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# **Review of the Native Vegetation Act 2003**

## **An evidence based review**

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## Executive Summary

This report summarises the findings of evidence based research assessing the implementation of the Native Vegetation Act 2003 (NSW) (“the Act”). The research focused on three key areas of concern for NSW Farmers Association’s members, which are:

1. What has worked and what has not worked in regard to the Act achieving triple bottom line outcomes
2. Evidence regarding the use of a more community based approach to regional native vegetation management
3. The process and any barriers for landholders in applying for a Property Vegetation Plan (PVP)

The study methodology involved interviews of landholders and Local Land Service (LLS) staff, along with a structured literature review to cross-confirm findings. There was strong correlation between the respondents’ experiences with the Act and the conclusions drawn from the literature review. Those interviewed were generous with their time and provided insights, ideas and suggestions.

Key findings are summarised below:

**The Act has not met its objective of managing native vegetation on a regional basis in the social, economic and environmental interests of the state.**

- The cost of native vegetation management has not been equally shared amongst landholders. Those in areas where alternative agriculture is productive and large tracts of native vegetation remain have experienced large opportunity losses. In contrast, landholders on properties that were cleared at the commencement of the Act have had no or negligible opportunity losses.
- The Act only considers private land in regionally zoned areas, excluding other land uses that threaten biodiversity such as urban development and mining. This creates inequalities and double standards.
- The Act’s adversarial approach has alienated landholders and created mistrust and resentment towards the government. Fundamental to building a new workable system of native vegetation conservation on private land will be the rebuilding of this trust.
- Those who have suffered economically as a consequence of the Act have done so through the reduced ability to utilise new technology, reduced ability to change farm enterprise practices, reduced land available for agricultural income and reduced property prices.
- Some environmental outcomes could be improved, including the management of native grasses and invasive native species. In some areas poor quality native vegetation with questionable biodiversity benefits is being conserved, while seriously affecting landholders’ incomes. There is concern that ‘locking up’ areas leaves them prone to weeds and harbouring feral animals while also posing a greater fire risk.
- Regulation made at a regional or catchment management scale could more effectively consider the appropriate extent, quality and type of native vegetation to be conserved for the area, tying in with regional salinity, water and biodiversity targets. This approach could be more effective at managing native vegetation in the social, economic and environmental interests of the state.

**More flexibility is needed to enable LLS staff and landholders to manage native vegetation in a regionally appropriate and practically workable manner.**

- Landholders overwhelmingly feel that their knowledge and perspectives on native vegetation management, along with concerns about the practical impact of the Act, have been completely ignored. The policy has a far greater chance of long term success if landholders consider it legitimate.
- There needs to be more of a focus on the outcome, rather than the process. Targets or goals on native vegetation retention would be helpful, but allow landholders and LLS staff to work out how to reach them.
- A regional model needs to rebuild the broken trust, leverage existing groups and social infrastructure such as Landcare, and could involve a panel of local experts with decision making power, taking into account regional targets and priorities.
- Improved extension services that provide technical advice and build positive, long term relationships of trust and confidence are needed.
- More flexible incentives for landholders with cleared land to revegetate their properties are required.

**More landholders who had applied for a PVP found the overall process acceptable than not, however many landholders did not consider applying for a PVP because they distrust government intentions.**

- Landholders that applied for a PVP had mixed experiences with regard to the process. Overall, 64% of respondents were either satisfied or neutral with regard to the overall process, while 21% were highly unsatisfied. Some of these respondents had forestry PVP's and they tended to be more positive about the process than those with clearing PVP's.
- Most Landholders interviewed without a PVP had not applied for one because they perceived the process as being 'an ordeal' and not worth the effort. Many preferred to stay 'under the radar' and believed that talking to LLS staff about clearing would make them a target of LLS surveillance. In some cases onerous offsets made them not worthwhile.

**The adversarial approach of the Act has caused stress and anxiety for many of those involved in its implementation**

- During the interview process, many landholders and LLS staff expressed great relief at being able to communicate their voice, experiences and concerns. For many their involvement in either the implementation of PVPs or as applicants has been stressful and caused anxiety.

## **Project Background**

### **The review**

The Minister for the Environment has appointed an independent panel to undertake a comprehensive review of the Native Vegetation Act 2003, Threatened Species Conservation Act 1995 and related biodiversity legislation. The review has been requested out of recognition that a greater balance is needed between achieving environmental objectives while keeping rural economies and societies sustainable.

NSW Farmers Association received funding to undertake evidence based research assessing the Native Vegetation Act 2003 (“the Act”), focusing on key areas of concern for the Association’s members. This report summarises the findings of the evidence based research, undertaken by Evidentiary Pty Ltd. The three key areas of concern are:

1. What has worked and what has not worked in regard to the Act achieving simultaneous financial, social and environmental outcomes
2. Evidence regarding the use of a community based approach to regional native vegetation management
3. The process and any barriers for landholders in applying for a Property Vegetation Plan (PVP).

Evidentiary Pty Ltd conducted a literature review as well as interviews with 26 landholders and 6 LLS staff. The methods section outlines how these were undertaken. The project as a whole was undertaken in an extremely limited timeframe, with 3 weeks in which to deliver the draft report of the literature review and interview findings, and 4 weeks to deliver the final report.

### **Native vegetation reform background**

The Native Vegetation Act 2003 was introduced with the prime objective to halt broadscale clearing of native vegetation, unless the clearing improves or maintains environmental outcomes. It was recognised that past broadscale clearing of native vegetation in the state had caused or contributed to a serious decline in biodiversity, along with threatening the viability of a range of natural and agricultural systems (Martin 2014; The Wentworth Group 2003). The Act has a strong focus on preventing clearing of remnant native vegetation at the property scale in regionally zoned, private land (NRC 2007).

The reforms were to be flexible at a regional level and manageable for farmers to implement (Williams 2010; The Wentworth Group 2003). It was noted that regional landholders alone should not have to pay to repair degraded land, particularly given that some land was degraded due to previous government policies which subsidised farmers to clear native vegetation (Williams 2010).

The Act was passed along with other reforms to ensure that CMA’s (now called Local Land Services (LLS)) manage native vegetation at the regional and catchment level, taking into account environmental, economic and social interests. The NRC (2007) argue that there have been tensions between the LLS’ delivering a regional NRM approach and also implementing the requirements of the Act.

Some of these tensions are symptomatic of the broader issue of sustainability in the 21<sup>st</sup> Century. Farmers are under pressure from the market to produce more to feed the world's growing human population, while at the same time conserving natural resources such as native vegetation. This is a great challenge. What is required for the planet to halt ecosystem collapse will involve profit and opportunity losses for farmers. It is vital that governments deal with these losses in the fairest way possible (MacLeod 2004; Mendham et al., 2006; Rolfe 2002).

## Methods

This report is based on findings from a literature review and interviews of landholders (N=26) and LLS staff (N=6). The evidence for the literature reviews was collected in a structured process around the broad topics that defined the project brief. From the literature, pertinent points from the broad topics were extracted, around which the interview questions were framed. A table outlining this process is attached in Appendix 1.

### Literature review

The literature review's method aimed to capture an unbiased representative sample of the literature as comprehensively as the available resources of the study would enable. Published and unpublished literature was sourced and used. Search sources were broad including web based grey literature, universities, and government and non-government organisations. Popular press or media sources were not used. The reference lists of literature considered highly relevant to the topic were used as a resource to locate further material.

Given the time constraints and the very spatially specific nature of the topic (NSW only), a systematic search was not undertaken. However, the databases and specific organizational websites that were searched are recorded in Appendix 2. Due to the project's tight timeframe, statistics from studies have been used in this report without checking their validity or the validity of their study design.

### Interviews

It was considered important to select landholder interview participants in an unbiased manner, while still selecting people who could comment from personal experience on the Association's three key issues of concern. Landholders were selected from those who had participated in a recent survey organised by the NSW Farmers Association, and had indicated in that survey that they could be contacted again. The survey included questions regarding PVP's and the Native Vegetation Act, and was widely promoted to members and non-members. It was open from the 22 April 2014 to 2 June 2014, with a total of 248 respondents. Of this total, 31 respondents had a PVP on their property, and 208 did not. The remaining had either lodged an application, were waiting for a response or had other comments.

Given that a key question for the report was based on the experiences of landholders with the PVP application process, landholders from the survey who had a PVP, or were going through the application process were first contacted to be interviewed. Landholders without a PVP were also contacted on a random basis and asked to be interviewed.

The selection design had some biases, as those who were asked to be interviewed were members and non-members who had all voluntarily participated in the Association's previous survey. From this pool,

those who had a PVP were favoured over those that did not. Project time and budget constraints prevented a larger interview sample and a more systematic design for selecting participants.

