superphosphate may suppress the native grasses.
Native pasture is all right if you've got enough. But if you go to native pasture, once you put fertiliser on, your other grasses come in, your clovers come in. (AC4 H)

Some lifestyle landholders had experienced difficulty encouraging native grasses.

I don't know much about native grasses. I was hoping they would come back on their own. But to do that I'd have to work out what the weeds were, so I could get rid of them. (AC10 L)

And:

When we came, we looked at the paddock to see if we could get some native grasses but there were none there. It had been sown down too many times. We thought about sowing native grasses but the seed was too expensive. It had irrigation banks so we ploughed it and sowed it to pasture so we could cut it for hay. (AC2 L)

One lifestyle landholder had obtained some native grass seed and was pleased with the results.

I tried to establish some native grasses. I tested them, got some seed from NCCMA, and they grew really well. (AC5 L)

Not every lifestyle landholder values native grasses.

There's some lovely native grasses up there [on a neighbour's place], they pulled it all up and put in a tennis court. And I've never seen them play tennis on it. (AC6 L)

Lifestyle landholders with a strong environmental interest were encouraging native grasses in conjunction with trees to create a woodland.

The idea is to restore it to what it used to be, which is heathy woodland. We need an understory and native grasses. They come back anyway. If you put the canopy back in first, other things will come back anyway ... There's very large drifts of wallaby grass, lots of poas, particularly in the sheltered areas. On the exposed areas there's a lot more English grasses. It's a matter of putting in a canopy to crowd out the English junk until the native stuff comes back. (WD2 L)

And:

I think the area was open field, not forested. I like the scattered remnant look with open grasslands. There is some kangaroo grass. I would like to encourage the native grasses. Getting the sheep off is the key thing. I just hope they come back. (AC1 L)

Pasture improvement

As deep rooted perennial pasture species, phalaris and lucerne are recommended for sowing in grazing area where it is desirable to lower the watertable. For landholders interested in pasture production, phalaris and lucerne had a mixed reception. Some landholders liked neither; some favoured one or the other; some said that each had its place and used different species in different situations.

I've gone off phalaris a bit. I've put ryegrass in the good country and the phalaris goes on the harder ground. There's a role for lucerne on some of the country. (WD7 C)

Landholders who had suitable country for lucerne and knew how to manage it, viewed it favourably.

We're looking into lucerne. We've been putting lime down for the last 3 years. You have to prepare the ground properly for lucerne ... We won't do big blocks of lucerne. Probably 20 or 30 acres. Lucerne is pretty expensive to get into, if you're going to do it properly. a lot of this country is heavy clay and fairly acidic. But we've got a lot of sandy loam creek flats. (AC9 C)

And:

I've got plans. I want to plant lucerne right around the creek flat. I've sprayed it. I want to work it up. If we got a nice rain next week I'd race in and plant it. There's a demand for good quality lucerne from all the hobby farmers ... When we were dairy farming we had all the creek flats in lucerne. (AC12 H)

These landholders were not in favour of phalaris and lucerne.

We have spent a fair bit of money on fencing, liming, pasture improvement. It hasn't always persisted ... It's not really our plan to sow a fair bit of phalaris on the hills. We've tried phalaris, it doesn't seem to persist that well. [Lucerne?] It's too acidic here for most lucernes. We've tried that too ... The cocksfoot and fescue paddocks are

doing well. They're better feed value than the natives, but there is a cost in establishing them and we don't get a lot of summer rain. (AC3 C)

And:

I don't like phalaris. It's rank. It tends to take over. The alpacas aren't particularly interested in eating it. There's got to be a fine line between what's good for the land and what's good for the alpacas ... If trees don't do the job and I still have to worry about it, then I suppose I'll do it with phalaris, but I'd rather do it with trees ... Friends of ours near Horsham have got a grant to put in 160 acres of lucerne. I don't think that's a good idea. I don't think it's something I would try. The alpacas wouldn't make use of it. Any time I have fed lucerne to them, they eat the leaves and let the stems blow away. There's not enough money to be wasting. (WD1 H)

This landholder simply preferred ryegrass.

I was going to put in ryegrass and clover. (AC4 H)

These landholders wanted good stock, and focused on their stock at least as much as on their pastures.

[What do you like about improved pasture?] You get quality feed, a better return from your cattle, they put more weight on. You want to get your country up as good as you can, you like to see it growing good grass. (AC4 H)

And:

You've got to improve your country. [Why?] To feed your stock better. (AC8 H)

Landholders who just wanted to have a few animals had minimal knowledge and interest in pasture species and management.

If I can encourage some growth other than the onion grass with minimum effort, I'll consider it, but I won't be ploughing it and sowing it. I'm not going to manage the place intensively. I'd be looking for 100 acres for that, or 50. To me, anything up to 20 acres is a lifestyle block. (AC7 L)

And:

I couldn't tell you [what the pastures are]. It's a bit of everything. Phalaris and clover. I ripped it up and sowed it a few years ago. The blokes told me what they put in it. I put a bit of super on it. (AC10 L)

The other lifestyle landholders, who just wanted a place in the country, paid little attention to their pastures.

To improve a pasture paddock you have to exclude stock from it for a period, and then graze it carefully for a while. Some landholders were unwilling to do this, as they felt they could not afford to lose the production from a paddock in the short term, even if it were to obtain a longer-term benefit of increased production from the paddock.

I would love to improve it in 20 or 30 acre bits. I wouldn't want to close off too much at once. (WD8 H)

And:

To sow down a paddock you have to spell it. We can't afford to lose a paddock. (WD5 C)

Some other things also mitigated against the sowing of perennial pastures, particularly by smaller scale landholders. One of these was the lack of equipment necessary to sow it. As I have already explained, few lifestyle landholders have enough equipment to sow pastures.

I've got a little grey Fergy, but none of the gear to work up country. (AC11 L)

Two of the lifestyle landholders I interviewed described how they had had contractors in to sow pastures. But contractors don't always have small enough equipment to turn in small paddocks or fit through narrow gateways. One commercial landholder described his 20-row combine, which at 4 or 5 meters wide was ideal for a farm of several hundred hectares, but useless on his lifestyle neighbours' properties.

The best thing they [agencies] could do round here is spend 30 grand on a Duncan [direct] drill that could fit through an 8 foot gate. (AC9 C)

Another limitation on the sowing of perennial pasture by lifestyle landholders is lack of know-how.

We had a pasture improvement course a few years ago, run by DPI, but the lifestyle landholders weren't interested, it was too deep for them. (WD7 C)

To utilise improved pasture effectively requires rotational grazing. Stock are not left in a paddock for long periods, but rotated around a number of paddocks to allow pastures time to recover from being

grazed This requires more and smaller paddocks, which involves subdivisional fencing. Even without pasture improvement, additional subdivisional fencing allows better utilisation of existing pasture.

There are more subdivisions I'd like to do. I've still got 200 acre paddocks that I'd like to split up for better management ... If we could put in more subdivisional fencing we could utilise the pasture better and run more stock. I've noticed it on part of the farm where we have smaller paddocks. (WD7 C)

And:

If we could afford to fence it off into smaller paddocks I'd do it tomorrow ... I prefer to fence rather than improving pasture directly. With fencing, it is a way of pasture improvement, it's just a different way of going about it. (AC3 C)

And:

I'd like to have it internally fenced a lot better, to manage it properly, better grazing management. (WD8 H)

Traditional wisdom is that lifestyle landholders are not interested in rotational grazing, as it is too complicated for them, or simply not a priority. This was true for some of the lifestyle interviewees.

[What stops you rotational grazing?] Fencing and water supply. I don't have reliable water. (AC8 L)

Not all lifestyle landholders fit the stereotype; some of them want to be able to rotate stock around different paddocks.

I'm planning on doing 2 things that will help. I'd like to put an extra dam in. It means I can cut it into a couple of different paddocks, which will allow me to move stock around. I've been picking up rocks to make a paddock I can cut hay in. I'd like to be able to move stock around. (WD4 L)

Catchment management

Policy tools

Several policy options exist for encouraging landholders to plant deep-rooted species on their properties. These include incentives, practical assistance, skill training, and simple provision of information. In the case study areas financial assistance and advice are offered to landholders to encourage them to do things that will improve the condition of Axe Creek and Wild Duck Creek. At present, this includes tree planting and associated fencing for salinity recharge control, creation of wildlife corridors and waterway enhancement.

My interviews with the landholders focused on incentives (generally called 'grants' by the landholders), but they also covered practical assistance, skill training and information provision. The term 'grant' may be nowadays a little unfashionable in policymaking circles compared with, say, 'incentive', but I used it during the interviews with landholders because it resonated with them, so I have used it in the presentation of the interviewees' perceptions within this report. It means the same as 'incentive'. If it helps, I will return to using 'incentive' when I come to discussing the findings.

Almost all the tree planting that had been done by the landholders I interviewed had benefited from some form of grant.

All of it [tree planting] has been under some sort of grant. Most of the costs, 90%, apart from the labour, have been grants. I doubt we would have done it if it wasn't, because the costs would have been too much ... We'd often get some sort form of labour to help us plant them. (WD7 C)

And:

A fair bit of it's done through grants. These last 500, we got the trees given to us but we had to plant them ... It's always more than half the cost paid for by the landholder. (WD2 L)

And:

We came here, we had 100 acres, and we thought, where do we start. We went to landcare ... Then we found out about the grants. And that got us going. Now we do a bit each year. (WD1 H)

As a way of getting a lot of trees planted in the two case study catchments, the grants scheme seems to have been successful. Some landholders have planted few or no trees, however, and one of the commercial landholders who had planted a lot of trees pondered their circumstances.

It's convincing them of the benefits of it. I'm sold on it. The majority of bigger landholders wouldn't have embraced the amount of tree planting that's been done elsewhere. It's a lot harder to talk to a bloke with 1000 acres and convince him to fence off 5 acres than a bloke with a small area. But if they haven't heard about the benefits of it now, I don't know how you would do it. If you start talking to people about it, a common theme would be they don't have the money or the time. (WD7 C)

Recently, DSE offered grants for the establishment of woodlot plantations. Some of the lifestyle landholders had investigated the grants but found them unsuitable for their situation.

I did look at tree lots. They were 10ha minimum, and this whole place would have to be under trees. It was just too much of a commitment. You end up with a monoculture, too. (AC6 L)

And:

The DSE were providing some grants for ironbark plantations. I explored that avenue, but we didn't have enough acreage. Even with all our little paddocks there wasn't enough land. So I just planted a few of my own. And I didn't want all of my paddocks in the one land use. (AC11 L)

Land area and monoculture were not the only reasons lifestyle landholders gave for not planting woodlots. Nurturing one's trees and not cutting their lives short can be just as much a lifestyle choice as being a tree farmer.

Trees appeal to me, but they've got to get cut down at some stage and it breaks my heart. If I plant trees I'd like them to become part of the landscape. (AC8 L)

Clearly, the woodlot grants had been aimed at commercial landholders.

Although grants for sowing deep-rooted perennial pasture were not currently on offer in the case study areas, they were being offered in other parts of the NCCMA area. I explored landholders' opinions about the use of pasture grants in their area. Pasture grants were generally seen favourably by Wild Duck landholders who were using their land for commercial livestock production.

The last lot of incentives for pasture were in 1997. I thought that was really good value. When you look at the Wild Duck catchment now and how much pasture was being put it, it would be tiny. Perennial pasture has got to be good value for the catchment, using all that water. (WD7 C)

And:

It would give us a good lift, make us get on with it. (WD8 H)

And:

I'm sure you would get a lot more sowing. You would struggle to name a farmer who was doing some pasture improvements. The money isn't in the industry. If there was incentives I'd be doing more. I'm not doing it every year but I'm trying to do it every couple of years. (WD7 C)

Pasture grants provided long ago as part of the Eppalock project were still remembered by some long-time landholders.

A lot of country wouldn't have been ploughed and chisel seeded during the Eppalock project if it wasn't for grants. (WD3 C)

For these commercial landholders in the Axe Creek catchment, pasture grants were not seen as making much difference to their pasture sowing behaviour.

