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Johnstone Centre – Environmental Consulting

ILWS Report No. 26

Assessment and evaluation of rehabilitated sites
within the area of the North East Catchment
Management Authority

Prepared for
North East Catchment Management Authority

Authors - Leigh Thompson and Jonathon Sobels



Charles Sturt University



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NORTH EAST
CATCHMENT
MANAGEMENT
AUTHORITY



Natural
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*Helping Communities
Helping Australia*

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Executive Summary

The Johnstone Centre – Environmental Consulting (JC-EC), Charles Sturt University was contracted by the North East Catchment Management Authority (NECMA) to conduct an assessment and evaluation of incentives scheme funding sites on private property within the NECMA area. Assessment and evaluation comprised a habitat complexity assessment of the site followed by an interview with the owner about the incentives scheme and other local and regional environmental issues.

The assessment and evaluation process was initiated to determine the success and/or effectiveness of rehabilitation works at sites and to assess landholders perceptions regarding confidence to change farming practices through learned practices and processes involved with the incentives scheme.

The average habitat complexity score across the 38 sites assessed was less than half the highest possible total. Although this is a low score it is not unusual for sites that have been rehabilitated for short periods of time (<5 years) to be allocated a low score as they have had only a small timeframe for trees begin to grow and allow groundcover species to recover from grazing pressure. In addition, the ongoing effects of the drought have had a major impact on the growth of plantings. Drought effects have led to high mortality among multiple replanting efforts and minimal growth of surviving tubestock Sites where stock were excluded from grazing were the only sites where natural canopy regeneration occurred. Therefore, sites are unlikely to naturally regenerate unless livestock are excluded.

Although the majority of projects were funded to address a particular land degradation issue or protect an area on individual farms, landholders recognised the multiple benefits these rehabilitation sites provided beyond the scope of the funding purpose. Benefits highlighted included erosion mitigation, increases in bird abundance and diversity, increases in water quality, better stock health and easier stock management.

The incentives scheme is an extremely important driver of practice change and adoption of better farm management. The majority of landholders indicated a desire to conduct these works by themselves; however, time and money often prevented them from doing so. The incentives scheme gives farmers the ‘push’ they need to begin rehabilitation works and identify future sites that may benefit from rehabilitation. The incentives scheme has given landholders the learned confidence through practice observance they need to do more work, implement change and continue learning.

Landholders identified a downward trend in the amount of local advice and involvement available to individual farmers and groups. Instead of dealing with one local based coordinator, many are dealing with multiple off-site agency staff and are confused by the

lack of ‘on ground’ advice and personnel. Landholders expressed a desire to utilise local level knowledge, ideally by the appointment of a local coordinator that can access all agencies, funding bodies and information sources available. This coordinator can then be the main point of contact for landholders in an area rather than multiple agency staff located at various offices with differing responsibilities.

As a whole, most landholders are very happy that follow up is occurring in the form of this project. There is a sense of pride in landholders’ achievements that needs to be harnessed by NECMA to ensure ongoing and future involvement from old and new participants of the incentives scheme.

The following recommendations have been made as a result of conducting this project. These recommendations are outlined in full in section five of the report.

1. Promote stock exclusion as a rehabilitation method at sites that have the ability to naturally regenerate canopy species particularly those with remnant vegetation patches adjacent to or nearby.
2. Conduct at least one follow up visit to each rehabilitated site.
3. If follow up visits cannot be completed at all sites, sites should be selected at random for auditing or conduct phone interviews.
4. The incentives scheme combined with project support and follow up should be continued.
5. Multiple benefits associated with conducting rehabilitation projects should be emphasised when promoting the incentives schemes through field days, meetings and seminars to attract new and old scheme participant.
6. The use of local coordinators to access information from agencies and funding schemes should be investigated.
7. A one page leaflet should be developed informing participants of the main outcomes of this assessment and evaluation project.

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The authors wish to acknowledge funding provided to conduct this evaluation project the Natural Heritage Trust and Victoria's Second Generation Landcare Grants through the Department of Primary Industries and Department of Sustainability and Environment. Thanks must also go to the many landholders who gave their time freely to participate in this project. Their comments and advice have contributed to a greater understanding of landholder perceptions to the incentives scheme within the NECMA area.

The definitions given below will be used in this report.

CAMS – Catchment Activity Management System. A database maintained by the Department of Sustainability and Environment incorporating information about all incentives funded projects within Victoria.

CMA – Catchment Management Authority. CMA's in general across the entire state of Victoria

DPI – Department of Primary Industries

DSE – Department of Sustainability and Environment

NECMA – the North East Catchment Management Authority of Victoria in which all the sites for this project were located.

NHT – Natural Heritage Trust

region - means a biogeographical region that has been recognised and documented such as the Interim Biogeographical Regions of Australia (IBRA). The region which the study area falls within is the South Eastern Highlands, South Western Slopes and Riverina bioregions.

rehabilitation site - a site on an individual landholders farm where environmental and or rehabilitation works were conducted with money from an incentives funded scheme.