LLS staff were selected for interview on the basis that they were working for a CMA and were directly involved in the implementation of the Act from 2004 onwards. Staff from LLS' where clearing activity was highest from 2003 to the present were targeted, although suitable candidates from the other LLS' were also interviewed.

Given the tight project timeframe, all interviews were conducted by telephone. The interview questions, which were emailed to most candidates prior to the interview, are outlined in Appendix 3 and Appendix 4.

## Key questions

### Question 1: The triple bottom line approach

**What evidence exists to support the application of a triple bottom line approach to native vegetation management in NSW?**

*The focus of this question is on what has worked and what has not worked in regard to achieving simultaneous financial, social and environmental outcomes including any perverse outcomes.*

An objective of the Act is to 'provide for, encourage and promote the management of native vegetation on a regional basis in the social, economic and environmental interests of the State' (Native Vegetation Act 2003). Considering the environment in isolation, without accounting for social and economic impacts on landholders is unwise. If landholders are not economically viable this can lead to the social decline of towns and regions. It can also lead to poor environmental outcomes if experienced and environmentally conscious landholders leave and no longer maintain the land (Cobar Vegetation Management Committee 2006; Beeton & Lynch 2012). What is required is the development of farming operations that are environmentally sustainable, operationally efficient and achievable that also generate incomes that can support landholders and underpin the long term prosperity of rural communities (Smith 2002).

Considerable funds were set aside as part of achieving the social and economic outcomes of the Act. The CMA's received these funds and were charged with using them to meet these triple bottom line objectives (Department of Environment, Climate Change and Water 2009). In light of the considerable funds invested it is important to consider whether environmental, economic and social outcomes have actually been achieved.

Overall, most LLS staff and landholders that were interviewed thought that a triple bottom line approach had not been achieved, as indicated in the graphs below.

Figure 1: Landholder perspectives on the effectiveness of the current approach to native vegetation conservation in achieving triple bottom line outcomes on their properties

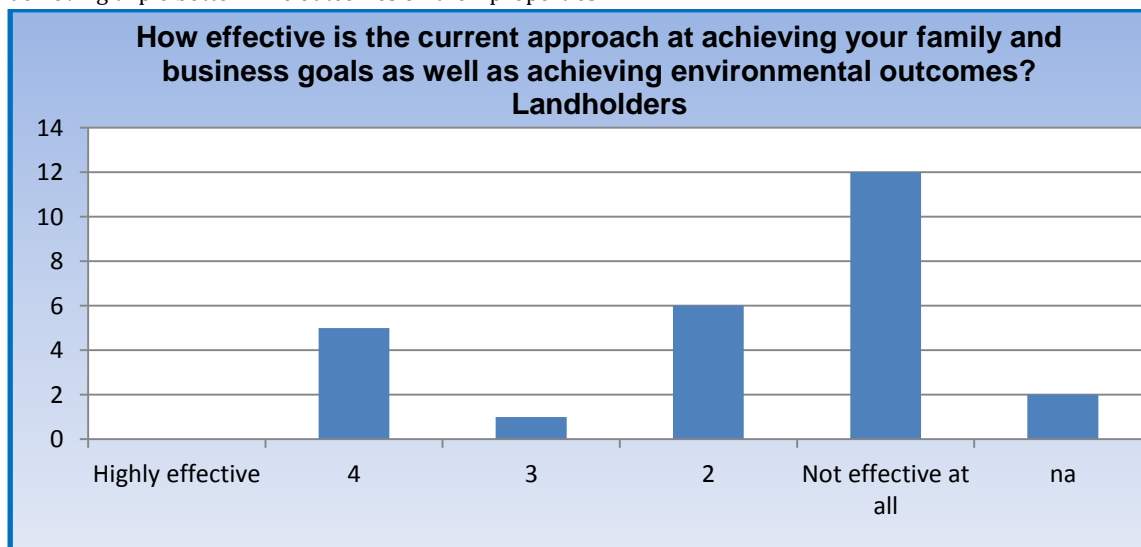


Figure 2: Landholder perspectives on the effectiveness of the current approach to native vegetation conservation in achieving triple bottom line outcomes in their local communities

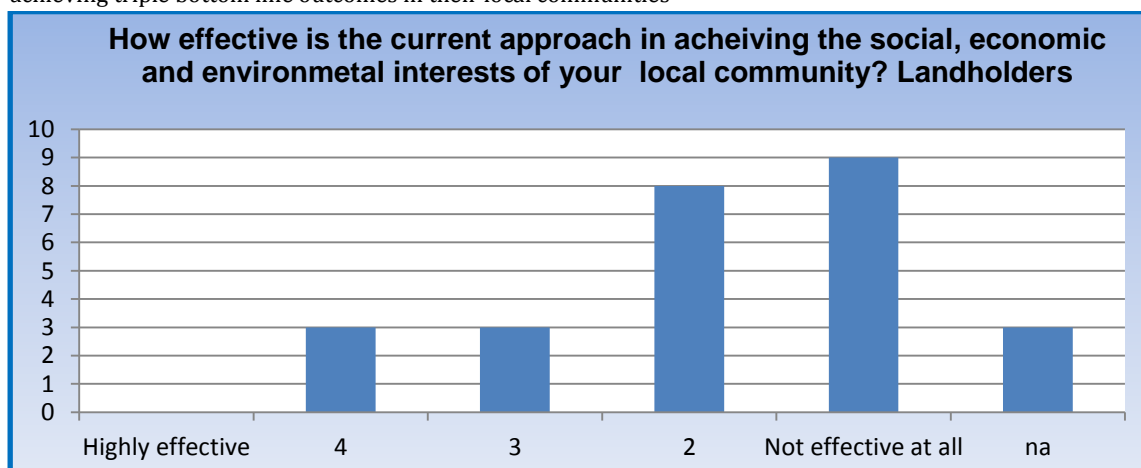
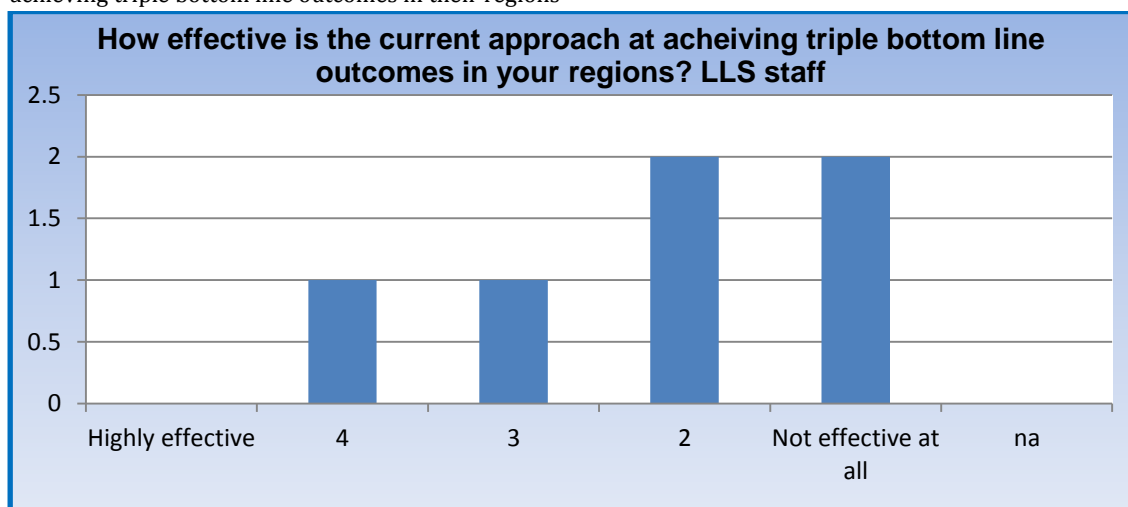


Figure 3: LLS staff perspectives on the effectiveness of the current approach to native vegetation conservation in achieving triple bottom line outcomes in their regions





## Social outcomes

The literature review and the interviews found that the Act was not meeting social outcomes for all landholders in the state in three areas:

1. Social decline in communities as a result of economic decline
2. Social inequity where the costs of conserving native vegetation is not being shared amongst all landholders, or by the wider community
3. Social angst, where some landholders feel aggrieved by the Act's 'big stick' approach

### *Economic decline leads to social decline*

The Productivity Commissioner (2004) found that the entry of new and young people to farming in certain areas was being made more difficult by the Act. This is because restrictions on clearing meant that in some places, it was difficult to take up new technology and there was a lack of flexibility in land use. These issues can result in lower economic returns, acting as a barrier to new entrants, or to the younger generation taking over the family farm.