Incentives for pasture improvement probably wouldn't make any difference to us. [I mentioned \$60/ha] With that amount, you'd still have to chip in a fair bit yourself. It's not really our plan to sow a fair bit of phalaris on the hills. We've tried phalaris, it doesn't seem to persist that well. (AC3 C)

And:

We do pastures anyway, out of our own pockets ... \$50 to \$60 per ha would cover seed and fertiliser, nearly. More than your seed ... The bottom line is we want to do it anyway, so anything you get would be good ... If the incentive was there we'd be more likely to do 100 acres every year rather than talking about it. (AC9 C)

The landholders who were in favour of grants for sowing pasture were in the Wild Duck catchment, and the landholders who were not in favour or ambivalent were in the Axe Creek catchment. Wild Duck landholders had received incentives in the past, which may have made them more favourably disposed toward grants. Interviewee numbers are too small to make a definitive generalisation, however.

Landholders seemed to be less in favour of fencing waterways than of planting trees, and it seemed to be more difficult to convince them to fence their waterways. Some landholders were enthusiastic about fencing waterways.

We got a grant to put in trees and fence the creek. We put in 3km of fencing and 8000 trees. Then we fenced this erosion gully, then another one. All up we're put in between 11 and 12 thousand trees and shrubs. About a sixth of the place is fenced out. In some places the creek is really wide, there's 9 rows of trees. (WD1 H)

From the agencies' point of view, fencing off a wide strip of land along waterways is preferable to a narrow strip. Giving up land by fencing off waterways did not, however, appeal to some of the more commercially oriented landholders.

Having stock walking along the creek probably doesn't help it. But if you take what the CMA want, they'd like to fence it off so you've got no land left. (AC4 H)

And:

I've got a lot of creeks, a bloody lot of creeks, miles of them. They've never altered. I can cross the creek in the same place I did on the horse 40 years ago ... They're not fenced off. You couldn't fence them off ... If you fenced the Wild Duck creek and a flood went down you would never find a fence. You couldn't afford to fence it again. If you put the fence far enough back, you would lose too much ground. (WD3 C)

As one of the more environmentally-oriented of the commercial landholders observed:

It's a lot harder to talk to a bloke with 1000 acres and convince him to fence off 5 acres than a bloke with a small area. (WD7 C)

The point was made that the nature of the grants had changed from simply providing money to providing materials, labour and expertise. This made it even easier for landholders to get trees planted and fenced.

The grants have changed. When they started you got \$1.20 a meter for fencing. The latest lot, they provided the materials and a contractor to put it up. It certainly encourages you to do more. The incentives are a lot higher than what they were. (WD7 C)

As well as a lack of funds, a lack of knowledge about trees and pastures was also evident among some of the lifestyle landholders.

The things that are prohibitive to that are dollars and expertise. I don't come from a farming family. I've learnt it myself. (AC8 L)

Even those who had sown pasture did not know much about it, and left the decisions to contractors.

I don't know [what my pastures are like], I couldn't tell you. It's a bit of everything. Phalaris and clover. I ripped it up and sowed it a few years ago. The blokes told me what they put in it. I put a bit of super on it. (AC10 L)

Lifestyle landholders admitted to a lack of knowledge about trees, as well as pastures.

I've planted heaps of trees. They're not all the right ones, because at the beginning I didn't know. I paid for that by a lot of it dying. (WD6 L)

The thing that grants are supposed to do is not pay for the entire cost of the operation they are trying to encourage, but to give it a kick-start. For those who are keen to undertake the operation, grants help to speed it up. For reluctant or wavering landholders, grants encourage them to attempt the operation, in the hope that they will see the benefits and do more on their own in future. For the most part, this seems to have been how the grants worked in these two areas.

If the CMA had not done all the work and paid for it, we would never have achieved that scale. We might not even have got contractors, a few of them said it was too steep. It would have taken us our whole life. We might have gone to landcare and asked them. Green Fleet said it was too steep for them. NCCMA had the insurance. I couldn't believe where the CMA took their four-wheel-drives. CMA staff organised it all, contractors and tree planting gangs ... They had water trucks, they had all the equipment ... Without the CMA it might have taken us 15 years. Tree Project people in Melbourne might have done it, but they might have reckoned it was too steep. (AC1 L)

And:

The costs [of the first planting] were pretty much covered by the grant. We applied for 3 different grants and got all of them. We put a lot of labour in. Some kids came out and helped plant them. The second grant, we had to do all the work. The third planting, we did it all ourselves. (WD1 H)

As well as explaining how the grants had sped up their revegetation program, this landholder also felt the need to justify the spending of taxpayers' money.

Certainly without the taxpayer's assistance we would have done it a lot slower. But at the very least we're putting in more than the taxpayer. And at least it's getting done.

The taxpayer pays for an awful lot worse than a bit of revegetation. (WD2 L)

As further justification for the spending of taxpayers' money, this landholder had a message for the bureaucrats who are charged with allocating public funds to grant programs.

There's all these projects that we need to do. But we need the money to do it. Grants help you to fulfil your dreams. (WD5 C)

These landholders described how their situations and needs were different from those of other landholders, so that a grant scheme needed to have some flexibility to cater for individual circumstances. To accommodate the needs of this landholder, the money had to be spent on something other than fencing.

They've [the landcare group] got some sort of a subsidy there [for fencing the creek]. I didn't want to fence all the creek because our cattle had drunk out of the creek since year dot. So they were going to get me some troughs. I've got a stock of fencing wire that I pulled out when I did the subdivision, so I don't need any wire. (AC12 H)

And:

I'm going to fence the creek. We've got land right against the Sheepwash Creek. The landcare group has got some deal going, getting all the residents to fence the creek. I said I'd do it myself. I don't want anyone else fencing it. I don't like the way they fence (AC12 H)

This landholder had a preference for particular tree species.

I want to put a corridor in. We want to plant decent timber. Red box, ironbark, stringybark. Not little acacias like they want. (WD5 C)

Whilst landholders generally found grants attractive, there was a certain ambivalence evident. Accepting someone else's money was one thing, but accepting the conditions that came with it was something else.

I don't want a handout, but in a way I do want a handout ... I've never had a handout. Well, I have had one from DPI for fencing and some trees, but they had to be the trees I wanted and the type of fence I wanted. (WD5 C)

And:

A grant would probably motivate you to go and do it. I reckon I would need about 1000 trees. It's already fenced along the creek. I keep the horse off the creek. It would probably cost a couple of grand to do it. I've been looking at it, trying to work out how much to do ... With the grants, you don't want to be restricted and not be allowed to remove any trees later on. (AC10 L)

There was, though, a recognition that with grants come responsibility. Landholders did not necessarily expect to receive grants.

At the end of the day I don't expect anything for nothing. I come up here because I like it. I know I can get grants from landcare for trees. It will be a staged thing. First I need to get the external fences done. (WD4 L)

If they did receive grants, they accepted that, even if they were uneasy about conditions being attached to grants, at the very least they had a responsibility to use the grant money properly.

If the DPI is going to give you someone else's money, you have to give them some respect and do things properly ... If you get a grant, it has to be specified that you use it wisely. It should be inspected when it's finished. There's got to be a signed agreement. (WD5 C)

Only two landholders were able to speak in detail about the conditions that might be attached to grants. Both were uneasy about grants being tied to outcomes, because a landholder might use all the rights practices but because of difficult seasonal conditions fail to achieve the prescribed outcomes.

The grant should be based on whether you do the right thing, because the season dictates the results ... DPI ... had pasture grants [a few years back], where you had to have a certain number of plants established per square meter. If you did everything right but the season wasn't right and you didn't get the plant numbers, you didn't get the grant. (WD7 C)

And:

It would be reasonable for them to come out and inspect it ... But you've got to get some of it up front because there are risks involved. I'd like to see them come round

when you are sowing and give you a couple of 20kg bags of seed ... If you put in lime and worked it up and sowed it and it didn't rain, I wouldn't like the bloke to turn up and say you're not getting the grant. (AC9 C)

The usefulness of other policy tools besides grants, such as practical assistance, skill training and information provision, has been covered in this section, interleaved with quotes about grants. The landholders found it difficult to separate their comments about the various policy tools. One landholder did make a comment about the need for research and development.

We need salt-tolerant grasses ... We need lucerne, we need phalaris, and we need salt-tolerant clovers. (WD5 C)

Salinity

The landholders I interviewed displayed an awareness that they lived in a catchment and that their practices had effects downstream of their properties. Some needed no prompting when I asked them about downstream effects.

This being the top of the catchment that goes into Eppalock, we'll be helping everybody down the line ... It's a flow-on effect. We know people right on Wild Duck Creek. We're at one end, where the catchment starts. They're at the other end. They have terrible issues with salinity. Anything we can do will help ... If we have a protective barrier around our 30 acres of farmland, so nothing can leave, apart from through native vegetation, then we won't be sending salts down. How will that affect them at the end of the day? Well, that will depend on everybody else between us and them. (WD2 L)

And:

When it rains I always check that the water that runs off the place is clean. It wasn't when I came here. I take a little bit of pride in that. (AC6 L)

And:

I think it would benefit the Axe Creek if I planted the trees. I don't think there's any salt on the flats, but I know the hill is a recharge area. (AC10 L)

And:

I would have thought I'd be making it less salty, with trees. (WD6 L)

Others talked about a range of water quality issues besides salinity.

If you had a septic overflow you could be in trouble ... Overuse of super could impact ... Overgrazing of the creek edges could hasten erosion and silting. (AC11 L)

And:

I've got a proper septic tank. I went to the expense of doing everything properly. (WD4 L)

When these landholders were prompted by being asked specifically about salinity, they displayed varying degrees of understanding between these two extremes.

I think there's an abundance of trees here. They would improve the salinity level of Axe Creek. The trees are using the groundwater. They're deep-rooted, particularly the eucalypts. 1000 litres a day they use, isn't it? I guess there's varying rates. (AC11 L)

And:

I don't know enough about it. Nor do I know about weeds. Salinity is actually the rising salt table, isn't it? (WD4 L)

Several landholders described how downstream effects of vegetation cover were difficult to see at present, because the current low stream flows could also be attributed to dry conditions as well as changes in the catchment.

The creek used to have water in it. There is absolutely none now. Normal times it would run, it used to run quite a lot of the year. In recent years, not so. We used to have floods. Last year was a classic example. We weren't very far under normal rainfall, but there was very little runoff because of what the rain pattern was. (AC4 H)

And:

The Sheepwash Creek has hardly run in the last 5 or 6 years. I think it's run twice last year, it might have run for about 24 hours. I don't think anything I'm doing is affecting the Sheepwash Creek. If anything I might be helping it because I run water into it. I filled a couple of waterholes last year from one of the dams so the cows could get a drink. (AC12 H)

And:

The amount of trees and fencing that's gone into the Wild Duck in the last 10 years, there's probably been a million trees planted. But we've gone into a series of dry seasons. I haven't used my gumboots in 5 years. All the lifestylers have dams. There was a 200-acre block that had one dam, now it's 5, 40-acre blocks and they each have two dams. That's a lot less water running off. They've all got to fill before the water runs off. And they're using the water, it goes into their gardens. But I've got a dam, it's just going into evaporation and stock. (WD7 C)

Even this lifestyle landholder, who had arrived in the district more recently, talked about it.

The old farmers here who've spent their whole lives here, you talk to them and they say all these creeks used to run, they used to catch fish in them. (AC10 L)

This landholder, who remembered the building of Lake Eppalock, said it filled more quickly than expected when it was built, because that was a wet year, and if there was another wet year it would fill just as quickly.

When they done Eppalock it was a wet year, '56. My horse got bogged. My brother bought a Land-Rover and it got bogged. You couldn't work, it was that wet. The chisel seeders couldn't get in. That was a wet part of the cycle. Now it's dry. Eppalock, in the right conditions, would fill in 6 months. (WD3 C)

In the Wild Duck catchment there is a trade-off between the need for runoff into Eppalock and the need to reduce the salinity level of the runoff. Increasing the area of deep-rooted vegetation in the catchment will reduce the amount of salt running off but will reduce the volume of runoff. My gently-worded suggestion that maybe runoff needed to be increased rather than decreased was met with ridicule by some Wild Duck landholders, both lifestyle and commercial.

There's not enough water in Eppalock because it's not bloody raining! When we first came you would get bogged on the flats. We had to get the tractor to get the car out of the bog. And now you wouldn't see a puddle on the flat. Water used to run out my gate. Now you hardly ever see water in the creek at the front ... I think they are off in Lulu-land if they think there are too many trees. There's other places where they haven't planted any trees and they're still desperately short of water. (WD6 L)

And:

The best way to get more runoff would be to breed calicivirus-resistant rabbits ... I can't see an incentive to get me out and ringbarking 1000 acres of trees. (WD7 C)

More seriously, these landholders suggested that they valued water quality ahead of water quantity.