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1 Introduction

The North East Catchment Management Authority (NECMA) and partner organisations including the Natural Heritage Trust (NHT), Department of Primary Industries (DPI) and Department of Sustainability and Environment (DSE) have been providing incentive funding to landholders in the north east region of Victoria for a number of years to conduct environmental protection and rehabilitation activities. Funds have been allocated from Victorian state and Commonwealth federal programs and include funding for preventative, mitigating and rehabilitation measures.

Projects funded were not restricted to particular areas of protection and/or rehabilitation and included:

- Remnant vegetation protection;
- Erosion control and mitigation;
- Riparian zone protection;
- Water quality improvements;
- Salinity recharge and discharge protection; and
- Pest animal and plant control.

As funding was sourced from various government agencies, there were no specific project officers to which this project was specifically allocated. Instead a large number of project coordinators were involved in the allocation of funds, landholder collaboration and site visits across the entire NECMA region.

Each site was part of a different funding program and thus the objectives of each site visited differed. The focus of this assessment and evaluation report is to assess the project outcomes based on functional and structural attributes of habitat complexity in human induced environments, as well as to determine participants' attitudes to success and detriments of incentives funded environmental projects.

1.1 Background Information

The North East region has some of the oldest Landcare groups in Victoria with the earliest groups formed in 1983. The North East region has the highest percentage of farmers in Landcare in Victoria, with almost 50 percent of farmers a member of a Landcare network (North East Landcare 2006).

A total of 255 participants were identified within the Catchment Activity Management System (CAMS) database of current and completed projects. There are likely to be more participants conducting works since the database has been updated, however only

a small subset of these participants were required for the assessment and evaluation project. A total of 38 participants participated in the habitat complexity and social survey assessment. There are two main components to the assessment and evaluation project:

- Habitat complexity assessment; and
- Social survey assessment.

The habitat complexity assessment included measures of flora and fauna habitat complexity, rehabilitation success and management factors. The social survey focused on participants' attitudes and opinions towards the incentives scheme and measures of practice change through learned confidence. Learned confidence includes management practices learned during rehabilitation projects such as different methods of tree planting, types of fencing and appropriate species for replanting.

The major themes of the assessment and evaluation program as outlined by the NECMA are presented in Table 1.

Table 1: Major themes of the assessment and evaluation project conducted within the North East Catchment Management Authority area.

Major Themes	Questions	Data collection
Compliance audit	Were works done as funded?	Habitat complexity
Site assessment	Were the works successful or effective?	Habitat complexity and social survey
Identification of practice change	Has landholder learnt from this project, changed management and/or planned further works?	Social survey
Process and systems review	Is the incentive process effective and/or useful?	Social survey

2 Methodology

2.1 Habitat Complexity Assessment

Habitat complexity assessments were conducted at all sites for the entire incentives target area (Figure 1). Visual assessments were made of a number of habitat variables and sub indices and these in turn were allocated a score that contributed to a total score for habitat complexity out of a possible 42 (see Appendix 1). The higher the final score recorded, the greater the complexity of habitat recorded. There were six categories of sub indices. A summary of the variables within each sub index is provided in Table 2.