Some landholders interviewed discussed this issue. Landholders 1 and 2 claimed that the Act contributed to rural decline in their local area, because it made it difficult for people to keep woody weeds under control and impeded their ability to run sheep, making farms economically non-viable. The local school had closed down along with many businesses. The demographics of the area were subsequently changing, with properties being split into smaller acreages and more absentee Landholders from Sydney moving in. These owners generally do not control woody weeds and do not contribute very much to the region's economy (LH 2; LH 20).

### *The costs of native vegetation protection are not equally shared*

The Act has not affected all landholders in the state in the same manner. Indeed some landholders have experienced economic gain, economic loss and no change at all as a result of the Act (Middleton 1999, Sinden 2004, Sinden 2005, Productivity Commissioner 2004). This social inequity in cost distribution is in a large part a result of applying uniform regulations to properties with very different circumstances.

In general the impact of the Act on well-established farming regions where little native vegetation remained at the commencement of the Act has been low. Landholders with high opportunity losses are generally in areas where alternative agriculture is very productive and where large tracts of native vegetation remained on the property when the Act came into operation (Sinden 2004). For example, the number of landholders with lost economic opportunities is high in Walgett, where 78% of native vegetation remained in 2003, and much lower in Yallaroi, where only 30% of native vegetation remained (Sinden 2004). This was also evident throughout the landholder interviews. Landholder 19 said that the Act had not impacted upon their property at all, because the land that was under native vegetation was steep and poor quality and not suitable for farming. In contrast, Landholder 14 and Landholder 4 were experiencing substantial losses in productivity as a result of the Act.

Even within the same region, the effects of the Act are highly variable and not shared equally amongst landholders. In a study of farms in the eastern Walcha shire, it was found that clearing native vegetation was profitable for 35% of the sample, but not for the remaining 65%. About one quarter of

the farms in the sample were losing approximately 50% of their income potential, while another quarter were losing only 5% (Sinden 2005).

Furthermore, the focus of the Act itself (private land in regionally zoned areas) is inequitable, because it does not consider other land uses that threaten biodiversity. Such land uses include mining and housing development in urban and coastal areas. Rezoning of rural land avoids the working of the Act, allowing urban, coastal and industrial development to go ahead without having to maintain or improve environmental outcomes. By not requiring sustainable development state wide, and placing the cost burden of native vegetation retention on a small proportion of rural landholders, the Act is not only inequitable, but ineffective, as government funds are potentially being directed towards non-strategic areas (NRC 2007; NRC 2014). For example, the Act imposes regulatory protection against clearing native vegetation that has been severely degraded in remote areas of Western NSW (NRC 2007).

Interviews highlighted this inequitable approach to native vegetation in the state. For example, an LLS was unable to approve the application for a school to expand, because the required vegetation clearing involved unacceptable loss for that vegetation type under the Act. However a large shopping development across the road was given approval even though it was clearing exactly the same vegetation type (LLS5).

The general public benefits from the conservation of native vegetation. Therefore, some have argued that landholders that conserve native vegetation should receive financial assistance from the public purse (Moore 2001; House et al. 2008; Cocklin et al. 2007; Sinden 2004). This sentiment was repeated in some of the landholder interviews. House et al. (2008) claim that Australian farmers are often expected to undertake time consuming and expensive conservation activities at their own cost, while their European counterparts receive more government support. LLS5 argued that a policy framework of stewardship payment would be more effective at achieving a triple bottom line outcome than the current approach.

### *The Act and its 'command and control' approach*

A notable social outcome of the Act has been the resentment that it has engendered from some landholders towards the government and conserving native vegetation. There is evidence to suggest that this change in attitude has been brought about by the harsh sanctions and regulatory approach of the Act. In her study of landholders in central northern NSW, Bartel (2013) found that this approach had ignited resistance and non-compliance amongst some landholders. They felt unfairly persecuted and much preferred education and extension as opposed to inspections and fines. Bowers (1999) also found that many landholders prefer an approach that includes incentives to behave in a certain way, rather than only sanctions. Sources from both the literature review and the interviews note that most landholders are good custodians of the land and that a harsh regulatory approach is not necessary, indeed it is counterproductive (Central West CMA, 2011; Bartel 2013).

As Landholder 3 noted, some of the environmental outcomes of the Act had come at a great cost to landholders and their relationship with government *"it's the feeling that they want this bit of my property, which I'd happily give over for nothing, but then they want another bit, and another bit – they're asking too much and in a way that generates dislike and angst."* Landholder 11 discussed the issue of trust, which underpins much of the resentment and ill-feeling that the act has engendered. The trust that landholders had for government has been lost and will be very slow to return. Fundamental

to building a new workable system of native vegetation conservation on private land will be the rebuilding of this trust.

Previous policies and regulations have been framed in terms of stopping actions, which has had a paralysing effect on management through fear of punitive actions by the state. Many landholders argued that it was in their interests to look after the land and retain vegetation, and those that didn't would go broke (LH 2; LH 4; LH 5; LH 8; LH 18). Landholders expressed a desire for the Act to move away from the typical characterisation of farmers as wanting to exploit and destroy the land. They preferred a move towards stewardships models, where the good conservation work that many farmers undertook was recognised.

### **Economic outcomes**

As discussed above, the effects of the Act on landholder's incomes have varied enormously, with some experiencing financial detriment, others gain, and others not affected at all. This report will focus on the experiences of landholders who have incurred financial loss due to the Act. Doing so will highlight where improvements are required to meet the balance between the Act's financial, social and environmental objectives.

#### ***Reduced ability of some landholders to utilise new technology***

The restrictions for landholders in clearing native vegetation on their properties under the Act have negatively impacted some landholders in a financial sense, because it has limited their ability to uptake new technology (Productivity Commissioner, 2004). The difficulty in clearing paddock trees has meant that some landholders have faced barriers in implementing tramline farming, which has other environmental benefits including reduced inputs and higher yields (Grains, Research & Development Corporation 2004, Central West CMA 2011). The same restrictions on clearing scattered paddock trees have made the uptake of water efficient centre pivot irrigation systems more difficult for some landholders (NSW Farmers Association 2012; Productivity Commissioner 2004).

#### ***Reduced ability to change farm enterprise practices***

The Act has in some circumstances inhibited flexibility in land use change, for example, by preventing current grazing land being changed to cropping. This is despite plans of some landholders to use improved conservation farming technology for cropping (Lane 2013). Landholder 14 experienced this, with the business currently divided between 30% cropping and 70% grazing. For this landholder, cropping was far more profitable per hectare than grazing, but grazing land could not be converted to cropping due to the clearing that would be involved. Landholder 14 estimates that as a result, they lose between \$800,000 to \$1 million per year in lost productivity.

#### ***Reduced land available for agriculture results in reduced income***

Where there is reduced land available for productive agricultural activities due to the Act, there are lost economic opportunities. Changes in land use can result in substantial loss of profits, even when there is only a small change in crop size or livestock carrying capacity (House et al. 2008; McLeod & McIvor 2006). Some landholders have had less productive farms and have suffered financially as a result of the Act (Productivity Commissioner 2004, Central West CMA 2011).

Additionally, some have argued that it is sensible to use the most productive land for production purposes, especially given increasing pressure to produce more food in light of global food security

concerns (Bartel 2013). This would mean reserving less productive land for native vegetation retention. This perspective was reiterated in the interviews, with Landholder 3 claiming *“we’re saving biodiversity in the same way everywhere, but biodiversity and land has different values in different places. Some farming land is worth a lot more as farming land than as native vegetation.”*

### ***Property prices***

Property values have gone down in places with significant proportions of remnant native vegetation because these properties are now regarded as restricted use. They do not have the productive capacity or enterprise versatility as farmland in more cleared areas (Central West CMA 2011; Productivity Commissioner 2004). Sinden (2004) found that the net loss in land value on over 620 farms in the Moree Plains Shire (where 48% of native vegetation remains) was \$450,000 per farm, along with a 23% loss in potential asset value.

Other submissions to the Productivity Commissioner (2004) noted that retention of native vegetation could increase property values, particularly in ‘bush blocks’ close to urban areas. A landholder who had fenced off riparian vegetation and had some areas for conservation found that their property was in demand because it was well managed and the necessary conservation work was done. This highlights that the impacts of the Act are not uniform.

### ***Environmental outcomes***

According to the Department of Environment, Climate Change and Water’s 2009 review of the Act, it has achieved environmental outcomes in terms of native vegetation conservation. This report notes that the average annual level of clearing for agriculture before 2004 was 21,600 hectares, which has decreased to 16,700 hectares a year on average since 2004 (Department of Environment, Climate Change and Water 2009). Conversely, the NRC (2009) found that there has been no net change in the extent of woody native vegetation across NSW between 2002-2008, and that any trends in native vegetation extent cannot yet be reliably reported.