Our dam hasn't overflowed for a couple of years, because of all the extra revegetation we've done. Our neighbour just below us in the catchment might get less water from us, but it's less saline, because there's less washed through from the watertable. And if you have everybody else doing that, all the way down the catchment, then you'll have a very healthy catchment. (WD2 L)

And:

If you can drop the salinity level of the land, surely the water that's running of it is less salty, therefore it should be more valuable. (WD1 H)

One landholder with a long memory recalled that attempts to reduce the amount of runoff into Eppalock have a long history.

The idea of sowing the country down years ago under the Eppalock scheme was to stop the runoff into Eppalock. So if you improve your country, you would lower the runoff. (WD8 H)

Another long-time landholder, this time from Axe Creek, recalled that the amount of vegetative cover in a catchment was caused by more things than just tree-and pasture-planting behaviour.

The rabbits were an absolute problem until the myxomatosis got them under control. Going back 50 years, those hills up there were bare with all the rabbits. As soon as it rained you got runoff. Now, that doesn't happen. It makes a hell of a difference to the amount of grass on the hills. (AC4 H)

Western Australian case study

In reporting the results of the interviews with Lake Warden landholders I have used almost the same headings as for the North Central Case study. This is mostly so that the various sections can be compared. Some sections have a different flavour from their North Central counterparts; others are similar.

Landholder motivations

Length of ownership

Generally, the Lake Warden landholders had been on their properties for a shorter period than the North Central landholders. This is not surprising, since the area was settled more recently than North Central Victoria. Fifty years of ownership constituted a long period for the commercial landholders, and only two properties had been held by their families or close family friends for that period of time:

My family has always owned the properties since they cleared the land ... Granddad bought the properties and cleared them. (LW21 C)

More commonly, commercial or hybrid landholders had held their properties for 5 to 10 years. Some families had moved to Esperance from farming areas in other parts of Australia.

We shifted over from [Victoria]. Dad got a Conditional Purchase block (LW16 C)

All but two of the lifestyle landholder had owned their block for less than ten years, and one of those two had moved to live on the block only this year. Most had owned their block for less than five years. All but one of the lifestyle landholders had purchased their block themselves. Some had not been able to obtain the size property that they wanted:

We would love 20 acres but we couldn't afford it (LW 5 L)

And:

We were actually looking for a smaller block. Five acres would have been ideal, but that sort of block is at a premium in Esperance. We weren't looking at a block this size. (LW11 L)

And:

We would have been happy with 2 acres had we been able to find 2 acres. But they're like hens' teeth. (LW10 L)

Some had had to settle for a lower quality property than they wanted:

This one was a reasonable price. We weren't really happy with it but this one was the best on offer at a price range we could afford. There's a heck of a lot of salt on the property. (LW20 H)

Others had to look hard for what they wanted:

We lived in town and we were looking for something bigger than 1/3 of an acre in town. We were looking for 100 acres. There weren't many around of this size. There were plenty of 5, 10 and 20 acre places, but only a handful around this size. And I don't think that's changed. (LW7 H)

Several landholders (including commercial, hybrid and lifestyle landholders) had moved onto their properties from large commercial farms further away from Esperance, so their current property was not their first parcel of rural land. In some cases they had tried to live on a house block in town after leaving the large farm but found it difficult:

We used to be out further, on 7000 acres ... We went to town for 12 months and got sick of living in town and came out here. (LW20 H)

Because of the relatively short period of time the landholders had been on their properties, almost all were making plans for the future of their property and did not discuss the possibility of selling it. Several people mentioned the potential for subdividing their land or the capital gain they might achieve, but were quick to add that they were not actually considering selling. It seemed that they felt guilty admitting it but were nevertheless comforted by it.

This also can be subdivided, too. One day someone will make a lot of money out of it. It won't be me. (LW18 L)

And:

It's been a good investment. Not that we're going to sell it, but it's nice to know that you can if you need to ... That makes things a lot safer. You can do a subdivision plan and flog a bit off if you get caught. (LW7 H)

Agriculture and income

The commercial properties ranged from 300ha to 2000ha in area, the hybrid properties from 40ha to 200ha, and the lifestyle properties from 2ha to 150ha. Apart from the presence of several 2ha lifestyle blocks, the properties were generally larger than in North Central Victoria. All of the landholders, except for one commercial person, seemed to have some form of outside income apart from what they earned from their property. Outside income included full-time work, business or investment income, casual work and contracting. The commercial landholders varied in their perceptions of the viability of their properties:

I want to see it stay a viable unit. [Interviewer: Is it a viable unit?] It is a viable unit, most definitely it is. It makes it easy having backup from [other family holdings], but what it produces goes back into it. (LW14 C)

Yet this commercial landholder had a property not much smaller:

It's a good hobby farm. It's unviable. We get by. I do contracting (LW16 C)

For the hybrid landholders, the property has generally not cost them money:

Income off the property has mostly paid for the outgoings. You'd never make a living off the cattle. (LW13 H)

And:

The cattle pay for the rates. (LW20 H)

Several of the hybrid and lifestyle landholders took pride in running their farm not so much for income as for lack of expense:

A handful of cattle, half a dozen, mainly pets. We don't sell any, just eat them. We get orphan calves from a mate. We've never actually paid for a cow. (LW7 H)

And:

I've got all my fencing second hand from places that have been bought for trees. (LW4 H)

And:

We've got every clover known to man because I used to get the seconds from the seed works. (LW13 H)

And:

It's all been through people giving us leftover seed and things like that. I've got a lot of relatives with big properties (LW17 L)

Generally, the lifestyle and hybrid landholders accepted that their properties were not going to be able to earn them much money:

You have to make a living at the same time ... We took it on as a lifestyle thing because we thought that if you wanted to make money out of it and you didn't, you would be disappointed. (LW4 H)

A strong element of pride in self-sufficiency pervaded the interviews:

I raised two boys on fish and veg from this place. (LW2 L)

And:

I milk the goat and eat the eggs and the chooks and the geese. (LW12 L)

And:

We eat a fair bit of [the beef we produce]. We've got 5 families that live off the place. (LW 13 H)

Self-sufficiency involved energy as well as food:

We'd like to be self-sufficient with our energy requirements. Not for economic reasons, because I haven't done the sums, but for peace of mind. It's a personal satisfaction with creating your own, what's the term, you've using your own resources that are out there. Not having to rely on government facilities. (LW21 C)

Attempts at self-sufficiency were not always successful:

I tried a vegie patch here. It cost me an absolute fortune. The soil is sand dune and salt. (LW9 L)

And:

I've tried to eat them and I can't. I had to give away the meat. They're spoilt. (LW18 L)

Most of the lifestyle landholders I interviewed wanted to do something agricultural on their land. Some knew exactly what they wanted to do:

I want to get a rotavator for my tractor and build an organic vegie garden. I can get organic certification. I've got a worm farm to break down compost. I'll have a productive garden. I don't have to make a fortune. I know that anything I grow will be snapped up. (LW2 L)

And:

I started to look at growing walnut trees. This paddock is perfect for it. (LW12 L)

Others were still looking around for a suitable enterprise:

We bought it with the idea of going into something. Haven't quite worked out what it is yet but wanting to make an income off it. Something in flowers or trees ... We definitely want to do something else. We haven't made any decision yet. It could even be livestock. Maybe even goats. We're just looking up ideas. (LW 17 L)

And:

I've always been interested in growing something but I don't know whether it's suitable here. Something to bring in a buck, but I don't want to be greedy ... It's all a hobby. (LW8 L)

Some had tried a particular agricultural enterprise and failed:

We tried marron but they didn't do any good (LW18 L)

And:

We tried to grow seed potatoes but we didn't have enough equipment and it was too hard. (LW7 H)

Others wanted to try a particular enterprise but did not have the right natural resources:

I want to put some grape vines in ... I do like the grapevines. Unfortunately we don't have enough water to put a small winery in. I'd like to put half an acre under vines. Just be a small producer, make my own, bottle a few bottles and enjoy it. (LW10 L)

The presence of a secure supply of good quality water was important to all types of landholders:

I was looking out this way because I knew there was good water. (LW18 L)

And:

We looked around at a dozen properties. We bought this property because it was reasonably close to town and it had plenty of water. I've got three permanent soaks that have never run dry. The house water comes straight out of a soak. (LW13 H)

And:

Another reason why this farm appealed to us was the advantage of water. We've got soaks in the wet areas, dams, and there's also plenty of underground water. It's beautiful, like rainwater. (LW16 C)

For some, no matter how much the property actually earned, it was an asset that provided financial security:

In some ways, it's a bit of superannuation ... I want to fund myself in my retirement. I don't want my pension. I want this place to contribute to give us a retirement. (LW4 H)

And:

And now it also means, because of the way land prices have gone, security. (LW21 C)

Lifestyle

As in North Central Victoria, lifestyle motivations for owning rural land were acknowledged almost universally. The term 'lifestyle' again meant several things:

- peace and quiet
Freedom. I think you've got a lot more freedom. Privacy. Peace. I don't know whether it's all land or just this place. (LW12 L);
- privacy (and this was particularly important for lifestyle landholders who had moved out from town)
Freedom. Peace and quiet, not everyone knowing everyone's business. The neighbours know only what you tell them. We can turn our music up really loud and not bother anyone. (LW3 L) and
I can do what I like in the garden. I don't have to worry about my neighbours. I don't have to listen to my neighbours' toilet flush at 2am. Just the freedom, space. (LW5 L);
- a good place to raise children

*Best thing in the world. The lifestyle. We raised three kids out here. The kids and their mates loved it. We all rode horses. The kids got motorbikes. We could ride through the bush. The kids reckon they dodged the drug scene. (LW13 H) and
It would be hard to raise kids in town. I like to know where they are and provide the things for them. We don't have to entertain the kids, they can swing off a tree or something. (LW7 H)*

- being able to impart values to your children
*Freedom for the children. And, as we get more involved, being able to have the boys help us. Just what they can learn from managing the property. (LW17 L) and
The kids learn to be decent to animals. I reckon it helps them. (LW22 L)*
- independence and freedom from restrictions
*It's a great lifestyle. The grandkids can come out and ride motorbikes. In town you can't even pee up against a tree in your backyard. (LW4 H) and
I suppose the freedom, the lifestyle, the opportunity to be your own boss. (LW19 C)*
- recreation
Obviously during the week it's just a house but come weekends I look forward to working on it. We don't do much else, apart from work and church and here. So it's pretty important. (LW10 L)

and not being tied to the property

*We wanted low maintenance. It's just pasture country. I've got a 40hp tractor with a 6 foot finishing mower. We had a ride-on mower but it was not up to it. I mow it every 3 weeks or so and it only takes a couple of hours. I didn't want to be a slave to the place. It was for lifestyle... . We've got no intention of getting any livestock ... We want some freedom to come and go as we please. (LW10 L) and
I don't want it to be over the top as far as work goes. I don't want to be flogging my guts out. You see places where people have started and then lost interest and only half done it. I don't want that to happen ... You don't want to be coming home from work and spending another 5 or 6 hours flogging your guts out and working into the night. I'm not planning to be a farmer. The whole thing is a hobby. (LW8 L).*

Unlike in North Central Victoria, the hybrid and commercial landholders were able to describe lifestyle motivations clearly.