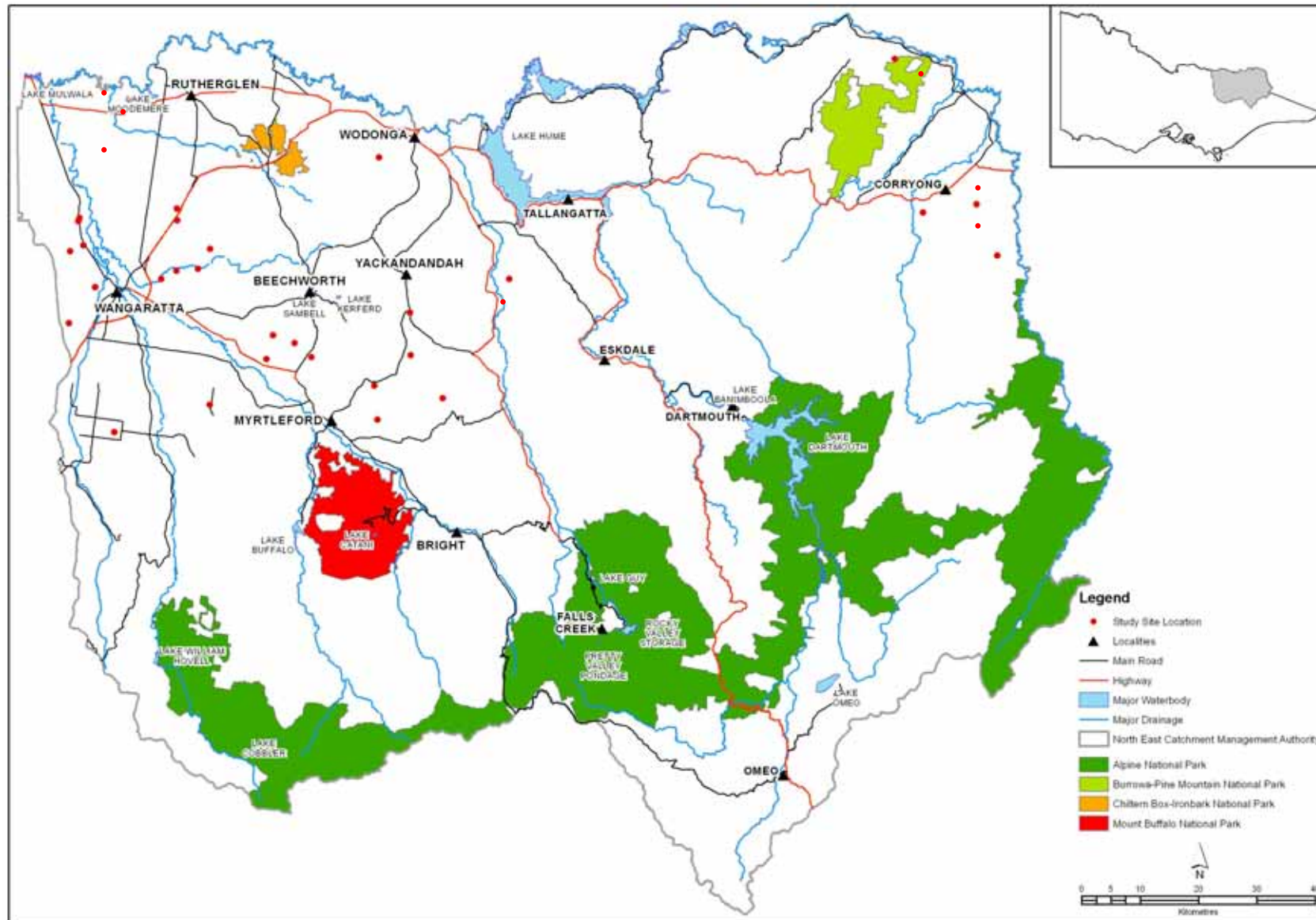


Figure 1: Location of field survey sites within the North East Catchment Management Authority area.

Table 2: Summary of variables recorded for the habitat complexity assessment at each site. Sub indices are in bold.

Sub-index (bold) and variable	Possible Scores	Description
Structure*		
Tree canopy	0-3	Percent tree canopy cover for entire site
Native tree canopy	0-3	Percent native tree canopy cover for entire site
Shrub canopy	0-3	Percent shrub coverage for entire site
Native shrub canopy	0-3	Percent native shrub coverage for entire site
Groundcover	0-3	Percent groundcover coverage for entire site
Native groundcover	0-3	Percent native groundcover coverage for entire site
Leaf litter	0-3	Percent leaf litter coverage for entire site
Native leaf litter	0-3	Percent native leaf litter coverage for entire site
Weeds**	0-3	Percent cover of noxious or environmental weeds
Regeneration***	0-3	Density of native natural canopy regeneration
Rock and woody debris*	0-3	Percent cover of wood and rocks as habitat (>0.5cm diameter)
Survival rates*	0-3	Survival rate of planted trees (if applicable)
Other factors		
Recent grazing	0-1	Evidence of recent grazing by livestock
Active erosion	0-1	Is active erosion occurring on site?
Feral animals	0-1	Evidence of feral animals
Hollows	0-1	Hollows in trees or stags for habitat
Weed management	0-1	Are weeds being actively managed
Isolation	0-1	Is the site isolated from nearby remnant vegetation
TOTAL	42	

* 0 = no cover, 1 = 1-30% cover, 2 = 31-60% cover, 3 = >60% cover

**0 = >50% weed cover, 1 = 25-50% weed cover, 2 = 5-25% weed cover, 3 = <5% weed cover

*** 0 = no regeneration, 1 = <30% regeneration, 2 = 30-70% regeneration, 3 = >70% regeneration

Not all of the sites assessed had completed tree planting and in these cases records of survival rates were not recorded and the final score scaled accordingly (highest possible score of 39). If a site recorded a canopy cover score of 1 (1-30% cover) the highest possible native canopy that could be allocated was also 1. Even if all the canopy cover is native, allocating a score of 3 (>60%) gives a false impression that there is 60 percent native canopy cover. Thus the native score for each vegetation layer (canopy, shrub and groundcover) is controlled by the score allocated in the overall vegetation layer cover score.

As part of the habitat complexity assessment a number of other site variables were also recorded that may affect the value of the site as habitat and/or degradation mitigation.