Regardless of whether the Act has met its intended environmental outcome with regard to native vegetation conservation or not, there have been some negative and unintended environmental results, which are considered below.

### ***Concern with the ‘lock it up and leave it’ approach***

Many landholders pointed to the need for recognition of the managed nature of landscapes, and that the ‘lock it up and leave it’ approach of the Act led to poor environmental outcomes. Those that lived near national parks and unmanaged bush blocks lamented that lack of management had left them rife with feral pigs and dogs, as well as being a serious fire risk (LH10; LH11; LH8). Landholder 4, who has 20,000 acres of native vegetation was particularly concerned at the fire risk *“it’s a tinder box, it’ll go up one day, there’s going to be massive destruction when a fire gets going here.”*

### ***Poor quality native vegetation being preserved***

Both LLS staff and landholders interviewed were concerned that the Act was in some areas protecting poor quality native vegetation which contributed very little to increased biodiversity. Landholder 4 complained that his property had a 15,000 acre paddock that was essentially a monoculture of overcrowded Bimblebox and Mallee. No grass could grow under the timber and it had become a harbour for feral pigs, goats and wild deer. It was suggested that that the Act contributes to

monoculture of native vegetation by locking up some areas and that there needed to be more flexibility with the 'maintain and improve' vegetation test at a broader scale, in order to maintain a more diverse landscape (LLS3).

### *Invasive native species (INS)*

In central northern NSW, Bartel (2013) found that the treatment of invasive native species under the Act had been highly controversial. The Act at first protected these species, but after reforms in 2006 and 2012 they could be removed without a PVP if listed under the regulations. Some native species that are invasive in particular regions remain unlisted, and are therefore still difficult to clear and manage (Central West CMA 2011). The difficulties that some landholders have faced in properly managing invasive native species due to the Act have been regarded as a perverse environmental outcome for an Act whose objective is to increase biodiversity (Bartel 2013). Landholders 4 and 17 both mentioned how their properties had drastically changed in the last 50 years, from relatively clear country to being inundated with scrub and woody weeds, including Hopbush (*Dodonaea sp.*) and Turpentine (*Eremophila sturtii*). Landholder 25 noted that greater production can be achieved through clearing INS to encourage native grasses in these areas.

From the perspectives of the LLS staff interviewed dealing with INS PVPs, triple bottom line outcomes can be achieved. While there are large areas of continuous native vegetation in good condition, the areas of high INS often represent the country in poorer condition. Judicious clearing of areas dominated by a few INS species can assist in improving ecological condition by increasing landscape heterogeneity and habitat opportunities, which enhances biodiversity (LLS2, LLS3, LLS4).

LLS staff claimed that the current regulations accommodate many needs of landholders, partly because they were informed by a landholder based Cobar INS group. The group consulted widely with the community and integrated socio-economic factors into their findings (LLS1, LLS2, LLS4, LLS6). Improvements include the ability to have 3 cultivations in 15 years and the ability to demonstrate "continuing use" of INS already cleared twice between 1950 and 1990 (LLS2, LLS4). Using INS biomass cleared under a PVP for biochar production was cited as a triple bottom line outcome, given that it can enhance social and economic outcomes at individual and local scales whilst providing an environmental benefit of carbon storage (LLS2, LLS4). LLS staff also argued that there is some flexibility in the application of the process including, the use of the minor variation clause to increase the stem diameter at breast height (LLS6), and the possibility of expert judgment being incorporated into the assessment process (LLS4). According to LLS staff, the PVP process for INS is quite straightforward and therefore can be done more rapidly (depending on district resources) (LLS4, LLS6).

### *Native grasses*

Landholders in the Central West CMA (2011) and the Cobar Vegetation Management Committee (2006) felt that greater flexibility in how the Act dealt with allowing non-native grasses to be sown would provide better environmental outcomes than the current approach. They believed that some non-native grasses held the soil together and helped build better soil fertility than local native species. Planting these would provide forage and ease the pressure on developing native pasture.

LLS5 argued that there was a need to redefine how the Act covers grassy ground cover, because it currently applies to land with more than 50% native grasses regardless of its quality. This rule has made it difficult to undertake early preventative management of introduced noxious weeds, such as African

Love Grass (*Eragrostis curvula*) and Serrated Tussock (*Nassella trichotoma*) (NSW Farmers Association 2012).

Lane (2013) found that in some circumstances, the regulations around native grasses make it difficult for landholders to undertake existing rotational cropping, and that they need to be more flexible. It was recommended that the regulations be amended to allow certain native grass species to be listed as undesirable native species, so that they can be cleared under a RAMA. Such species should be recommended by the relevant LLS, be of poor grazing value or have other unfavourable features (such as Spear grass (*Stipa sp.*), which can injure stock) (Lane 2013).

### ***Fines as sanctions for illegal clearing***

Under the Act, people are fined or sentenced to prison for illegal clearing. Some landholders thought that this approach gave poor environmental outcomes because fines do nothing to improve the environment after illegal clearing. They thought that remedial revegetation orders would far more effectively meet environmental outcomes, while improving relations between the government and landholders (Bartel 2013).

### **A regional focus can more effectively achieve triple bottom line outcomes**

It is clear that there are many environmental benefits to landholders in retaining native vegetation. Such benefits can often have positive flow-on effects for production, particularly in areas that are prone to soil and water degradation. However a problem with the current legislative approach is that levels of native vegetation that are necessary for soil and water health at a regional level are not considered. Some landholders have to retain far more native vegetation than is beneficial to their area or that helps production, while others, on already cleared land, miss out on the environmental and production benefits of re-vegetating (Productivity Commissioner 2004). In a study near Gunnedah in northern NSW, Walpole (1999) found that farm pasture output increased as a result of having up to a maximum of 34% of the pasture area under woodland vegetation. The study found no further increases in pasture output where higher levels of pasture area were under vegetation. Thus in this area, there were no immediate pasture benefits to retention of higher levels of native vegetation on properties.

Regulation made at a catchment management level could more effectively consider the appropriate extent, quality and type of native vegetation that needs to be conserved for that area, tied in with that area's salinity, water and biodiversity targets. Such an approach would be more effective at meeting simultaneous environmental, economic and social outcomes than the current Act (Productivity Commissioner 2004).

## Question 2: A regional approach model

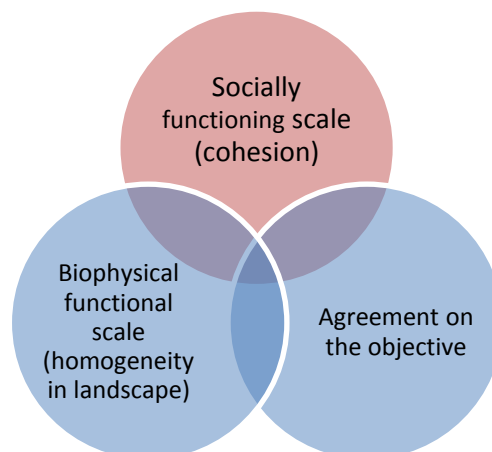
**What evidence is there of the advantages and disadvantages of a regional approach model for native vegetation management?**

*The focus of this question is on evidence regarding the use of a community based approach to regional native vegetation management.*

### How is 'regional approach' defined?

In undertaking the research for this report, terms such as 'regional scale,' 'landscape scale' and 'catchment scale' were often used interchangeably. They referred to a larger scale than the current individual property level approach, yet with some localised context. In this report we have not defined the term 'regional approach' too strictly, however we considered that 3 key elements need to be present for an effective regional approach. These include some homogeneity at the landscape scale, social cohesion and an agreement on the objective, as outlined in figure 4 below. An example of such an approach is the proposed Walgett Cluster PVP, which is to be examined in detail in a further report commissioned by NSW Farmers Association.

**Figure 4: Key elements in effective regional scale management**



### The need for more flexibility to meet local conditions

A common criticism of the Act is that its site based approach and reliance on the NVAT software does not provide LLS staff with the necessary flexibility to respond to local native vegetation management issues appropriately (NRC 2007; Cobar Vegetation Management Committee 2006; Rolfe 2002; Sharpe et al., 2012; Williams 2010; Coakes Consulting 2012). Half of the 408 respondents to an OEH designed survey said that the Act could be improved by a more flexible, localised process that focused on regions (Coakes Consulting 2012).

Necessities and constraints at a catchment level are likely to be very different to those at a state level, hence state or national performance levels are often not suitable at a regional level. In order to deal with these issues of scale, there needs to be flexibility and social learning to respond to local issues (Jacobson 2006; Cumming et al. 2006; Duncan & Wintle). Moore (2001) recognised that even the choice

of policy instruments to be used to influence landholders to conserve native vegetation will vary in different parts of the state due to different environmental and social circumstances. For example, a rates rebate is more likely to be effective in areas where land values and development pressures are high.