More than lifestyle

The motivations of some lifestyle and hybrid landholders went beyond merely lifestyle, but not in quite the same way as the land-healing motivations of some of those in North Central Victoria. Only one lifestyle landholder was at all poetic:

The son said this is not just a place, it's part of my life. There's just something about it. He's 19, for him to feel that way ... When [my income dropped suddenly] it was touch and go whether I kept it. But I would sell it fence post by fence post before I left it. (LW12 L)

A small number spoke of looking after the land:

I want to leave the land better than it is and more verdant. (LW11 L)

Some wanted the personal challenge of building up a degraded block:

It's a bloody challenge here because of all the crap that's on the place, the wattle and that. We were told we were wasting our time when we got here. But we've made a go of it. You wouldn't want to leave it for any length of time of it would grow back. (LW18 L)

And:

I wasn't interested in a good block. But to take on something that everybody said was a waste of time and make something out of it was a challenge. I had all kinds of comments when I bought the thing. (LW4 H)

One lifestyle landholder had gained an appreciation of some of the difficulties facing commercial farmers:

It makes you aware of more things, like rainfall. We are 100% dependent on rainfall for our water. Both our bores are saline. I can see where the farmers are coming from. (LW5 L)

Several landholders saw a need for anyone who owned land to have to demonstrate their ability to manage it and look after it:

Anyone who has a block and doesn't have the means to look after it shouldn't be on it. You have to look after the weeds. (LW2 L)

And:

If you can't use it, you shouldn't have it. When it gets beyond you it's time to sell up. (LW6 L)

And:

A lot of people buy land and think, what are we going to do with it? If you're going to have some property, there has to be a reason for it. (LW4 H)

Landscape goals

Having the property looking attractive was valued, particularly by lifestyle and hybrid landholders, and trees were seen to make an important contribution to an attractive looking property:

We've planted trees and shrubs, about 50 different species of eucalypts, to see which ones would grow the best. Mainly just to have a big paddock, a thing to walk around and enjoy, a personal parkland. When it's all mowed it's nice and green, really attractive. (LW6 L)

And:

I want to plant some trees to turn the front paddock into a park. (LW13 H)

And:

The place looked like a desert. We've planted a lot of trees. (LW4 H)

Trees, particularly native trees, were also seen by some landholders as valuable for attracting native birds.

I wanted trees, birds, lifestyle, but no livestock. (LW1 L)

And:

I like nature. I like native trees. I like birds. (LW11 L)

However, trees were seen to block out views, not only landholders' own views, but also those of their neighbours. This landholder wanted to plant a lot of trees but still retain views:

I want to leave gaps between the trees so I can see long views through the pockets of trees. Certain trees you can see over the tops of. (LW11 L)

This landholder was under pressure from neighbours:

People are asking us to cut our trees down so they can have the view. (LW9 L)

Views were an important aspect of their property to many of the landholders:

Views, it has views over town. (LW1 L)

And:

The view. We had been looking for some time. We had a residential property in town that had a view of the ocean. We were looking to buy a few acres and wanted a view. (LW10 L)

And:

The lake is the prettiest thing on my property, even though it's not on my property. I've got an outside toilet and I look down at the lake when I walk back from it. (LW12 L)

But removing trees to improve the view may lead to other landscape problems, as this landholder observed of his neighbours:

They come in and clear it all so they get their view, then the wind blows and they want to plant trees again. (LW1 L)

A couple of landholders talked about the original vegetation of the area, but not in a way that suggested that they were trying to maintain it:

This area was cleared once and used as a farm. It was running cattle. I don't think the vegetation is original. It's now mostly light scrub. (LW3 L)

And:

Big trees are not natural to this area. (LW10 L)

And:

You look at a map of the area, it's all flat and bare. It was all coastal heath, so we have to introduce trees that survive. (LW13 H)

Not everyone has the same landscape preference. These two landholders had purchased undeveloped blocks so they did not have to undo a previous owner's landscape preferences:

It hadn't been developed. I had the ability to develop it in the way I wanted. (LW1 L)

And:

It was a blank canvas, just a paddock. Everything was left up to us. We didn't have to do any major re-works. (LW8 L)

As the quotations show, the lifestyle landholders talked a lot about their landscape preferences. The hybrid and commercial landholders did not talk about their own landscape preferences. The one exception was this landholder:

If you've got pro-active neighbours, they keep you on track if you've got some drive behind you. Because you don't really want your place looking crap when the neighbour's place is looking good. (LW19 C)

Personal identity

As in North Central, identity as a farmer was not a motivating factor for any of the lifestyle landholders. It was a factor for one of the hybrid landholders, who nevertheless seemed happy enough with the balance they had struck between farming and other activities:

I'm a farmer's daughter and always wanted to be a farmer. My husband always wanted to be a broadacre farmer, but we've never been able to afford a large enough property to make a full-time living off. We never really thought of ourselves as farmers here but I suppose we are. (LW15 H)

Landholders of all persuasions, lifestyle, hybrid and commercial, spoke of a deep sense of personal satisfaction from what their land gave them:

It's absolutely fantastic. I suppose a deep sense of satisfaction. You get up in the morning and look out there and you think, "that is awesome". It just starts the day well. And you hop in the car and 10 minutes later you're at work. (LW10 L)

And:

I love the land more than my house. It's really grounding. I jokingly call it my garden, but I think it is. I'm happiest when I'm out there with my cows ... When you drive up your driveway you feel like you've come away from the world and come to your own place. It's pretty good. (LW15 H)

And:

It means a lot of things to me. To stand out in the paddocks at the end of the day and go, "Jesus, we're so bloody lucky". (LW21 C)

For these two older landholders, one lifestyle and one commercial, being physically active was a strong part of their identity, even at an age at which they might have retired from it:

It keeps me fit. I've been working 60 years and I can still work. It keeps me fit, keeps me mentally alert. Gives me personal satisfaction. I can enjoy life. (LW14 C)

And:

When we retired we didn't want to go back into suburbia. Being country people, we've always wanted to test that self-sufficiency idea. When we got this block it was just bare. We started from scratch. We planted trees around the boundary. Dug a hole to get a sump for water, to water our trees. Mowing it by hand. It was primitive and hard going. We had the house built. It was always our dream to get some peace and quiet, out of town, semi-rural life. It's so quiet out here. Being a person who loves the natural sciences, I like the outdoor life. This is the focus, the end point, until I get carted off in a wooden overcoat. (LW6 L)

Hard work itself was valued by some:

When we had daylight saving I'd be out there until 9pm when it got dark. Every morning before I go to work. Every weekend. But I'm involved in a few other community groups. It's not the be-all-and-end-all, but it's a pretty major part of my life. If you ask [my wife], she'd say, "it consumes him". (LW1 L)

And:

When I came here it was all scrub ... I cleared this scrub by hand. I pulled it out with my bare hands (LW2 L)

For others, it was not just pride in hard work, but the time spent working on the property that gave meaning:

The property is my life. If I sold up and went into town I wouldn't know what to do with myself. There's always something to do. (LW2 L)

In North Central Victoria, I observed that the tractor was the most obvious symbol of personal identity as a farmer among lifestyle landholders. There was some evidence of this symbolism in the Lake Warden catchment, but for the most part lifestyle landholders' views about tractors were more pragmatic. These landholder had made effective arrangements for sharing equipment:

Typical hobby farmers, we borrowed machinery from neighbours and sowed it ourselves. One of our neighbours has a couple of tractors and all the gear. We all help each other out. We're more needed because we've got the shearing shed. It's a real good community, we're very close with our neighbours. (LW17 L)

And:

I've got to do a deal with a neighbour to borrow his tractor. (LW15 H)

This small scale landholder had found a way to do without a tractor:

I spread the lucerne seed by hand and then ran around in the Landcruiser with a cut-up piece of gate tied on the back. (LW5 L)

Several small landholders, some of them on only 4 or 5 hectares, had their own tractor, often a rough machine that they were proud to have purchased very cheaply:

I've got a tractor. It was a good buy. (LW12 L)

Not all neighbours worked together, however:

There's 20 houses in this little area and there's probably 15 tractors and 20 ride-on mowers. We should work together but we don't. (LW9 L)

The hybrid landholders had their own equipment:

We're probably a bit different [from the lifestylers]. At least we've got a little old tractor and a bit of equipment. We can spray tree lines ourselves. (LW7 H)

Sharing and contestation of views

There was little evidence among the interviews of differences in views about land management. Some interviewees observed that new lifestyle landholder often had little experience of managing land and often needed help:

There's so many small landowners now that don't have a clue. (LW3 L)

It was not always easy for other landholder to offer help:

Most people who come onto a block have their own ideas. And no matter how much experience you have, their dream is their dream and you can't dent it ... A lifestyle block is an individual thing. I can't say to them, "I tried that and it doesn't work". That's like throwing a bucket of water over them and you can't do that. (LW2 L)

For this lifestyle landholder there was a conflict between aesthetic and production goals:

[My husband] likes things neat. I would rather plant an apple tree where it grows the best, rather than where it looks good. (LW12 L)

Two larger scale landholders described how they had purchased rundown properties:

This place suffered from the previous owners trying to make a quid out of it. They didn't put on super. They overstocked it. It would get bare and blow away. (LW4 H)

And:

This was a very run-down property when we got it. It had been flogged to death with sheep and had only had fertiliser on the cropping paddocks. It had a lot of unstable area. (LW19 C)

One of them gave an explanation about how and why a property may become rundown:

There's a lot of mining mentality about farmers. Often when you get the opportunity to buy a property it's because the farmer has lost interest. The only time you get a good property is because for family reasons they've got to sell it. (LW19 C)

Whilst it is easy to blame the previous owner for neglecting the property, it can take time for the new owner to learn about the land they have just purchased:

It's taken me about 10 years to work out what the property's really doing. It sounds funny, but I think you need a heap of seasons to work out what your country is like. You can't just come in and say, "yep, I know what I'm doing". (LW19 C)

The best summary of how to reconcile different views came from one of the commercial landholders:

I took the farm on knowing I had to be a resource manager, with the type of country it is. We're all driven economically, you have to be at our scale. But if you don't manage your natural resources you lose out at the other end if you're there for the long term.

(LW21 C)

Adoption

Planting trees

Trees were being promoted to increase water use and reduce runoff. Almost all the landholders I interviewed were at least mildly enthusiastic about trees. Several of them described the specific purposes for which they had planted trees or were about to plant them. Some were planting trees for environmental reasons:

I want to put in some trees. A lot of it is a bit low, it would become a mud bath if you put cattle on it, so I want to fence it off and put trees in it. (LW8 L)

And:

I'm going to plant a soak in paperbarks. (LW13 H)

And:

We get a lot of road noise. We're putting in hundreds of trees along the road to reduce it. They're mostly environmental plantings. (LW1 L)

Some were planting trees for commercial reasons:

I've planted trees for commercial sawlogs in 25 or 30 years time. (LW1 L)

Others were planting trees for a mix of both environmental and commercial reasons:

I want to plant some woodlot trees in the corners ... We want to plant windbreaks. (LW5 L)

And:

In each paddock there's a patch of paperbarks that's been left for the stock. We've left the areas that haven't grown much. It increases the value of the place in the long term if it ever needs to be subdivided ... If you can sell a 20 acre block with a tree plantation it looks a lot better than a bare block if you've got trees established. It's got to be adding value. (LW7 H)

Not everyone thought trees had commercial prospects, though:

Some people talk about planting trees for a sustainable wood supply but I think it's a fantasy, it takes too long. (LW6 L)

Some were planting trees for pragmatic purposes:

I want to put some shade trees down the back (LW8 L)

And:

Because we're running a stud, everything has to be single sire mated. By putting in windbreaks everything's double fenced. So it's not just shelter, it's another management tool for me as well. (LW19 C)

Even a lifestyle landholder whose property is essentially a big garden may have a pragmatic use for trees:

I want a proper garden shed and some windbreaks on the weather side and a pergola out the back. (LW10 L)

Some landholders were planting trees because they liked trees:

I like nature. I like native trees. I like birds ... I'd like to plant maybe 30% of it in trees. It doesn't take long for native birds to come back when you put trees in. (LW11 L)

Some had philosophical reasons for planting trees:

As a family we're concerned about the future. I'd like to plant enough trees so we can be carbon credit neutral as a family. But I haven't done the research to work out how many trees we would need. (LW15 H)

Some simply liked the aesthetics of trees:

I want to plant some trees to turn the front paddock into a park. I'm planting some trees down the back. (LW13 H)

No single reason for planting trees predominated.

Natural regeneration was hardly mentioned:

I want the lakes fully fenced, trees regenerated as it should be. (LW15 L)

Several landholders described tree planting failures:

We've lost a lot but we're going to replant them. (LW13 H)

And:

We put some in last year but we went away over the summer and they didn't get watered and they died. (LW10 L)

And:

There's a few thousand trees on the joint that we've put in. I'd say ¾ of what we've put in have died. We've had a lot of heartache. (LW18 L)

Despite the failures, these landholders were all planning to replant.