The value of a site can be detrimentally affected by livestock grazing, active erosion, feral animals, weed management and the location of the site relative to other nearby vegetation patches (isolation). Sites where evidence of these detrimental affects were evident received a 0 score for each variable.

2.2 Social Survey Assessment

The social survey assessments consisted of a series of 19 short questions and were conducted by the authors Leigh Thompson and Jonathon Sobels. Before beginning the interview a short explanation was given to outline the type of questions that would be asked and why they were being asked. Assurance was also given that all answers remained confidential and emphasis placed on the fact that there was no right or wrong answer to any of the questions being asked and that all answers should be of a personal opinion. All participants were given a summary sheet about the project, confirmation of human ethics approval and provided with contact details of the interviewer and the executive officer of the ethics in human research committee at Charles Sturt University (see Appendix 2).

Questions were focused on the specific experiences of each landholder, thoughts and perceptions about natural resource management issues, the incentives scheme and aspects that they considered to be beneficial or needing attention. The questions also focused on previous and planned involvement in incentives activities to land degradation and impacts of mitigating activities. A subset of the questions also focussed on practice change, learning and confidence gained through implementing project funded by the incentives scheme (see Appendix 3).

3 Results

3.1 Habitat Complexity Assessment

Habitat complexity assessments were carried out at all sites after the social survey and consisted of ranking elements of vegetation strata according to the percent cover of vegetation of each strata type. It also included other variables which contribute to the complexity of habitat including regeneration, weed cover, and rock and woody debris. Of the highest (best condition) score possible to be received, none of the sites visited obtained this score. The highest score allocated for the site with the best habitat complexity was 30 out of a possible 42 and lowest score (least habitat complexity) was 6 out of a possible 42. The average total habitat complexity score across the 38 sites was 18.4 out of a possible 42.



Plate 1: Site with habitat complexity score of 21, slightly above the average of 18.4 for this study. Note the presence of nearby remnant vegetation patch.

The majority of sites had minimal cover of trees and shrubs except in cases where remnant vegetation was also present in addition to plantings. Tree canopy cover was absent at approximately half of sites with shrub cover between 1-30 percent at more than half of the sites assessed. Groundcover was the only vegetation layer that consistently scored in the highest cover category of > 60 percent (for 88% of sites) though the percent of native groundcover was only 1-30 percent at approximately half of the sites assessed. Weed cover at 82 percent of sites was allocated the highest score of 3 (<5% weed cover). Canopy species regeneration was uncommon with no regeneration recorded at greater than 60 percent of sites assessed. A summary of the most commonly recorded score for each variable of the habitat complexity score are outlined in Table 3.

Table 3: Most frequent score recorded for the sub index habitat variables and the frequency of occurrence across the 38 sites.

Variable	Cover mode (%)	Frequency (%)
Tree canopy	0	45
Native tree canopy	0	45
Shrub canopy	1-30	61
Native shrub canopy	1-30	61
Groundcover	>60	88
Native groundcover	1-30	48
Leaf litter cover	1-30	67
Native leaf litter cover	1-30	70
Weed cover	<5	82
Canopy regeneration	No regeneration	61
Woody debris cover	1-30	55
Assessment survival rate	>60	57

To determine which of the habitat variables contributed most to the overall habitat complexity score, statistical analysis using linear regression was used. The structure sub-index was highly correlated with the overall habitat complexity score ($z = 5.45$ and $p = 0$).

In order to determine which habitat variables are contributing the most to the overall habitat complexity score, forward and backward linear regression was first completed to remove those variables that statistically were saying the same thing. The resultant analysis of variance highlighted ‘tree canopy’, ‘shrub canopy’, ‘native leaf litter cover’, ‘native ground cover’, ‘regeneration’ and ‘weed cover’ as being highly significant linear predictors of total habitat complexity, accounting for over 92 percent of the variance in total habitat complexity.

The combination of ‘native leaf litter cover’ and presence of ‘hollows’ explained 54 percent of the variance on the total habitat complexity early in the modelling process but the ‘hollows’ variable was replaced by other variables further into the modelling process that explained even greater amounts of the variance.

The ‘other’ sub-index included variables such as the management of weeds and presence of feral animals. Table 4 outlines the correlations between the ‘other’ variables and the ‘other’ total.

Table 4: Correlation between the 'other' habitat variables and the variables that form the total score for the 'other' sub index where p is significant at <0.05.

Variable	P-value	Normal-z	Significant?
Weeds managed	0.0284	2.1912	Yes
Evidence of feral animals	0.0323	2.1404	Yes
Active erosion occurring	0.404	2.0495	Yes
Groundcover	0.1352	1.4938	No
Native groundcover	0.2408	1.173	No



Plate 2: Site with average habitat complexity in the Corryong area. This was an ongoing 20 year project with several rock walling and planting projects to try and mitigate erosion due to frequent flash flooding.