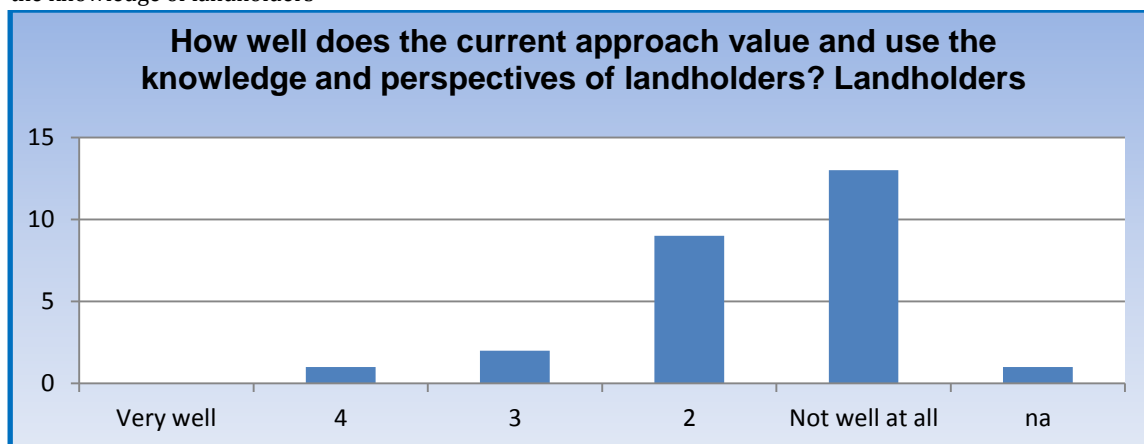
Landholders also pointed to the need for legislation to be practically workable. Restrictions on clearing thickened regrowth in paddocks meant that it could be extremely difficult to muster sheep because it is hard to find and control stock amongst the regrowth (Sharpe et al. 2012). Landholder 1 and Landholder 4 experienced similar difficulties. The impracticality of dealing with paddock trees was another issue repeated by landholders throughout the interviews. Landholder 3 and Landholder 6 both acknowledged the importance of native vegetation. They had areas fenced off and valued some paddock trees as markers and shade for stock. However both noted the difficulty they caused. For Landholder 3, when preparing a paddock to plant grass, it might take half as long again to complete due to the trees, while Landholder 6 spends substantial time and money each year spraying suckers from the big gumtrees in the paddocks. Landholder 12 claimed that it was difficult to use modern machinery and keep up with progress on the farm, due to paddock tree restrictions.

LLS staff noted the need for more farm scale and regional scale flexibility. *“Each CMA had to panel beat the legislation so it suited the area – this was a long and tedious process. ..and there is more that needs to be done but in a more collaborative environment”* (LLS2). Some noted that the software itself was not flexible, and that staff knew there were better outcomes possible in some circumstances. The software had ended up being *“a decision maker not a decision support tool”* (LLS1; LLS2). LLS staff recognised that the Act has the minor variation clause, but more local discretion was still needed to enable the process to focus on the outcome not the minor details (LLS 1). Local experts who understand regional targets and priorities need to be able to modify the software decisions (LLS 3).

### The need for inclusion of landholder knowledge

A widespread call for more community involvement in natural resource management (Lockie & Higgins 2007; Lockwood et al. 2008; Opdam 2013) has spurred a wealth of literature around Community Based Natural Resource Management (CBNRM). Fundamental to success in any CBNRM project is building capacity and dealing with research and management in a participatory manner (Measham 2007).

Figure 5: Landholder perspectives on how well the current approach to native vegetation conservations values and uses the knowledge of landholders





An overwhelming conclusion of the landholder interviews was that landholders felt that a participatory approach was sorely lacking from the Act. Many felt that landholders' concerns and practical knowledge about land management in their area was consistently ignored. Those that had been involved in meetings with government representatives felt that they were not genuinely listened to. There was concern that decades of land management knowledge from the older farmers was being lost. In addition there was a sense of anger that they were being dictated to by city people with university degrees, working in offices who 'had no idea' how to practically manage native vegetation and primary production in rural areas. As Landholder 6 claimed *"You can't talk to them, they don't listen. There's a lack of communication and action. We're bashing our heads against a brick wall."*

The retention of native vegetation to support biodiversity and many ecosystem services is crucial and must occur in an ongoing, long term manner. For this to happen, it requires ongoing management actions and long term commitment of landholders. The current Act has gone about this in an adversarial manner, with a focus on 'prevention' of farmers clearing, rather than on promoting positive action or working cooperatively together. The policy has a far greater chance of long term success if the landholders implementing it see it as legitimate (Moore 2001; Bartel 2013, Productivity Commissioner 2004). For native vegetation laws to be regarded as legitimate, they need to be tailored to suit the local environment, for which there needs to be local input (Bartel 2013).

Similar findings evolved from a Victorian study on ways in which private landholders could be encouraged towards more sustainable land management. They recognised that regulation had its place but also suggested improvements. In order for it to work effectively landholders said that it needed to be developed in consultation with farmers, be flexible in terms of how it is applied to different regions, should not be administratively onerous and should be linked in with education and training (Cocklin et al. 2007). Siepen & Westrup (2002) came to similar conclusions. They argued that the involvement of stakeholders in research, realistic community consultation periods and the development of regional partnerships were critical factors in the effective science communication required to underpin native vegetation management.

There are many examples of where NRM projects have successfully involved stakeholders, including the integration of farmer knowledge into research on perennial grasses in the Murray Darling Basin (Millar & Curtis 1999), and the involvement of key stakeholders from an early stage in South East Queensland's Regional Nature Conservation Strategy (Peterson et al. 2007). It was this involvement of a wide group of stakeholders over 3 years that ensured that many interests were incorporated into the strategy early on. This in turn gave an increased sense of ownership of the issue and universal endorsement of the strategy (Peterson et al. 2007).

### **Necessary elements of a regional model**

While no single model was identified in the literature review and interviews as being ideal, the following points were discussed as important elements required in an improved approach to native vegetation management.

- Any new approach to native vegetation management must work to heal the mistrust and polarisation brought about by SEPP 46 and the 'command and control' approach of the current Act (LLS 5; LH 3; LH 11).
- There needs to be a focus on how LLS' and landholders can work together (LLS 2; LH 18).

- A regional model could become complicated if too many people are involved, and if it covers too large an area (LLS1; LLS2). A quick and easy process, using existing groups and social infrastructures would be preferable. Utilising Landcare was mentioned in a number of interviews, given its existing structure and strong social capital (LH 19, LLS1; LLS2)
- In order to achieve more farm scale and regional scale flexibility, a panel of local experts who could make the decisions, or modify those made by the software was discussed (LLS3; LLS5). Such an approach would be able to take into account regional targets and priorities, which is currently lacking from the NVAT software (NRC 2007).

## Other recommended approaches

### *More incentives to re-vegetate cleared land*

The Act focuses on preventing the clearing of remnant native vegetation on rural properties, with many aspects of the Act triggered only when a landholder makes an application to clear native vegetation. It does not focus enough on providing incentives for landholders with cleared properties to re-vegetate them, nor for landholders to manage and improve the quality of remnant vegetation on their properties. A focus on these aspects would improve the environmental outcomes of those areas, as well as improve social outcomes by more equally sharing the opportunity costs of native vegetation protection amongst landholders (Bartel 2013, Productivity Commissioner 2004).

Some landholders interviewed had undertaken extensive revegetation works on their cleared properties. They had all approached their local LLS to discuss funding, but none had decided to apply for a PVP, claiming that they were too restrictive and would have to 'lock up' the land in perpetuity. They preferred to pay for everything themselves and maintain some flexibility in their enterprise. More flexible incentives could increase the uptake of re-vegetation PVP's while offering landholders valuable economic assistance.

### *Improved extension services*

How the Act is communicated through government extension services is an essential element in assuring that its aims are successfully delivered. The literature review and landholder interviews found some aspects where this could be improved.

Race and Curtis (2009) consider how to obtain long term, voluntary practice change in order to conserve native vegetation on private land. They argue that current policy does not focus enough on how to make this workable in the long term. Amongst a list of program attributes that can help to deliver long term outcomes, they note the importance of high quality and frequent communication between the NRM body and landholders, the provision of technical advice and support, along with follow up visits or contact from agency staff with site specific feedback. Mendham et al. (2007) had similar findings in a study of landholders in southwest NSW. One reason for their low uptake of native vegetation best practices was the high turnover rate of extension staff. They noted the importance of regular contact in order to build positive relationships of trust and confidence, which was present in the occasional staff member but lacking on the whole.