Two landholders spoke at length about the negative aspects of trees:

Trees are a pain in the bum. We've got all these beautiful tuarts here and it's thousands and thousands of dollars to get them trimmed. And I can't afford it. And the roots grow under your foundations. They're lovely, and I love them, but around the house they're a pain in the bum. (LW9 L)

And:

I haven't got any trees. They're a headache. They blow down. This country is not really suited for these bigger trees, the soil structure is such that they won't stand up. Particularly pine trees, they only last 30 years ... You don't need trees for stock shelter. There's only a few down the driveway and some we've planted round the house. The stock don't need them for shelter. If you've got trees in sandy country they cause erosion problems ... With trees there's no point in putting in single or double rows, they need to be put in blocks so they protect themselves. If that's what you want to do. Individual trees or trees along fence lines are nothing short of disaster. (LW16 C)

This landholder had planted a large number of trees but had become less convinced of their benefits:

I did [plant a lot of trees] years ago, maybe 6 years ago. But I've since found that I get more production by putting perennials [perennial pastures] in. And if they have the same water using benefits as native vegetation I would do that. Trees are last on the list for me, they're more for aesthetics. I have used them in strategic areas to control waterlogging, but now I have more productive management strategies for controlling waterlogging. So I find them to be a last resort. (LW21 C)

The best example of a tolerant attitude toward trees came from this landholder, who could not exactly get excited about them:

If any old trees fall down I try to replace them with new ones. (LW14 C)

but was not anti-trees either:

It costs a lot more to put trees back in than to take them off. You can't put all the species back that were there before. (LW14 C)

There was some evidence of disagreements between partners about the extent of tree planting they desired:

I probably want a few more trees than he does. He's probably thinking that he would have to look after them. He said if I want fruit trees I will have to look after them. (LW3 L)

And:

[My wife] gets horrified when she sees me planting hundreds of trees. As long as I don't block out the views. (LW1 L)

And:

[What area of trees would you like?] I suppose about 8ha. If you asked [my husband] he'd say 3ha is enough, because it's taking up food value. (LW15 H)

Encouraging native grasses

Native grasses were not part of the extension effort in the Lake Warden catchment and were not mentioned by the landholders I interviewed. The one exception was this rather dismissive comment:

There's a natural grass here, probably because of poor fertiliser history before we came. The cattle will eat it. (LW16 C)

Pasture improvement

Deep-rooted perennial pastures are promoted in the Lake Warden catchment to increase water use and reduce runoff to the lake system. The main perennial species being promoted are kikuyu and lucerne. Perennial pastures received a favourable reception by most landholders. Large-scale landholders saw the benefits of improved perennial pastures:

We get into a paddock and put oats in. Rip it up and get rid of the couch and love grass that is not productive and get the perennials and clovers happening. The place just keeps getting better. The neighbour, who's been here 26 years, said he had never seen the front paddock producing so well. (LW15 H)

And:

I've never seen that back paddock looking so healthy. The kikuyu is allowing the serradella roots to get down deeper. (LW19 C)

One landholder described how perennial and annual pasture paddocks could be used together to take advantage of the diversity of pastures:

We've got a lot of deep sandy country with water under it. Kikuyu's got deep roots. It's going to be a pretty sustainable system, making your farm more water-use efficient. Basically, I'm going to use the kikuyu for an over-summer pasture for the cows. Not for fattening them but for increasing the carrying capacity of the farm, and let the annual pastures fatten the cattle for turnoff in late spring – early summer. (LW19 C)

Some constraints to pasture improvement were noted. One was that a cascade of management changes was needed, because to take advantage of the increased pasture production you had to change the way you managed your pastures:

I have done some claying on one of the paddocks. The claying helped a hell of a lot as far as germination goes, but I still think I'm going to fence the paddock off differently now. The claying helped the germination on a sandy ridge. The other part of the paddock is gravelly. You could divide the paddock in half and you'd have 50 acres of good perennial pasture and 50 acres of good annual pasture. See, I'm still changing the way the farm's going to be set up. The other thing, too, is that if you increase your stocking rate you need more paddocks so you can rotationally graze. A whole new management regime is going to be coming in on this place. I'm going to have to do it, otherwise you're not utilising your pastures properly. It makes me laugh. When I first came here the paddocks were too small so I took out a lot of the fences. The fences were in the wrong place anyway. Now the paddocks are going to become a lot smaller again but the fences will be where I think they should be. (LW19 C)

Another landholder noted an institutional constraint on pasture improvement:

I don't have plans to improve it more because it will be subdivided and most of that will be scrapped anyway. With the way the shire are charging for rates you've got to subdivide it or it's unviable. (LW16 C)

The adoption of deep-rooted perennial pastures was patchy. Some landholders were keen:

When we came here the better land was all covered in reeds. All the sand was just capeweed. We've divided the place up into smaller paddocks and put them in kikuyu, serradella, Rhodes grass, veldt grass and about 8 different varieties of clover. (LW20 H)

And:

We planted a lot of kikuyu and serradella and balansa clover. We poisoned the reeds and deep ripped the rabbit warrens. We more than doubled the carrying capacity of the place. (LW14 C)

But other landholders had had mixed success:

The pastures are pretty rundown. Six ha up there has been renovated. It was deep sand. It's been clayed and fertilised and had perennials established on it, kikuyu. I put some serradella in one paddock but it never grew. (LW7 H)

There had been other establishment failures:

We planted puccinella about six years ago and didn't have very good success. We got nil germination when we first planted it. A few plants came up later, but it was virtually a failure. (LW20 H)

Most landholders were still building up their perennial pastures:

Some of it doesn't run much [stock], but over time I think it will run more, with the drainage, the trees and some semi-salt-tolerant grasses. (LW4 H)

And:

About 40% of the property is pasture. We're going to try to make it all perennial pasture. (LW20 H)

The lifestyle landholders' understanding of pastures was generally limited:

We have a lot of different weeds and we know you have to replace the weeds with something or they just grow back. And the neighbours have to control their weeds too, or the seeds will just blow back again (LW3 L).

And:

I don't know much about pastures. I suppose it's important if you want to have stock. (LW8 L)

Some of them tried hard to learn and do the right thing:

We're really only just starting on the pastures. There was no kikuyu on the joint when I started. But I've got kikuyu on all of it. We think we've done well to get kikuyu on all of it. When we first put the kikuyu in, nothing happened for the first couple of years. Then we had a wet summer and there was kikuyu everywhere. (LW18 L)

Many lifestyle landholders around Esperance had come to the district recently from elsewhere, and one long-time lifestyle landholder observed that conditions in Esperance were different from what most of them had experienced previously:

They say, "plant permanent pastures", but people who come from other areas — in the goldfields, if they plant something it comes up, but here it's pure sand and it won't always come up. (LW2 L)

Some lifestyle landholders had access to the equipment needed to sow pastures:

It's patchy. There was a lot of kikuyu in the front paddock, it's quite well established. The serradella we put in ourselves to create some sheep feed. About 5 acres, I suppose. Typical hobby farmers, we borrowed machinery from neighbours and sowed it ourselves. (LW17 L)

Others had tried to spread kikuyu rather than seeding it:

The kikuyu was here when we came here. We're trying to spread the kikuyu. We got the neighbour's sheep on it. We dragged the harrows around while it was seeding. (LW5 L)

And:

I made all the lawn myself by spreading kikuyu runners. A lot of it was lovegrass and crap and I spread all the kikuyu. It was all sand, rubbish, and now it's a beautiful garden. (LW22 L)

And:

Every time I go down the paddocks I take a runner of kikuyu and scratch it in. (LW13 H)

Ease of management seemed to be important to some lifestyle landholders:

[There are incentives for kikuyu.] Is there? That's an easy grass, isn't it? We tried serradella and clover and it didn't work. I was thinking there must be a grass. (LW9 L)

Not all lifestyle landholders wanted pasture:

I wanted trees, birds, lifestyle, but no livestock. I cannot imagine having pasture. (LW1 L)

Some of them just wanted a big lawn:

It's a soccer field or a cricket field for the grandchildren. (LW9 L)

Catchment management

Policy tools

Several policy options exist for encouraging landholders to plant deep-rooted species on their properties. These include incentives, practical assistance, skill training, and simple provision of information. At present, as part of the Lake Warden catchment project, landholders are being offered advice and financial assistance to encourage them to sow perennial pastures (mostly lucerne or kikuyu, but also some others), plant trees and shrubs, fence to protect biodiversity or waterways, construct earthworks to reduce erosion

and reduce surface water flow, and do liming and “claying” to improve soil health. (“Claying” involves digging a deep pit in the paddock, taking clay and mixing it with non-wetting sand soils.) I use the term “incentive” here, as the Lake Warden landholders seemed to be happy with it as a term to describe the payment of grants.

Most lifestyle landholders had planted some trees, but few had made use of incentives:

The trees themselves and the planting didn't cost me anything. But the preparation and the ploughing and the spraying I paid for. (LW11 L)

Sometimes this was because they did not know about the incentives:

I bought all the trees at mates' rates, \$1.50 a tree. I didn't know you could get any support or incentives. Now I would take advantage of the incentives. (LW5 L)

Agencies had not tried to work with small-scale landholders in the past, but were now trying to do so:

We heard there was some funding around. They sent some information around to all the farmlets. (LW4 H)

A number of the larger scale landholders had received incentive payments. The incentives for tree planting were substantial, and not just financial:

The trees are free. We can get the use of a moulder. I've got to do a deal with a neighbour to borrow his tractor. They've offered some help if there's a team available, to come and help plant. Otherwise I don't think the kids and I would get many planted. (LW15 H)

And:

I've done all the tree mounding. The waterway thing is tied up with CALM so they come in and plant them for you. So planting the trees is not a large worry for you. I think that system is working quite well. (LW19 C)

The establishment of perennial pastures was expensive:

We paid \$40 an acre for a contractor to come in and direct seed it because he had the right equipment. It took us 3 knocks with the spray. We started preparing the paddock 3 years before. That paddock is still out of production because there is not good enough cover. It's been out of production for a while. The first 2 years you're spraying, so it's only half productivity. In the third year we would only give it a quick graze so they didn't rip out the young plants. (LW15 H)

But the incentives for pasture establishment were described as small:

SCRIPT paid for the kikuyu seed. It was nice of them but it was only \$70 a hectare. It was a little bit of a help but I would have done it anyway, or some of it. As a proportion of the total expenditure on that paddock it wasn't much ... The pasture is not much of an incentive, getting your seed back. It needs a bit more oomph, something for the preparation. (LW7 H)

And:

Perennial pastures are the thing, to me, because everyone's benefiting. You get your recharge benefit and you're lifting your production at the same time. At the moment the funding for perennials is \$60 a ha. I put in kikuyu last year and it cost me \$235 a ha. And that didn't include agistment. It can take 4 to 5 years to get a commercial return on any perennials you put in. But you're instantly getting the benefits of recharge and slowing the nutrient flow. So it's of a greater benefit to the environment. (LW21 C)

Yet some landholders were happy with the level of pasture incentives:

It is a good incentive. You've got to draw the line somewhere. You provide the cost of the seed, everyone should provide the labour and the fuel and the machinery. (LW20 H)

The level of incentives for other practices varied. Fencing incentives were described as high:

They've offered \$1500 per km for fencing. The true cost of that's about \$3000. That's quite a good incentive, I reckon that amount's pretty fair. (LW15 H)

And:

The fencing of remnant vegetation I've done in the last 5 years wouldn't have been done in the next 15 or 20 years without the assistance. You're getting \$1500 a km. The type of fencing I do is basically dollar for dollar. (LW21 C)

Incentives on offer for claying seemed lower:

We've looked into lucerne but our pH isn't quite right, so we'd have to spread a lot of lime. There's an incentive for it but it's not very much. The same with claying. They're pretty small, like \$150 a hectare, when it could cost you maybe \$1000, it's not cheap. (LW15 H)

And:

We've only got a couple of sandy areas that would benefit from claying. My brother's done a lot of it and it certainly changes the soil structure. But if you want dollars it makes no difference. You've bought your farm over again and you haven't gained anything. (LW16 C)

Ensuring comparability of incentives is not easy. This landholder was emphatic:

We all know kikuyu uses as much water as the native vegetation of this area (LW21 C)

This landholder was equally emphatic but arrived at a different answer:

My trees will use way more water than a perennial pasture. At the moment they're about the same. (LW1 L)

This landholder was not so sure:

Maybe they need an equation that says how much water a tree uses compared with how much water a square of perennial uses, and adjust the funding to match. I don't know, a tree might use a lot more. (LW15 H)

Landholders were appreciative of incentives. For some the appreciation was generalised:

It's not just a handout, it's an incentive for landholders to get in and do something about it. (LW4 H)

And:

It makes it easier to go into some of those projects if there's a bit of money around. (LW7 H)

Other landholders described in more detail the circumstances in which incentives had influenced them.