3.2 Social Survey Assessment

The social survey consisted of 19 questions aiming to determine the effectiveness of the works and the incentives process, and if landholders had changed their management practices as a result of the rehabilitation project on their property (Appendix 3 and 4). Landholders were given the option of including multiple answers.

QUESTION 1 – Which natural resource or environmental management issues are important to you?

Participants largely focused on wide ranging issues that were applicable to them personally on their farm and problems that they have or are facing in terms of environmental rehabilitation and preventative measures.

Table 5: Most frequent responses from question one of the social survey

Issue	Frequency (%)
Erosion	30
Other	19
Rehabilitation of habitat	17
Remnant vegetation	11
Shelter	9
Soil biology	7
Salinity	7

QUESTION 2 – Where did you hear about the environmental incentives scheme from?

This question focussed on the most successful methods of communication to potential participants about the incentives schemes.

Table 6: Most frequent responses to question two of the social survey.

Location	Frequency (%)
Landcare (coordinator, meeting, group)	69
DSE/NRE	8
NECMA	7
Word of mouth	7
Newsletter	6
Other	3

QUESTION 3 – Have you undertaken any rehabilitation/preventative environmental works on your property prior to this incentives funded project?

This question was aimed at determining the number of new participants to the incentives scheme and the types of works people have been conducting prior to this incentives funded project.

Table 7: Most frequent responses from question three of the social survey.

Answer	Frequency (%)
Yes	33
Tree planting	23
Fencing	20
No	13
Erosion mitigation	11

QUESTION 4 – Have you conducted any additional rehabilitation/preventative environmental works on your property since this incentive funded project?

This question was to determine the success of the incentives scheme in triggering and continuing participants to carry out additional works. Only one participant had not conducted an additional works on their property since receiving funding.

Table 8: Most frequent responses to question four of the social survey.

Answer	Frequency (%)
Yes	34
Fencing	25
Tree planting	24
Erosion mitigation	17

QUESTION 5 – What was the driving influence behind you wanting to conduct rehabilitation/preventative environmental works on your property?

The aim of this question was to determine why people conduct incentives funded work on their properties. Were their needs driven to solve a problem or were they for aesthetic purposes? Although many people had a specific reason why they wanted to conduct these works e.g. to mitigate active erosion problems the benefits often crossed multiple areas which is drawn out in question seven.

Table 9: Most frequent responses to question five of the social survey.

Reason	Frequency (%)
Erosion	34
Sustainability (stewardship)	19
Remnant vegetation	11
Shelter	9
Salinity	8
Stock management	6
Aesthetics	6
Other	6

QUESTION 6 – Would you have conducted these works without funding assistance?

This question aimed to determine the importance of incentives funding. Although most participants indicated they would have still conducted the works they would in most cases have conducted them at a later date due to time and money constraints.

Table 10: Most frequent responses to question six of the social survey.

Answer	Frequency (%)
Yes, but when I had more money and at smaller scale	68
No	18
No, but maybe later over a longer time period	14

QUESTION 7 – What do you see as being the value(s) of the rehabilitated/preventative environmental area?

This question further draws on answers from question five. Although most participants highlighted one main reason for applying for funding, once the work was completed multiple beneficial values were identified for each site.

Table 11: Most frequent responses to question seven of the social survey.

Value	Frequency (%)
Aesthetics	25
Habitat/wildlife	23
Reduced erosion	9
Water access	8
Easier stock management	7
Biodiversity	7
Shade/shelter	5
Recreation	3
Better water quality	3
Sustainability (stewardship)	3
Other	3
Better stream health	2
Increased capital value	2

QUESTION 8 – What types of site preparation did you conduct if any prior to on-ground works?

This question aimed to incorporate results from the habitat surveys and survival rates to determine if particular types of site preparation were more successful than others in terms of habitat complexity and tree survival rates. Weed spraying, fencing and line ripping before tree planting remained the most common types of site preparation.

Table 12: Most frequent responses to question eight of the social survey.

Site preparation	Frequency (%)
Spraying for weeds	31
Fencing	31
Ripping	22
Vermin control	6
Other	6
Bank stabilising	4

QUESTION 9 – What follow up management (if any) have you conducted in the rehabilitated/preventative environmental area?

The aim of this question was similar to that of the previous question in trying to determine if the way participants manage the sites after initial works has an affect on the overall survival rates of tree plantings and habitat complexity scores.

Table 13: Most frequent responses to question nine of the social survey.

Management	Frequency (%)
Spraying for weeds	40
Vermin control	23
Watering	17
Replanting	15
None	5

QUESTION 10 – What changes have you noticed within the rehabilitated/preventative environmental area since conducting on ground works?

This question aimed to determine if participants have recognised a physical on ground change or multiple changes to the project sites. Perceived increases in groundcover abundance and decreased runoff were commonly given as a pair of multiple answers.

Table 14: Most frequent responses to question ten of the social survey.