Lane (2013) found that LLS' need to improve their extension and advisory services. He also observed the need to make it easier for landholders to deal with the government. He recommended better

customer service and easier access to conservation incentives and management assistance, which could be partly delivered through improved online services.

Problems with extension were confirmed by the LLS staff interviews. Most LLS staff commented that some landholders still didn't understand the Act and are often surprised by what they are actually allowed to do. Some landholders noted that they understood the Act and the regulations but that in their experience, they were difficult to work with. Numerous LLS staff mentioned that CMA's had under-invested in extension services and that public relations had been badly managed.

It was also thought that the PVP process did not allow staff to consider the triple bottom line, making their work less about extension and more about being data collectors (LLS 3). One LLS staff member reiterated the importance of developing trust with landholders and the need for some longevity in the relationships (LLS 2). There is still a great deal of mistrust from landholders, partly because when the legislation was enacted, people were told what they couldn't do. As the respondent observed – it's also important to tell people what they can do (LLS 2).

Landholder 2 and Landholder 4 preferred the approach that extension services had in the past, where extension officer from the area, who knew what the country should be like, came around and gave advice on how to manage the land. There was a strong sense that extension staff now were people with 'no idea' about practical land management or the region. LLS staff had similar views, claiming that the CMAs had hired staff who had technical expertise but lacked the ability to communicate well with landholders (LLS 1).

### **Question 3: Process and barriers to applying for PVP's**

#### **What are landholder experiences of the PVP process, and are there any barriers for landholders in applying for a PVP?**

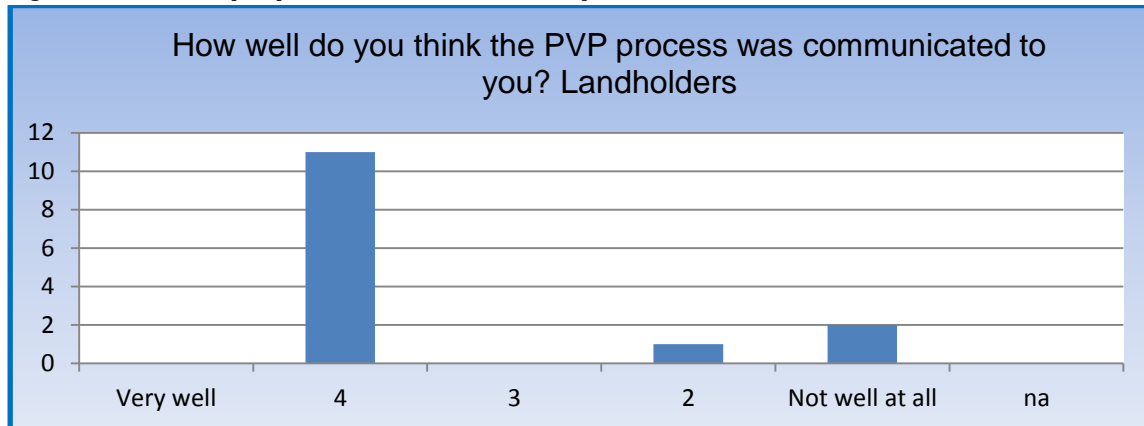
The literature review found only a few sources that considered the process and barriers for landholders applying for PVP's. Additional data regarding PVP's was requested from OEH, however this information was not received during the project timeframe. Therefore landholder and LLS staff interviews were the primary source of information for this section of the report. From the total of 26 landholders interviewed, 14 had a PVP or had applied for a PVP on their property, and 12 had never applied for a PVP.

#### **Why landholders apply for a PVP and landholder satisfaction with the process**

All landholders interviewed had applied for a PVP because they wanted to clear native vegetation on their properties and a PVP was a legal requirement. Some landholders in the OEH designed survey had applied for a PVP to gain funding for land management activities (Coakes Consulting 2012).

**How well was the PVP process communicated to landholders?**

Figure 6: Landholder perspectives on how well the PVP process was communicated to them



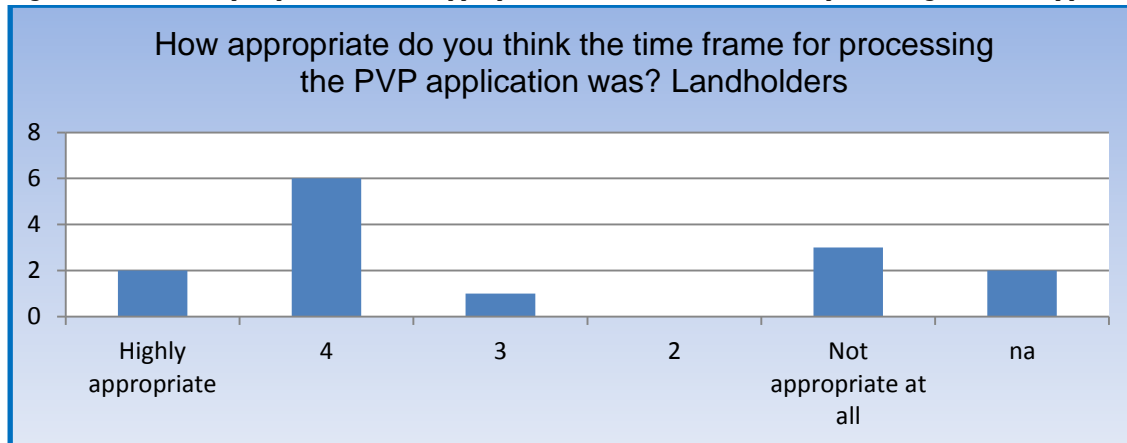
Most landholders found that the process involved in applying for a PVP was well communicated, relatively straightforward and quick. In many instances this was due to the diligence of individual PVP officers.

**How appropriate was the timeframe for processing the application?**

Lane (2013) reported that there were perceived and actual delays in PVP’s being assessed, and that many landholders wanted a quicker response rate. Lane’s review recommended that LLS’ contact landholders within 15 days of receipt of a PVP application, and provide a decision within 40 working days of receiving a full plan.

Landholders interviewed had experienced mixed results in this regard.

Figure 7: Landholder perspectives on the appropriateness of the time frame for processing their PVP application



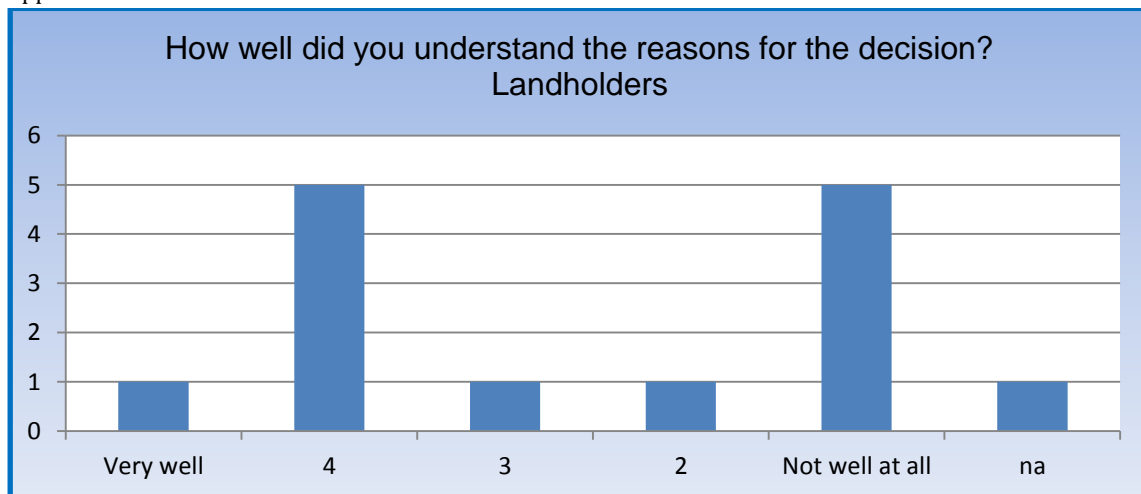
Some commented that the timeframe was relatively quick and acceptable, with Landholder 13 noting that it only took 6 months. Others lamented that they waited years to have their application processed. Landholder 12 had applied to clear some paddock trees 2 years ago and was still waiting, while LH14 experienced a delay of 5 years to have a PVP processed. The delays experienced were largely a result of the staff resources that were made available in individual LLS’s (formerly Catchment Management Authorities). Several LSS staff reported that assessment of scattered paddock trees particularly for large

areas was extremely time consuming resulting in longer time frames for processing (LLS1, LLS2, LLS3, LLS4).