Incentives gave this landholder a little push:

The incentives triggered it. I may have done it eventually. I was always going to do it but it made me do it rather than put it off. (LW13 H)

For this landholder they reinforced a decision that had already been made:

We wouldn't take any of the subsidies unless we were already going to do it. But the small amount they give you would not be enough to inspire you to make those changes unless you were already heading down that track. (LW15 H)

One problem with incentives is that they can distort development plans:

We went with the trees this year because it was the last year of SCRIPT funding for it. The proportion SCRIPT was paying for was a lot higher than with the pasture. If the funding had been going to continue we would have done a third each year for the next three years. That's why we fast-tracked it. It wasn't entirely motivated by my concern for the environment and the birds of Lake Warden. I suppose there's an element of concern for the environment, but it's not right at the top of my list of priorities. (LW7 H)

Several landholders expressed unease about accepting incentives, sometimes based on mistrust after previous dealings with government departments:

I want to do it my way. I don't want any strings attached ... When you take money you have an obligation back. (LW1 L)

And:

I don't want to be beholden to any bastard. I want to be in control of my own destiny. (LW13 H)

And:

I don't want to give Esperance Regional Forum a lever to say that we paid for this, we can tell you what to do about it. (LW14 C)

And:

When we were out on the other farm we had dealings with the ag department and they bit us so I won't deal with them again. Once bitten twice shy. (LW16 C)

It was not only commercial (or former commercial) landholders who were uneasy about accepting incentives:

I tried to get some government assistance to get sales tax off some equipment, like ride-on mowers. There's quite a bit of Paterson's Curse here. It's a notifiable noxious weed. The tax department said no. That was my one and only attempt to get financial assistance. (LW6 L)

And:

We do everything on our own. Every time I put in for a subsidy I never got it. Even when I put in for a house subsidy in the late 60s. So I do my own thing. I'd rather do it ourselves. If we come unstuck, bad luck. If it works, it works. (LW18 L)

Some landholders found that incentives did not apply to their circumstances:

Most of my trees are commercial, and the incentives are not for commercial trees. (LW1 L)

Some ideas for improving incentives were suggested:

To make the incentives more effective they'd have to go one-on-one on every property. Because every property is different. (LW13 H)

And:

We were already wanting to improve the pastures. We'd be doing it with or without the funding. But for someone who wouldn't already be doing it you would have to offer more. It's probably not so much the dollars, it's probably the help you could offer. It's things to make it easier for him Maybe finding a seeding contractor to come in, or a fencing contractor. Or someone to come in and plant the trees, not leaving the physical work with the farmer. Particularly for someone with a full-time job. And for someone who didn't want other people on their property you might have to offer an equivalent amount, because that would be closer to the true cost. (LW15 H)

This landholder discussed the scale of the incentives, pondering the question of how big an incentive is big enough:

It's pretty hard to justify spending \$3500 on seed and not getting something back for it. It's \$70 a kilo and I did 61ha, so it must have been \$4500. I bought about 65 kilos of seed. The \$60 a hectare was pretty handy but it really only covered the cost of seed. [Do you reckon it's enough?] When you're getting money from someone else it's never enough! I think it probably holds back some people, but where do you draw the line. I reckon about \$100 a hectare would probably get most people over the line. There is \$100 a hectare available in the priority 1 zone. But I'm in the priority 2 zone and it's only \$60 a hectare ... The \$60 was next to nothing compared to what I had to do to get the paddock suitable for planting perennials. There's quite a few agricultural sprays. And if you are trying to reclaim some reedy country you've got to spend quite a bit on diesel and time to work it up so you can get a machine through it. The \$100 would be more than just the seed, it's giving you a hand on the ag sprays and things. \$100 is just a guess, maybe \$90. When I reclaimed the reedy country I had to use 3 litres of Roundup, that's \$15 a hectare. Then I had to use another 2L of Roundup, then 1½ L of Sprayseed. That's \$12. And there's insecticides as well, so you'd soon eat up that money. (LW19 C)

When incentives were originally designed to apply to large scale landholders it was seen to be difficult to find a suitable way to apply them to the different needs of small landholders. This commercial landholder had thought about it:

If they put kikuyu on the small blocks it's just going to go rank, along the fence lines and that. It's pretty hard for them to have just a few animals. About the only option is planting trees. And then they find that they've blocked out their view. And it might become a nightmare for bushfire brigades trying to protect houses. I really don't know. (LW20 C)

Some lifestyle landholders don't have much money to spend or don't see value in it:

To do it all in one go is too expensive. I like to do a bit each year. (LW11 L)

And:

I don't see the value of spending \$5000 on seeds and stuff ... If someone gives us something we'll sling it out there, but we won't spend it ourselves. (LW9 L)

Even hybrid landholders may not have much money to spend on their properties:

The average small farmer is not making a lot out of his property so he doesn't have a lot to put into it without some support. He's not going to buy thousands of dollars of

kikuyu seed. It's what they [the agencies] want, to lower the water level in the lakes.
(LW4 H)

Finance is not always the problem for lifestyle landholders, sometimes it's logistics:

Financial costs don't worry us. It's more the logistics of having someone come in and look at putting 3 acres under pasture. I deliberately haven't ploughed it up. It needs to be done properly so you've got good cover. There's actually quite a bit of kikuyu there already, from next door. (LW10 L)

Lack of suitable equipment may also be a problem for small landholders:

They're dealing with small to medium landholders. They wouldn't be dealing with many full-on farm operators. They wouldn't be dealing with people with seeding and cultivation equipment of their own. They need something that would fit through a 12 foot gate, rather than 40 foot wide. (LW7 H)

One landholder observed a gap in the market, whereby someone could provide a contracting service to sow pastures on small properties:

SCRIPT can't be hanging around providing all these things for everybody because they won't be ready at the same time. But there is that gap in the market. A lot of people are locked into going to work. They can't stay home just because it's a nice day to spray.
(LW7 H)

The "make-do" ethos, as described earlier, sometimes goes against doing the job properly and incentives may have a role in encouraging small scale landholders to do jobs properly:

Incentives would appeal to me, definitely. I sort of feel we're just making do with whatever comes along. (LW17 L)

Generally, the lifestyle landholders I interviewed who were new to owning land recognised that they did not yet know much about how to manage it and were keen to learn. The newly formed Small Landholders Group (SLOG) was mentioned by several of them as a source of information.

It's all new to us. We've never lived on the land. All we have done is see salinity and stuff on TV. That's why I got involved in SLOG, to learn stuff... We had no contacts in town. We knew no one. We didn't know where to get things ... My girlfriend in Perth has just bought 55 acres north east of Perth and got 100 trees from CALM. Through SLOG, I can get that. But unless you know who to talk to you can't find out. I wouldn't even have thought of going to the Department of Ag, I thought they were for farmers. CALM didn't know anything about it. It wouldn't have crossed my mind if I hadn't been involved in SLOG. (LW3 L)

And:

When the small landholders group started I was really interested in that, because I was hoping I would get from that the knowledge where to plant that apple tree. (LW12 L)

Runoff

I have labelled this section "runoff" rather than "salinity" because, although there are areas of dryland salinity in the Lake Warden catchment, salinity is not the major reason why the planting of perennial vegetation is being promoted. The main reason is that deep-rooted perennials use more water than annual pastures, which reduces runoff and helps keep the water in the lakes low enough to create shallow feeding environments for the wading birds, as well as helping to maintain the vegetation that provides nesting and feeding grounds for the birds.

Landholders generally displayed little knowledge of catchment issues, and when they were able to describe something that they might do on their property that would affect the condition of the lake system, it was usually about nutrients rather than runoff:

I wouldn't imagine anything we did here would alter the condition of the lake. The amount of spray we might use would be negligible ... It's a long way from here to there. And we're up high. I think the problem with the lake is the water coming through the catchment. (LW10 L)

And:

I suppose the only thing that would affect it is fertiliser if it's washed off. (LW16 C)

And:

I don't think my septic system would leak into it. Everyone's on septic systems round here, so I don't think it's an issue. (LW8 L)

A number of the lifestyle landholders were just starting to learn about catchment issues:

People don't realise that what they're doing is affecting other people. We didn't know that Pink Lake and Lake Warden were connected. We thought we were 3k's from Pink Lake, so how could we affect it. (LW3 L)

And:

I'm trying to encourage the lucerne and the kikuyu to use up the water for the lakes. But had I not been involved with the small landholders group I probably wouldn't have bothered. (LW5 L)

And:

I knew the wetlands were important, only due to the signage. That's good. Anything as natural as possible these days has got to be good. I'm not a greenie, but now that you mention that the land affects it, we'll take it on board. (LW8 L)

One landholder observed that the publicity about the lakes did not necessarily have the desired effect:

We keep hearing about it but we don't really have any connection with it. It's like the scientists are doing all that. Obviously we don't want to harm it, but it's not at the top of our mind. (LW7 H)

There was some knowledge of runoff among landholders:

We deliberately considered trees for water use, but also my own personal interest. It justified what I was doing by planting trees. [What if the problem was that the lakes needed more water?] I wouldn't have bought that property. (LW1 L)

Those who understood the problem of runoff affecting the lakes were generally the ones who had received incentive payments for planting trees or perennial pastures:

As far as water use and preventing salinity, the trees will help. But as far as what we're led to believe with perennials, that will help use the water as well. And using the water that falls on the place so you're not adding to the salinity further down. (LW15 H)

Some landholders rejected the idea that anything they did might impact on the lakes:

I don't consider that anything I do could contribute to the wetlands. It's such a vast system. I'm not putting on much water. I'm not putting anything toxic in there. And the fact that I've revegetated the place must be lowering the water levels. I don't consider anyone in this vicinity would have any impact on the Lake Warden system. We're on an entirely different profile to what the Lake Warden system is on. (LW6 L)

Even some landholders whose properties were less than one kilometre from one of the lakes said they were too far from the lake to cause any impact on it.

Some landholders observed the irony in changed government priorities:

When they developed Esperance you couldn't take over a farm without clearing it completely ... But the government made it a condition that you clear the land ... Now they're planting trees by the thousands. (LW11 L)

And:

It's funny, it wasn't that long ago everyone was trying to kill kikuyu, now they're paying us to plant it. (LW4 H)

Only two landholders expressed real interest in birds:

I've always liked birds ... I'm a member of the local bird group. (LW1 L)

And:

I like birds. (LW11 L)

Most interviewees knew that the Lake Warden wetland system was internationally important. Some even knew that it was listed as a wetland of international importance under the Ramsar Convention on Wetlands:

I specifically looked up the Ramsar website. (LW2 L)

Few interviewees felt persuaded by the international listing to behave any differently:

I do think that because it's so important internationally we do need to look after it better than we have. I'd hate to see the birdlife disappear. (LW10 L)

For most, international recognition made little or no difference to them:

I know that the lake system is recognised internationally, but only because I've been told. My own backyard is important to me, and not affecting the neighbours, and

making sure Esperance stays all right so my kids and my grandkids can enjoy it. (LW3 L)

And:

It doesn't mean anything to me. The only thing it means to me is that the birds that are here have come a long way. We certainly enjoy looking at the birds and the wetlands. The fact that it's internationally recognised does not mean a lot to me. I appreciate the fact that it is internationally recognised does allow us to have the programs that we have. (LW5 L)

And:

I have no worries if the lake's full, it means there's been plenty of rain. They don't need to have all their habitat in Lake Warden. They can use another lake. There's plenty of places for birds to nest in WA. But if they want to plant trees I'm happy to help. (LW11 L)

And:

They are important anyway, regardless of international importance. (LW22 L)

This landholder went as far as to suggest that the lake system should not be internationally listed:

It's a lake. It doesn't make any difference how it's listed. It's still a lake. We shouldn't have signed them over to be internationally listed anyway. They're Australian. They're still our lakes ... How a lake is listed is irrelevant. It's how we want to manage it. We don't want other people telling us what to do with our lake. If we don't look after it, that's our problem. (LW16 C)

This landholder had thought of a reason why the lakes seemed to be neglected by Esperance people:

Because Esperance is such a beautiful beach place we focus on the beach more than the lakes. (LW15 H)

Several landholders suggested that, whether or not the lake system was internationally recognised, they would still want to do the right thing anyway:

I honestly think no matter where my property was I'd manage it just the same. That's just me. I hope Joe Blow down the road thinks about the lake when he decides what to do on his high paddock. (LW12 L)

And:

I'd like to think we'd be careful what we did with our property anyway, making sure we didn't affect the environment, whether it was listed or not. (LW17 L)

And:

People have got to drive through the lake system to get to Esperance, so you don't want to drive through rubbish. We could make it a great recreation area if we look after it, as well as having something of international importance ... I don't like having my farm look rundown. We drive down 6 Mile Hill and look at the lakes. You want to be looking at them as a healthy thing and not stinking. (LW19 C)

And:

I'm managing my property for the same reasons that we're managing the wetlands. Because I own the land I'm trying to improve the health of my country. So I'm trying to increase the contribution of my country to the health of the lakes. (LW21 C)

Living near the lakes was not always portrayed positively:

It's nice to know we live that close to something that's important, but it doesn't alter the way I live. We're lucky living so close, some people travel a long way to see them but we just walk up the street. And the birds are pretty, sometimes they land in the back yard. And there's a lot of downs for living that close to it. Some times of the year the smell from the lake is horrendous. Some times of the year you can't sit outside and have a barbecue. And you have to pressure wash the walls because of the bugs that stick on them. And you don't have that in town. (LW9 L)

Discussion and conclusion

Discussion – discovering landholder motivations

Several questions now need to be answered. Given the practices resource managers are trying to encourage among landholders in a position to influence the condition of key assets, how do lifestyle and hybrid landholders perceive the adoptability of those practices and how would they then respond to the policy tools within SIF3? Specifically, how do they perceive the adoptability of the practices, how have they responded to the current policy tools, how would they respond if no policy tools were used, and how would they respond to the various policy tools that could be used? In short, what would it take to achieve adoption? Although I concentrate on lifestyle and hybrid landholders here, commercial landholders will be discussed where necessary for comparison.

Reflecting on all of the interviews, the most striking feature is the diversity of landholder motivations. This diversity occurred not only between landholder types but also within each type. Diversity among small lifestyle farmers has already been described (Hollier and Reid 2006), but it is also present among hybrid landholders and among commercial ones. There is also diversity among the individuals within a landholding family. Even within one individual there are often conflicting views that must be accommodated. This means that any one policy instrument is unlikely to be effective in influencing adoption by all or even most lifestyle or hybrid landholders. (The same is likely true also for commercial landholders.)

Of course, if agencies could discover what motivated each individual landholder, then each landholder could be presented with a policy specifically targeted to their needs. Not only could the most efficient policy for an individual be determined (say a positive incentive), but also the optimal level of the incentive. This would require each landholder to provide information on their motivations, and that would be difficult, expensive and probably socially unacceptable. Schemes such as BushTender do allow small numbers of landholders to reveal something about their motivations, but they have not yet been used to obtain information from large numbers of landholders. Because of the diversity of landholders, there is no easy way to find out about the motivations of large numbers of landholders at once. You can't say, "this area contains this kind of landholders" because a given area is likely to contain several different kinds of landholders. Current marketing trends are to micro-target individuals based on knowledge of their consumption and spending patterns. Public policy-making does not yet have this option. Currently, the best that can be done is to use multiple policy instruments in an area, based on current knowledge about the range of landholders (and thereby the range of policy tools that might work effectively and efficiently).

Within Victoria, two different case study areas were chosen to assess the universality of landholders' responses to the salinity issues under consideration. Some minor differences between the areas were apparent. The Wild Duck catchment had more trees than Axe Creek, bigger lifestyle properties, more environmentally conscious lifestyle landholders, and more weekend residents. There was one salinity policy issue that differed between the two areas: in Wild Duck there was the possibility that runoff might need to be encouraged so that Lake Eppalock might be filled. The Wild Duck landholders I interviewed treated his prospect with contempt. Generally, the variation within each catchment was greater than the differences between them. This underlines the point already made that variation between landholders is substantial and a diversity of policy responses is likely to be more effective than a single response.

Following the Victorian case study, a second case study in Western Australia was used to assess whether Victorian landholders' responses to salinity and catchment issues could be generalised more widely. Lake Warden landholders differed from their Victorian counterparts in that they had much less understanding of how their own property fitted into and affected the condition of their catchment. Rural Victoria has experienced 20 years of a landcare movement that has emphasised a catchment-based approach to resource management. This has not been the case along the south coast of Western Australia. Among Lake Warden landholders there was less trust in the Department of Agriculture than in North Central Victoria, particularly among larger scale landholders or those who had once owned large properties. There also seemed to be more of a pioneering outlook among the Lake Warden landholders than among the North Central Victorian landholders. Aside from those differences, the motivations of the

Lake Warden landholders, and the range of motivations, seemed to be broadly congruent with those of their Axe Creek and Wild Duck counterparts.

The landholders I interviewed displayed three different motivations for looking after the land. Some looked after the land because they felt it deserved to be looked after, others looked after it because it made for a nicer place to live, whilst others said that if you look after the land it will look after you. These motivations are not mutually exclusive: some landholders express more than one of them. Nor are the motivations exhaustive: some landholders do not fit easily into any of them. Such a result is typical of any market segmentation process, however it is conducted: human beings are individuals and cannot always be compartmentalised for the convenience of policy-makers.

Some landholders looked after the land because they felt it deserved to be looked after. These were generally the most environmentally conscious landholders. For the most part they were lifestylers, although one was a hybrid landholder (my classification of that landholder as 'hybrid' was based on land use, rather than attitude, as this landholder displayed attitudes to the environment that were closer to the most environmentally conscious lifestylers than to the other hybrid landholders). Such a 'deep green' view, where the land itself is the beneficiary of care, and people have a duty to provide that care, is unlikely to be shared widely, but will be held by a substantial minority of lifestyle landholders. These people do not need to be persuaded to look after the land, they want to do it. Nor will they need simple provision of information, for such people are likely to be well informed about revegetation. What they do need is help with logistics and labour to achieve their revegetation goals. Incentives will not be required to convince these landholders to revegetate, instead they will serve to speed up the revegetation that these people were always going to do.

Some landholders looked after the land because it made for a nicer place to live. Most of the lifestyle landholders I interviewed fell into this category. This is the archetypal lifestyler motivation where, even with all the diversity among lifestylers, ultimately the land represents a place to live rather than a place to work. Few of the lifestylers I interviewed were obtaining any form of agricultural production from their land, although several were thinking about it. Generally, any work that the lifestylers were doing on their properties was directed toward making it a nicer place to live rather than toward being able to earn some money from it. Work was something they did off the property to earn money, some of which could be applied to improving their property. Any physical work they did on their property was a lifestyle choice rather than drudgery. For most lifestyle landholders, the look of their property was important. They needed time to enjoy their property so were unwilling to spend all their leisure time working on it. The form of revegetation favoured by these landholders will be one that makes their property look good and that does not place great demands on their time or land management ability. They need advice, guidance, and sometimes a little hand-holding. Ideally they need someone to organise their revegetation for them.

Other landholders had the view that, if you look after the land, it will look after you. This view was held by commercial landholders, who were earning some or all of their income from their land, and by hybrid landholders who were trying to earn at least some income from their land. In this 'light green' view, it is people who benefit from care of the land, whether they be from current or future generations. The idea that if you look after the land it will look after you seems on the surface to be a simplistic cliché, along the lines of the frequently espoused statement about leaving your land in better condition than you found it, but it reflects an honestly felt view among those who express it about the symbiotic relationship between people and the productive capacity of nature, a view that they hold deep within themselves and feel they have not the facility with language to express as profoundly and eloquently as it deserves. In 20 years of rural social research I have heard many farmers express these seemingly simplistic views; frequently I have taken away the impression that they wished they could explain it better. For landholders such as these, the financial incentives currently in use to encourage revegetation are likely to be effective at encouraging adoption. They will be all the more persuasive if they are reinforced with the message that they will help landholders to look after the land.

It is not difficult to persuade most landholders to plant trees. Almost all of the landholders I interviewed had planted some trees on their property. Some had planted thousands. In most cases they had been supported by a financial incentive. But no one had trees over all their property, and no one – not even the greenest of the environmentalists – wanted trees covering all their property. Whether they wanted a grassy woodland, a bit of horticulture to help repay the bank loan, a few animals for the kids, or simply unobstructed views of distant hills or lakes, people wanted only so many trees on their property. Trees are unarguably the easiest form of deep-rooted vegetation to promote to lifestyle landholders, but there is

still plenty of room on lifestyle properties for deep-rooted perennial grasses (including native grasses in Victoria).

All of the commercial and hybrid landholders, and several of the lifestyle landholders, had pastures that they were using (or, in the case of some of the lifestylers, wanting to use) to graze stock. These landholders were all interested in the quality of their pastures, but not all of them actively managed their pastures. Despite the widespread perception of the two Victorian case study areas as being predominantly lifestyle areas nowadays, there is still plenty of scope for encouraging the sowing of deep-rooted perennial pastures. And around Lake Warden there is plenty of scope for promoting kikuyu to lifestyle landholders. Promotion of perennial pasture plants would, however, not be as easy as promoting the planting of trees. Landholders generally made decisions about which pasture species to sow on the basis of not what was best for salinity or the health of the catchment, but of what grew best in a particular situation or what fed the stock best. Any promotion of introduced pasture species with benefits for the catchment is unlikely to be successful unless the species offers better feed for stock than what is already there. Anyone using pasture seriously and wanting to sow more of it would be likely to respond to financial incentives for pasture improvement. Such incentives would need to include subdivisional fencing, as improved pastures cannot be managed for maximum benefit unless the stock can be rotated around at least several paddocks. Only three lifestyle landholders talked about rotating paddocks, and only one of them actually had enough paddocks to practise some form of rotational grazing. Unless improved pastures can be utilised effectively there is no point sowing them, as the kind of incentives on offer elsewhere in the NCCMA region and in the Lake Warden catchment cover only part of the costs of pasture improvement. For inexperienced landholders (or traditionalists) the mix of policy instruments would need to include extension on rotational grazing management.

Introduced pastures, while attractive to most commercial and hybrid landholders, are not necessarily attractive to all. Within this study, two such landholders offered favourable opinions of native pastures. In one case, it was because of the difficulty of establishing introduced pastures over all of the farm, in the other case it was because the landholder thought they were preferred by the stock. For both these landholders, a mix of clover and native grasses was seen as being useful. Several of the lifestyle landholders were trying to encourage native grasses on their properties. Assistance and advice with natural regeneration of native grasslands would be looked upon favourably by many lifestylers. However, the native grasslands favoured by lifestyle landholders and the clover and native grass pastures favoured by some commercial and hybrid landholders are not the same thing. Lifestylers need information and skill training on how native grasslands can be encouraged to displace the weeds that are currently growing on their properties, whilst those who want pastures need research to provide them with native pastures that can persist despite being fertilised to encourage clover growth.

Not surprisingly, many of the landholders I interviewed responded favourably to discussion of incentives. After all, the offer of having someone else help you to pay for something is attractive. For an incentive program to be effective it must be flexible. Incentives may be used to encourage landholders to try a new practice, to do something new over a larger area than they might have otherwise, or to roll out a management change faster than they might have. Pannell (2006) highlighted that the incentives generally offered by regional NRM bodies (small temporary payments) are most likely to be useful for accelerating activities that the landholder was going to do anyway. Several of the interviewees made comments that this was indeed the effect of the offered incentives.

Commercial landholders often need a financial incentive to convince them to try something about which they may be wavering, or might not even have considered. The incentive acts as a little push, and once they have tried the practice it is hoped that they will continue with it on their own. For the incentive to have this effect, the practice must be seen by the landholder to be beneficial.

Lifestyle landholders have different needs. Those for whom land management is something new and perhaps even a bit scary need a combination of awareness raising, information provision, technical support, and sometimes a financial incentive. They almost need the project to be organised for them. An incentive alone is not enough. Other lifestyle landholders (and some commercial landholders) are keen to do the project anyway, and for them the role of incentives is to speed up their adoption. People know that incentives come with responsibility. Because landholders can't control their environment, they want to be rewarded for their behaviours, rather than their outcomes. Not all landholders will respond to incentives. Several Lake Warden landholders felt that accepting incentive payments from government meant giving up full control of their properties. Only some of these landholders were anti-government:

several of them would have quite happily accepted extension advice but wanted to fund all the investments themselves.