Value	Frequency (%)
Reduced erosion/runoff	25
Increased groundcover	22
Native regeneration	14
More birds (diversity and abundance)	14
Increased shade and shelter	11
Improved aesthetics	6
Improved stream health/water quality	6
Reduced salinity	2

QUESTION 11 – What do you feel are the approximate survival rates of tree plantings?

Answers for this question varied from less than five percent up to 100 percent. Most participants included multiple answers for this question when second and third replanting efforts were conducted to account for trees lost during the ongoing drought conditions. The average survival rate as estimated by landholders after successive plantings was 65 percent.

QUESTION 12 – Have the rehabilitation/preventative environmental works on your property given you the confidence to change your farming practices without further economic incentives?

QUESTION 13 – If yes, do you think you can or have you used the knowledge gained from this project to help implement future projects?

The majority of participants answered question 12 and 13 within one question and viewed these questions with a similar response. For this reason, question 12 and 13 will be addressed as one question throughout the discussion section of this report.

These questions focussed on the learned management and confidence of participants to implement change. Responses covered both a regional and local perspective about confidence and adapting to change. Many participants also highlighted the personal satisfaction associated with these works and knowing that this is a project that has helped address a problem on their farm. Another common theme arising from this question was although people do have the confidence to conduct more works, they would likely do these works in a different way and it would be unlikely that they would do the works without any economic incentive.

QUESTION 14 – Are you planning to undertake further environmental works on you property?

Answers to this question are outlined in question 15. The natural progression from this question onto question 15 has led to addressing this question within the following question.

QUESTION 15 – If yes, what types of works do you have planned and will you seek funding assistance?

Table 15: Most frequent responses to question fourteen and fifteen of the social survey.

Value	Frequency (%)
Fencing	28
Yes and yes, other	24
Revegetation	15
Yes, but limited by time, money and area	13
Yes, if funding is available	13
Shelterbelts	7

QUESTION 16 – Do you think the incentives process is effective?

The aims of this question were to determine if the process of incentives funding was effective overall. This question then leads directly on to the following question (question 17) concerning options that may assist in improving aspects of the incentives process. The majority of participants (90%) were satisfied with the process though some hobby farms felt they were a lesser part of the Landcare network and were less informed of these sorts of incentive activities.

QUESTION 17 – What processes do you think have or could contribute to the on ground success of rehabilitation/preventative environmental works?

The aim of this question was to identify the most common practices and possible new practices that landholders feel will help contribute to the success of individual and regional based projects.

Table 16: Most frequent response to question seventeen of the social survey.

Processes that help success	Frequency (%)
Site preparation and protection	40
Timely contact with staff re establishment and monitoring	17
Time pressure of funding	14
Incentives (having the money)	14
Involvement with Landcare groups	10
Don't like being told what to do – need to recognise landholder input	7

QUESTION 18 – Were you happy with the amount of advice and/or involvement available to you from agency staff?

The aim of this question was to determine if participants felt they were provided with enough advice and information from agency staff when making decisions regarding implementation of incentive funds.

Table 17: Most frequent responses to question eighteen of the social survey.

Advice	Frequency (%)
Yes	78
No	11
No contact or loss of contact	11

QUESTION 19 – Can you suggest ways agency staff can improve their contribution to individual projects?

The aim of this question was for participants to identify ways in which the incentives process can be improved for future projects. More than 30 percent of participants thought that follow up visits to the sites after works were implemented were necessary to assess success rates, accountability and to ensure funds were used for the area and purpose they were allocated for.

Table 18: Most frequent responses to question nineteen of the social survey.

Processes that help success	Frequency (%)
Follow up site visits – accountability, success rates	33
Use of local coordinators as one point of contact to all agencies	20
Access to information and funding	17
No suggestions	16
Other	14

4 Discussion

4.1 Habitat complexity assessment

All sites to be assessed were selected at random from the CAMS database. The database provided information on the start and end dates of each project, the funding source, the size of the site and the main aim of the project. Although this information is useful, many landholders had multiple sites on their properties and with the location information provided some found it difficult to determine which site was being targeted for this assessment and evaluation project. This project has now located each

site with a GPS point, enabling the majority of sites to be qualified and inserted into a new database for future reference (N.B. GPS points were not taken at some sites).

Habitat complexity ranged from 6 to 30 out of a possible highest score of 42 with an average habitat complexity score of 18.4. As in previous assessments of a similar nature (Jansen *et al.* 2003, Thompson 2004) it is useful to have a category of rankings for habitat complexity e.g. poor, average, good, and excellent. This enables the scores allocated to each site to be ranked and given some relevance to landholders in terms of habitat complexity. To do this, a habitat complexity site assessment is usually conducted at an as near to pristine site as possible (i.e. a reference site). In this study the use of reference sites is problematic given the wide range of landscape conditions experienced across the entire north east CMA area. This study would require several reference sites which is outside the initial scope and budget of the project. The future use of reference sites may be useful in determining the habitat complexity progress of rehabilitated sites in comparison to reference sites.