**How well did landholders understand the reasons for the decision?**

Again, landholders interviewed had very different experiences with regard to understanding the reasons for the decision.

Figure 8: Landholder perspectives on how well they understood the reasons for the decisions made regarding the PVP application

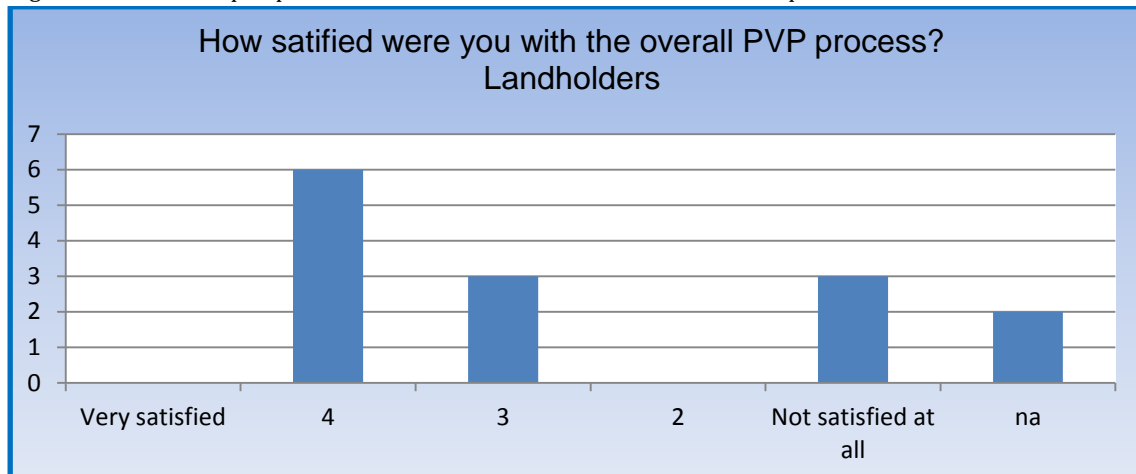


Two landholders found that decisions were made with regard to their application based on false information from poor quality maps. Landholder 3 was told as part of the PVP that he wasn't allowed near the water course on his property, however no such water course existed. Landholder 11's application was rejected based on photographs of the property from the 1950's which showed large scattered trees. Landholder 11 notes that the property now has dense regrowth and no groundcover. Some landholders and LLS staff interviewed considered that too much emphasis was placed on the PVP software used and not enough common sense in making the determination.

**How satisfied were landholders with the overall PVP process?**

There were a range of experiences in regard to this question also, although most were satisfied with the process.

Figure 9: Landholder perspectives on their overall satisfaction with the PVP process



Landholder response to this question was dependent on several factors including the outcome of the process, the timeframe for processing and the interaction with PVP staff. In addition, differences of satisfaction were noted between forestry PVPs and clearing PVP's, with higher levels of satisfaction for the forestry PVPs.

The OEH designed survey results regarding landholder satisfaction with the PVP application process found that 25% were satisfied or very satisfied, 35% were neither satisfied or dissatisfied, or were unsure, and 44% were dissatisfied or very dissatisfied.

In regard to suggested improvements for the PVP process, 25% of respondents said that it needed more local flexibility, and 24% recommended more Landholder input into decision making (Coakes Consulting 2012). Such comments were reiterated in the literature review findings and interviews undertaken for this report.

### **Why some landholders have not applied for a PVP**

In an OEH designed survey on native vegetation regulation rural landholders provided information on their perceptions of PVP's. A majority of respondents (69%) had never applied for one. Some respondents (23%) did not apply for a PVP because they did not intend to clear native vegetation (Coakes Consulting 2012). However 60% responded that they did not have a PVP because they were too regulatory and prohibitive for agricultural activities, they were opposed to PVP's, they did not know what a PVP was, or applying for one was too time consuming or too expensive (Coakes Consulting 2012).

Most of the landholders interviewed for this report had not applied for a PVP because they considered doing so as being 'too much of an ordeal to bother with' (Landholder 1) or "too much of a hassle" (Landholder 6). There was a sense that it was preferable to manage things yourself and avoid having to deal with government at all costs. Landholder 4, who has 77% of the property under native vegetation asked the local CMA about applying for a clearing PVP. The offsets required for the clearing would leave them with less land cleared than before they started the process. Landholder 4 did not pursue the PVP and considered the offset requirements 'ridiculous' given that so much of the property was already under native vegetation and that they bordered a national park.

Some landholders interviewed had properties that had been entirely cleared before the Act's implementation, and had undertaken extensive and costly revegetation works. All had investigated funding assistance for this work with their local CMA, and all had decided not to apply for a revegetation PVP. They felt that the conditions imposed as part of the financial assistance were too restrictive, and valued flexibility on their properties. As Landholder 5 commented "*they (the CMA) said they'd pay for about 10% of it, but they'd tell me how to do my fencing and what I had to plant, and I would've had to lock up the land and not be able to use it again. Why would I do that?*"

Overall, there was a sense that PVP's lack legitimacy amongst landholders and that most would prefer to avoid having one. However, those that had applied for a PVP had mixed experiences, with the majority satisfied with the overall process. It is important to note the sample included landholders with forestry PVP's, who were particularly pleased with the process.

## Conclusion

There was an overwhelming sense from the landholder interviews and the literature review case studies that the farming community feels that they are being unfairly attacked by the conditions of the Act. Landholders interviewed claimed that their knowledge and experience is constantly dismissed, and feel that they are being dictated to by city people with 'no idea' about managing the balance between conservation and food production.

Landholders interviewed repeatedly noted how the Act has interfered with their private property rights and ability to make a living, while protecting native vegetation for the rest of society. Disputes around native vegetation are typically driven by the imbalance between the groups who receive the benefits and those that bear the costs of its retention. How these costs are shared need to be dealt with in a fairer manner than is occurring under the current Act.

Also evident was the pervasive lack of trust between the government and landholders. This started with SEPP 46 and has persisted due to the Act's adversarial approach. Many landholders interviewed felt bullied and fearful as a result of the Act's punitive measures. Many do not trust their local LLS officers enough to ask for advice and preferred to 'keep under the radar,' believing that their properties would be watched even more closely if any contact was made. LLS staff also commented on the lack of trust and how difficult their job was, given the adversarial and inflexible nature of the Act.

Many landholders interviewed feel that they are grossly misunderstood by the 'city greens.' They argued that they do not want to destroy the land and that many are in fact excellent stewards. A large proportion of landholders undertake re-vegetation and conservation work without asking for recompense and know their land and its management needs intimately. Many have parts of their properties fenced off with native vegetation and value those areas for the wildlife they supported. Landholders interviewed on the whole realise that they must look after the land in order to continue farming and have a viable business to pass on to their children. Most landholders interviewed understand the importance of native vegetation conservation, but want a different approach. They want regulations that are flexible so that they are appropriate for different regional conditions, and that don't make regular property management activities unnecessarily difficult. They also want to be heard and respected and have some input into how native vegetation is managed on their land.

A new model must provide guidance about the societal goals for native vegetation retention but allow landholders some latitude in how to get there. There needs to be less coercive and more cooperative approaches. Moving towards co-management and respect for local skills, experience and knowledge is an important part of this. So too is recognising and rewarding the many landholders who conserve native vegetation and undertake re-vegetation, instead of focusing only on what is being cleared.

There needs to be a fundamental shift in relations between government and landholders in order to bring back the trust that was once there. This is crucial if the challenge of simultaneously increasing food production while halting biodiversity loss is to be successful in the long term.

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## Appendix 1: Table of key issues of concern

Native Vegetation Act review –Evidence collation using issues of concern and associated interview questions

Table 1 below shows the key issues of concern that were raised in the literature review and have been used to form the basis of the interview questions. The questions are intended to be asked to Landholders, staff from Local Land Services (previously with CMAs) and other relevant individuals.

NSW Farmers area of interest	Key questions from areas of interest	Issues of concern within the key questions from literature review	Interview questions to gather evidence
Triple bottom line (financial, social and environmental) approach	What evidence exists to support the application of a triple bottom line approach to native vegetation management in NSW?	Effectiveness in achieving triple bottom line at a property scale.	One a scale of 1 – 5 how effective is the current approach to native vegetation conservation in achieving the social, economic and environmental interests of your property and business? Please explain?
	How effective has this been with the current approach?	Effectiveness in achieving triple bottom line at a local community scale.	One a scale of 1 – 5 how effective is the current approach to native vegetation conservation in achieving the social, economic and environmental interests of your local community? Please explain?
		Effectiveness in achieving triple bottom line in the LLS (or CMA).	One a scale of 1 – 5 how effective is the current approach to native vegetation conservation in achieving the social, economic and environmental interests of your LLS region? Please explain?
		Consideration of social and economic outcomes in the process.	Does the process involved in assessing clearing PVP applications allow you to consider economic and social outcomes?