Only among the commercial landholders was there a strong personal identity as a farmer. For the hybrid landholders who were retired from commercial farming, their personal identity was still as a farmer, but this came from their past experience rather than from any desire they might have to be or emulate a farmer. Among all the hybrid and lifestyle landholders I interviewed, only one appeared to have a strong personal identity as a farmer. Personal identity as a farmer does not appear to be a strong motivating factor for landholders and is unlikely to be able to be used to estimate the private net benefit of an activity for hybrid or lifestyle landholders.

Lifestyle landholders appear to desire a balance between trees and grassland. In North Central Victoria, this grassland was predominantly native. In Lake Warden it was often kikuyu. The balance of trees and grassland will vary between individual landholders and policymakers will need to allow for this variation. Commercial landholders appear for the most part to be willing to plant some trees, preferably trees with multiple benefits (a combination of shade, shelter, beautification, erosion prevention, and salinity control). They are keen to improve their pastures, mostly with introduced species, but for pasture improvement to result in improved control of dryland salinity policymakers will also have to encourage landholders to improve their pasture management. Landholders generally appear to understand how to manage trees, but have limited understanding of how to manage native grasslands or native pastures. The hybrid landholders I interviewed tended to sit with either the lifestyle or the commercial landholders in their attitude to the land. It may be better to consider landholders as having commercial and lifestyle motivations, with each landholder having a different balance of the two.

Conclusion

The potential social components that I proposed of private net benefit for lifestyle and hybrid landholders were not uniformly evident.

- Fit with landscape goals appears to be a sound concept. The practices that the landholders had used did fit with the landscape goals that they described for their properties. For some of them, their dreams were bigger than their capacity or motivation to achieve them. Overall, though, a landholder's goals for the landscape of their property appear to be a useful indicator of the private net benefit they perceive they will accrue from a revegetation project.
- Ease of management and low time input, combined under the label "convenience", also seem to be useful as an indicator of perceived private net benefit. Some lifestyle landholders have little knowledge and experience: for them ease of management is vital. For others it is less important.
- Fit with personal identity, particularly personal identity as a farmer, appears to be not useful as an indicator of private net benefit. There was little evidence that personal identity was a substantial motivating factor for the hybrid or lifestyle landholders I interviewed.

The challenge now is to incorporate the useful social components of private net benefit, fit with landscape goals and convenience, into SIF3.

In the face of the kind of landholder diversity that I have documented, a uniform statewide or regional policy response is unlikely to be effective. Far more useful will be a policy that allows for local variation in landholder motivations and needs. The best way to understand local needs is to make use of the knowledge of experienced and capable agency officers who are already in the area. They may be called extension officers, project officers, or something else. These local staff have to tread a difficult path, as they must be a part of their community in order to understand and respond to the needs, aspirations and circumstances of local landholders, yet must also remain focused on natural resource outcomes with public benefits and avoid becoming simply an advocate for the local community. To properly achieve all this is not an easy task. If local agency staff can keep their balance, they can help to achieve the best use of private land that public money can buy.

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Appendix 1: Case study interview schedule

Questions for Axe Creek case study landholders

What size is this property?
Do you own any other rural land apart from this property?
How long have you had this property? Do you live on it?
How did you come to have this property? Why did you choose it?
Have you always had land?
What does having some land mean to you?
How big a part of your life does this property represent?
How do you earn a living?

What do you use the property for? (What are you trying to do with it?)
Have you got the property how you would like it yet? How would you like to improve it?
How would you like it to look in a few years' time?
Do you manage the property by yourself, or do you do it with others?
How does what you want to do with the property compare with what they want?

Can you think of any ways in which what you do on your property might affect the condition of Axe Creek?

As you might know, Axe Creek drains into the Campaspe River. It carries a lot of salt, and feeds it into the Campaspe. Can you think of any ways in which what you do on your property might affect the salinity level of Axe Creek?

Do you have any stock grazing your property at the moment? Do you intend to graze any stock in the future?
Have you planted any trees on your property? How many (or over what area)?
Have you encouraged trees and shrubs to regenerate on any parts of your property? (Over what area?)
What proportion of your property would be covered in trees or shrubs at the moment?
What would be your ideal proportion of the property to have covered by trees or shrubs in the future?
What proportion of your property would be covered with pasture at the moment? Do you know what kind of pasture it is?

In this area the Department of Primary Industries offers assistance and advice to landholders to encourage them to do things that will improve the condition of Axe Creek. (Some of the DPI staff used to work for the North Central Catchment Management Authority.) Do you have much contact with DPI officers? What contact do you have with them? Which officers do you see? Have you made use of any of the assistance or advice?

Where landholders want to increase production, they are encouraged to sow improved (perennial) pasture or lucerne (because they use more water than unimproved (annual) pasture, which then reduces salty discharge). (In some other parts of north central Victoria there are incentives for this.) Does sowing improved pasture or lucerne appeal to you? What advantages do you see in it? What disadvantages? (Do you feel you know how to manage perennial pasture or lucerne?)
Do you think you might want to have improved pasture or lucerne in the future?
(How would you go about it?)
What would encourage you to sow improved pasture or lucerne? (*Explore incentives—up front or later performance-based or ongoing, practical assistance, skill training, information, nothing.*)

Another way to reduce salty discharge is to plant more trees and shrubs. Or you could remove stock from parts of your property and allow them to regenerate naturally. Does that appeal to you? What advantages do you see in it? What disadvantages?
Does it fit with what you want to do with your property?
Do you think you might want to plant trees or encourage natural regeneration in the future?

What would encourage you to plant or regenerate trees and shrubs on your property? (*Explore incentives—up front or later performance-based or ongoing, practical assistance, skill training, information, nothing.*)

Overall, what do you think would encourage landholders around here to increase the amount of vegetation (or perennial pasture) on their properties?

How much difference would those things make?

(How do you think your neighbours' responses would compare with your own?)

Questions for Wild Duck Creek case study landholders

What size is this property?

Do you own any other rural land apart from this property?

How long have you had this property? Do you live on it?

How did you come to have this property? Why did you choose it?

Have you always had land?

What does having some land mean to you?

How big a part of your life does this property represent?

How do you earn a living?

What do you use the property for? (What are you trying to do with it?)

Have you got the property how you would like it yet? How would you like to improve it?

How would you like it to look in a few years' time?

Do you manage the property by yourself, or do you do it with others?

How does what you want to do with the property compare with what they want?

Can you think of any ways in which what you do on your property might affect the condition of Wild Duck Creek?

As you might know, Wild Duck Creek drains into Lake Eppalock. It carries a lot of salt, and feeds it into Eppalock. Can you think of any ways in which what you do on your property might affect the salinity level of Wild Duck Creek?

Do you have any stock grazing your property at the moment? Do you intend to graze any stock in the future?

Have you planted any trees on your property? How many (or over what area)?

Have you encouraged trees and shrubs to regenerate on any parts of your property? (Over what area?)

What proportion of your property would be covered in trees or shrubs at the moment?

What would be your ideal proportion of the property to have covered by trees or shrubs in the future?

What proportion of your property would be covered with pasture at the moment? Do you know what kind of pasture it is?

In this area the Department of Primary Industries offers assistance and advice to landholders to encourage them to do things that will improve the condition of Wild Duck Creek. (Some of the DPI staff used to work for the North Central Catchment Management Authority.) Do you have much contact with DPI officers? What contact do you have with them? Which officers do you see? Have you made use of any of the assistance or advice?

To reduce salty discharge, two things are recommended. One is sowing improved (perennial) pasture or lucerne (because they use more water than unimproved (annual) pasture, which then reduces salty discharge). (In some other parts of north central Victoria there are incentives for this.) Does sowing improved pasture or lucerne appeal to you? What advantages do you see in it? What disadvantages?

(Do you feel you know how to manage perennial pasture or lucerne?)

Do you think you might want to have improved pasture or lucerne in the future?

(How would you go about it?)

What would encourage you to sow improved pasture or lucerne? (*Explore incentives—up front or later performance-based or ongoing, practical assistance, skill training, information, nothing.*)

Another way to reduce salty discharge is to plant more trees and shrubs. Or you could remove stock from parts of your property and allow them to regenerate naturally. Does that appeal to you? What advantages do you see in it? What disadvantages?

Does it fit with what you want to do with your property?

Do you think you might want to plant trees or encourage natural regeneration in the future?

What would encourage you to plant or regenerate trees and shrubs on your property? (*Explore incentives—up front or later performance-based or ongoing, practical assistance, skill training, information, nothing.*)

It is possible that the need for water in Eppalock is greater than the need to reduce salty discharge, in which case sowing improved pastures or lucerne, and growing trees, would be **discouraged**. How do you feel about that?

What would **discourage** you from sowing improved pastures or lucerne? Growing trees? (*Explore ...*)

How do you think your neighbours' responses would compare with your own?

Questions for Lake Warden case study landowners

What size is this property?

Do you own any other rural land apart from this property?

How long have you had this property? Do you live on it?

How did you come to have this property? Why did you choose it? Is the bird life important to you?

Have you always had land?

What does having some land mean to you?

How big a part of your life does this property represent?

How do you earn a living?

What do you use the property for? (What are you trying to do with it?)

Have you got the property how you would like it yet? How would you like to improve it?

How would you like it to look in a few years' time?

Do you manage the property by yourself, or do you do it with others?

How does what you want to do with the property compare with what they want?

Can you think of any ways in which what you do on your property might affect the condition of the Lake Warden wetland system?

Were you aware that runoff water from your property drains into the Lake Warden wetland system?

Can you think of any ways in which what you do on your property might affect the condition of the Lake Warden wetland system?

Do you have any stock grazing your property at the moment? Do you intend to graze any stock in the future?

Have you planted any trees on your property? How many (or over what area)?

What proportion of your property would be covered in trees or shrubs at the moment?

What would be your ideal proportion of the property to have covered by trees or shrubs in the future?

What proportion of your property would be covered with pasture at the moment? Do you know what kind of pasture it is?

In this area various government agencies offer assistance and advice to landholders to encourage them to do things that will improve the condition of the Lake Warden wetland system. (Department of Agriculture and Food, Department of Environment and Conservation, SCRIPT, ERF. In the past the advice and assistance has concentrated on properties over 12 hectares.) Do you have much contact with officers from these agencies about these matters? What contact do you have with them? Which officers do you see? Have you made use of any of the assistance or advice?

Landholders are being encouraged to sow perennial pastures (mostly lucerne, or kikuyu, but also Rhodes grass, Tagasaste, Tall Wheat Grass, Saltbush and some others). (They use more water than annual pastures, which reduces runoff and helps keep the water in the lakes low enough to create shallow feeding environments for the wading birds, as well as helping to maintain the vegetation that provides nesting and feeding grounds for the birds. There are incentives for this at the moment (\$100 per hectare

for Priority zone 1 and \$60 per hectare for zones 2 and 3). Does sowing kikuyu or lucerne (or other perennial pastures) appeal to you? What advantages do you see in it? What disadvantages? (Do you feel you know how to manage kikuyu or lucerne?)

Do you think you might want to have kikuyu or lucerne in the future? (How would you go about it?)

What would encourage you to sow kikuyu or lucerne? (*Explore incentives—up front or later performance-based or ongoing, practical assistance, skill training, information, nothing.*)

Landholders are also being encouraged to plant trees and shrubs (\$450/ha for seedlings, up to \$2000/km for fencing them). Does that appeal to you? What advantages do you see in it? What disadvantages? Does it fit with what you want to do with your property?

What would encourage you to plant trees and shrubs on your property? (*Explore incentives—up front or later performance-based or ongoing, practical assistance, skill training, information, nothing.*)

There are other incentives too, for fencing to protect biodiversity or waterways, for earthworks to reduce erosion and reduce surface water flow, and for liming and claying to improve soil health. Do any of these appeal to you?

Overall, what do you think would encourage landholders around here to increase the amount of perennial pasture or vegetation (trees and shrubs) on their properties?

How much difference would those things make?

(How do you think your neighbours' responses would compare with your own?)

Did you know that the Lake Warden wetland system is listed as a wetland of international importance under the Ramsar Convention on Wetlands? Does this make any difference to the way you think about managing your property?