Canopy cover, shrub cover, native ground cover, native leaf litter cover and weed cover were all significant linear predictors of habitat complexity scores account for more than 92 percent of the variance in all total scores. This suggests that in early (first 5 years) rehabilitation sites the habitat complexity of a site could be assessed using these five variables. Using these five variables only, may allow rapid assessments to be conducted for a large number of sites or possibly, for landholders themselves to conduct site assessments.

Although the average habitat complexity score was less than half of the total score possible (18.4 out of 42), this is not an unusual occurrence due to a number of extrinsic factors:

- Loss of tube stock due to prolonged drought from 2001-2004;
- Young age of replanted sites (<5years) resulting in less canopy, shrub, leaf litter and woody debris cover;
- Loss of groundcover due to over grazing and lack of feed availability due to drought;
- Replanting of tube stock (multiple occasions);
- Minimal growth of tube stock due to lack of annual rainfall

In addition, most rehabilitation sites were targeted to address the processes that led to land degradation rather than protecting an existing site thus accounting in the low scores observed.

There was no canopy species regeneration at more than 60 percent of sites suggesting that most sites require intervention by tree planting as natural canopy regeneration is

unlikely. However, sites should be assessed on an individual basis for regeneration potential. At one site, where funding for tubestock had been allocated natural canopy regeneration was more successful than tubestock plantings. All sites where canopy regeneration was occurring had been fenced to prevent livestock grazing suggesting that sites are only likely to naturally regenerate when livestock are excluded.

4.2 Social survey assessment

The main aims of the social survey were to:

- Determine if landholders perceived the funded works as being successful or effective in mitigating impacts;
- To determine if the incentives project has increased landholder confidence to change management regimes through learned knowledge, practices and intent to conduct further works; and
- To identify landholder views about the government funded incentives process and if it is effective and useful.

Few landholder participants recognised the importance of natural resource or environmental management issues ‘beyond the farm gate’. Commonly participants recognised erosion as a serious problem; however this was generally because erosion was a problem that was occurring on their farm but not beyond.

The most effective means of communicating information about incentive schemes and ways to access funding was via Landcare related groups, meetings and coordinators. (e.g. more than two thirds of landholders were made aware of the incentives scheme through Landcare meetings, newsletters and coordinators). Although alternative methods for attracting new incentives scheme participants should be investigated, the use of local Landcare and natural resource management networks is still the most effective way of communicating information and should continue to be utilised in the future.

Of the 38 landholders interviewed, only one had not conducted additional rehabilitation works on their property since receiving funding from the incentives scheme. This demonstrates how awareness and education about this process is imperative in spreading the word about the benefits of conducting rehabilitation. For the majority of participants, a land degradation issue on their farm was the main reason for conducting works. However, many also recognised the multiple values of beautifying the land while still approaching the problem from a business and production point of view.

“Management - good management. It's a business; it's got to be maintained. Beautifying the place.”

“Started with a blank bit of weed infested quarry and I wanted to make it look better.”

The dollar value provided by the incentives scheme is extremely important. Many landholders demonstrated a desire and willingness to conduct rehabilitation and mitigation works without incentives funding, however most would not have been able to conduct these works immediately or at the scale required due to money constraints.

“Yes, probably, but it would've taken a damn lot longer and we would not have done the type of work we've done.”

“Eventually – it's a time thing. We'd've had to save up. If there was more funding we'd do more. If there was more labour we'd do more.”

The incentives scheme and similar projects are one of the few ways that CMA's can target farm level environmental problems. Without the dollar incentive from these projects it is highly unlikely that local level farms and regional areas would be addressing the problems of the past in the present.

Each incentives funded project was implemented by landholders with a purpose to arrest a particular process contributing to land degradation. However, after works were completed, most participants recognised these sites as having multiple benefits from a production, aesthetics and biodiversity point of view.

“Heaps more bird life. Husbandry easier through putting up dividing fences. Reduced areas of liver fluke infestation by fencing off wetter areas.”

“Carrying less stock, [they are] in better condition to go to market rather than heavier stocking and lighter cattle to market. Also reduced veterinarian costs; the cattle are healthier.”

Many participants noticed increases in bird abundance and in some cases diversity with some landholders also noticing a change in composition of bird species over time. The importance of these multiple benefits is an important point that is often overlooked when promoting incentives opportunities. Participants noted not only the positive physical attributes of the site such as a reduction in erosion but also associated positive 'feel good' attributes of the site. Participants could see the benefits of their labour and placed a high importance on values of the site both visually and productively.

“Fantastic to see trees growing. Heartening to see it is actually growing.”

“Makes you feel better to come and see it. Makes you feel good.”

Future promoting of incentives schemes should ensure that landholders are aware of the multiple and sometimes unexpected benefits and values that can arise from conducting rehabilitation projects. One method of communicating these multiple benefits is to include examples and quotations such as the one outlined above.