		Views on the feasibility of triple bottom line outcomes.	To what extent do you think it's possible to maintain or improve native vegetation on private properties while also promoting positive economic and social regional outcomes?
Regional and community based approach	What evidence is there of the advantages and disadvantages of a regional and community based approach model for native vegetation management?	Accounting for regional differences and local conditions in the application of the Act.	How effective is the current system of native vegetation protection at recognising and taking into account regional differences and local conditions? (for example differences in grazing regimes, land use, vegetation type, growth conditions.....)
		Utilisation of the knowledge and perspectives of Landholders.	On a scale of 1 – 5, how well does the current approach to native vegetation protection value and use the knowledge and perspectives of Landholders? Please explain.  (LLS question) Could regional differences and local knowledge be more effectively used when dealing with native vegetation protection? If so, how?
		Greater community involvement in the approach used.	In your opinion, what would be the advantages or disadvantages to dealing with native vegetation conservation at the regional level, with strong community involvement?
		Flexibility within the Act and regulations	In your experience, does the Act (including the regulations) give LLS' the necessary flexibility to tailor the NVAT software results to ensure suitable outcomes for local conditions?
PVP process	What evidence is there for the	Communication of the PVP process and	On a scale of 1 – 5, how well was the PVP process

	effectiveness of the PVP application process?	resourcing of CMAs to do this.	communicated to Landholders?  (LLS question) To what extent are LLS's able to effectively communicate and engage (ie resourcing) with local Landholders regarding the PVP process, outcomes and rationale for native vegetation legislation?
		Timeframe for processing PVP applications.	On a scale of 1 – 5, how appropriate was the timeframe for processing the application?
		Understanding of the rationale for the Act and decisions made.	On a scale of 1 – 5, how well did you understand the reasons for the decision?  (LLS question) To what extent do you think Landholders in your region understand the intent of the Act and the work of LLS native vegetation officers?
		Satisfaction with the process.	On a scale of 1 – 5 how satisfied were you with the PVP process?
		Complexity of the process.	How straightforward is the process of approving PVP's for LLS staff?
		Uptake of incentive PVPs.	What has been the uptake of incentive PVPs in your region and why?
		Reasons for not applying for a PVP.	What were your reasons for not applying for a PVP?

**Table 1. Native Vegetation Act review – NSW Farmers issues of concern and associated interview questions**

## Appendix 2: Literature review methodology

The databases and websites searched, along with sample search terms and inclusion and exclusion criteria are listed below.

### Databases:

- Springerlink
- Science Direct
- TROVE
- Wiley Online

### Websites:

- Google Scholar
- Office of Environment and Heritage
- Natural Resources Commission
- Environment Defender's Office
- Charles Sturt University Institute for Land, Water and Society
- Australian Productivity Commission

Examples of some of the search terms used in the databases to locate the literature for this review are:

- ("Native Vegetation Act 2003") AND "NSW"
- ('private land' OR 'landowner\*' OR 'Landholder\*' OR 'private property' OR 'land manager' OR 'farmer\*') AND ("Property Vegetation Plan" OR "PVP")
- ("private land" OR "landowner\*" OR "Landholder\*" OR "private property" OR "land manager" OR "farmer\*") AND ("Property Vegetation Plan" OR "PVP") AND ("Native Vegetation Act")
- "community based" AND "vegetation management"
- ("vegetation management") AND ("landscape approach" OR "region\* approach" OR "collaborative planning" OR "community based" OR "property level")
- ("regional vegetation plans") AND ("native vegetation act" 1997)
- ("vegetation management" OR "forest management") AND ("private land" OR "landowner\*" OR "Landholder\*" OR "private property" OR "land manager" OR "farmer\*" OR "ranch\*") AND ("South Australia" OR "Victoria" OR "Queensland" OR "Tasmania" OR "New South Wales" OR "Australia" OR "United States" OR America OR Canada OR New Zealand)
- "native vegetation management"
- regional AND "native vegetation"
- ("region\* approach" OR "region\* assessment\*") AND ("native vegetation management")
- ("regional approach") AND ("native vegetation")

### **Inclusion and exclusion criteria**

It is necessary to apply study inclusion criteria in order to ensure that only the most relevant items of evidence are used hence increasing the efficiency of the search process. The inclusion criteria used will be related to the key syntax elements of the primary and secondary questions.

Search returns will be initially screened on title for relevance and then screened on abstract after viewing the item. Finally articles will be screened based on reading the full text.

All relevant search returns will be stored in an electronic bibliographic management library – Zotero (<http://www.zotero.org/>).

### **Inclusion criteria**

- ✓ Case studies of native vegetation management in Australia through a regional, landscape or community based approach
- ✓ Theory and case studies on triple bottom line outcomes in agriculture

### **Exclusion criteria**

- × Studies regarding small holder farmers in less developed nations with different economic pressures and property right situations
- × The impact of the Act on urban development

## Appendix 3: Landholder interview questions

### Question 1 – What evidence exists to support the application of a triple bottom line approach to native vegetation management in NSW?

One of the purposes of the Native Vegetation Act is to provide for, encourage and promote the management of native vegetation on a regional basis in the social, economic and environmental interests of the State.

- a. On a scale of 1 – 5 how effective is the current approach to native vegetation conservation in achieving the social, economic and environmental interests of your property and business? Please explain?
- b. On a scale of 1 – 5 how effective is the current approach to native vegetation conservation in achieving the social, economic and environmental interests of your local community? Please explain?

### Question 2 - What evidence is there of the advantages and disadvantages of a regional approach model for native vegetation management?

A strong focus of the Native Vegetation Act 2003 is to restrict clearing of remnant native vegetation at the property scale on private land in rural areas. Other Acts regarding native vegetation have considered it at a regional scale.

- a. How effective is the current system of native vegetation protection at recognising and taking into account regional differences and local conditions? (for example differences in grazing regimes, invasive native scrub....)
- b. On a scale of 1 – 5, how well does the current approach to native vegetation protection value and use the knowledge and perspectives of Landholders? Please explain
- c. In your opinion, what would be the advantages or disadvantages to dealing with native vegetation conservation at the regional level (for example at a LLS scale), with strong community involvement?

### Question 3 - The effectiveness in key areas of the PVP application process

#### For Landholders that have a PVP or applied for a PVP

- a. On a scale of 1 – 5, how well do you think the PVP process was communicated to you?
- b. On a scale of 1 – 5, how appropriate do you think the timeframe for processing the application was?
- c. On a scale of 1 – 5, how well did you understand the reasons for the decision?
- d. On a scale of 1 – 5 how satisfied were you with the overall PVP process?

#### For Landholders that do not have a PVP and have not applied for one

- a. What were your reasons for not applying for a PVP?

#### Are there any other comments?



## Appendix 4: LLS staff interview questions

### **Question 1 – What evidence exists to support the application of a triple bottom line approach to native vegetation management in NSW?**

One of the purposes of the Native Vegetation Act is to provide for, encourage and promote the management of native vegetation on a regional basis in the social, economic and environmental interests of the State.

- a. On a scale of 1 – 5 how effective is the current approach to native vegetation conservation in achieving the social, economic and environmental interests of your LLS region? Please explain?
- b. How does the process involved in assessing clearing PVP applications allow you to consider economic and social outcomes?
- c. To what extent do you think it's possible to maintain or improve native vegetation on private properties while also promoting positive economic and social regional outcomes?

### **Question 2 - What evidence is there of the advantages and disadvantages of a regional approach model for native vegetation management?**

A strong focus of the Native Vegetation Act 2003 is to restrict clearing of remnant native vegetation at the property scale on private land in rural areas. Other Acts regarding native vegetation have considered it at a regional scale.

- a. In your experience, does the Act (including the regulations) give LLS' the necessary flexibility to tailor the NVAT software results to ensure suitable outcomes for local conditions?
- b. In your opinion, what would be advantages or disadvantages to dealing with native vegetation conservation at the regional level, with strong community involvement?
- c. Could regional differences and local knowledge be more effectively used when dealing with native vegetation protection? If so, how?

### **Question 3 - The effectiveness in key areas of the PVP application process**

- a. To what extent are LLS's able to effectively communicate and engage (ie resourcing) with local Landholders regarding the PVP process, outcomes and rationale for native vegetation legislation?
- b. To what extent do you think Landholders in your region understand the intent of the Act and the work of LLS native vegetation officers?
- c. How straightforward is the process of approving PVP's for LLS staff?
- d. What has been the uptake of incentive PVPs in your region and why?