Site preparation methods and maintenance varied little between assessed sites. Spraying, fencing and line ripping remain the most popular methods of site preparation (84%) and are likely to remain so unless new widely accepted methods are employed. Some landholders' utilised different forms of ripping such as including an extra line rip (with no trees) either side of planted trees to hold additional moisture or cross ripping.

Rehabilitation works on farms has given landholders varying degrees of confidence to change or manage their farms differently. Most participants recognised the values they have learned through incentives projects have led to a beneficial change in farming practices at the 'on farm' level, with some also recognising that their confidence and adaptability to change will benefit the whole community.

"It's for the community's benefits as well as mine."

"It's a whole watercourse thing. If I can contain the water down that laneway it's a benefit to me. It benefits the land below [the adjoining property area is a swamp/wetland]."

Landholders also recognised that their contributions to land rehabilitation are part of a continuous process and that they are continually learning. Consequently, landholders feel they have learned practices to implement change on their farm because of the incentives scheme, however they recognise their limitations and in order to continue learning they will require guidance.

"Confidence from previous works that were successful."

"Yes variations in stream and seasons. [We're on a] steep learning curve."

"Part of a continuous process."

Future incentives schemes should concentrate on landholder involvement in the rehabilitation process to strengthen and nurture the learned values and confidence gained by landholders to commit to and implement change. This will ensure that the benefits of the incentives scheme spread further than physical attributes of individual projects.

Evidence for these learned practices is also indicated by the number of landholders planning to undertake some form of additional rehabilitation works on their property in the future. Seventy-four percent of participants indicated they were planning to conduct additional rehabilitation works on their properties. The remaining 26 percent

indicated a desire to conduct additional works but are limited by other extrinsic factors including time and money.

The majority of participants were happy with the incentives scheme. There is large importance and recognition placed on the dollar value of the incentives scheme in promoting, triggering and increasing the area of rehabilitation.

“If not for the incentives precious little would have been done.”

“Very effective. A little bit goes a long way. Initial funding made a big difference to our on-ground works.”

Participants also highlighted some of the aspects of the incentives scheme that if addressed may assist in further enhancing the effectiveness of the scheme. The importance of local knowledge and coordinators was repeatedly highlighted as a priority that would, and has in the past benefited the incentives process. Many participants had access to more than one agency staff as a point of contact. In theory this appears to be a good way of providing a broad base of information to landholders. In practice, many landholders feel that local knowledge and presence is lacking and they are unsure of which staff member to contact regarding various issues. The need for one local based coordinator who can access different information from various agencies was a point strongly suggested throughout this project.

“Would be good to see one co-ordinator to access various funding bodies.”

“If you've got a good coordinator they can lay their hands on the people or information you need.”

A local person (coordinator) provides cohesion, local co-operative knowledge and possible local collaborations. Therefore the loss of this local person often results in a loss of these attributes in the community. The need for agency staff with a local perspective is important in ensuring local collaborations. Regional based views and agendas focus less on local problems thus resulting in a withdrawal of the local community from incentives schemes.

As a whole, since the inception of the CMAs, landholders feel there is less valuable on ground and face to face involvement from field staff. Landholders are less sure of who and where to contact in comparison to previous years where there was strong local Landcare networks and agency staff operated by one local person. When asked if they were happy with the amount of involvement and advice available from agency staff one landholder responded:

“Yes, back before CMA. No, we don't see any of those [Agency] guys.”

This loss of contacts is unlikely to reflect directly on the NECMA as few landholders see the differentiation between government agencies including CMA's and DSE.

Prior to the inception of CMA's, DSE provided agency staff that were involved in on ground assessment of potential rehabilitation sites and other similar local level activities. The loss of some of these on ground staff is viewed by many landholders as a loss of government presence at the local level with little differentiation made between employees of different agencies. In this project, it appears that landholders have not recognised the difference between agencies and have identified the loss of on ground staff with the NECMA whose funding and interest were the prime drivers for conducting this assessment project.

On the whole, most participants are happy with the amount of involvement and advice available to them from agency staff though they are less happy with how it can be accessed and the level it emanates from. Landholders are very happy to see that follow up is occurring. People are proud of their achievements. They want to show you [the site], talk to you [about the site] and are usually not time limited once accessed. This evaluation project has highlighted the importance landholders place on following up on site rehabilitation not just from a auditing point of view but to suggest ways to improve projects and give participants a 'pat on the back' for their hard work.

“Some kind of visitation from Department to say – “Yeh, this is fantastic what you're doing but you need to do ‘this’ to keep it going”.

“It'd be really nice to have that intrinsic involvement: To see how their vision panned out. [They (Agency) are] often very good at giving money away but not good at coming back to see how it's gone.”

5 Conclusions and recommendations

The following conclusions and recommendations are based on the results and observations from habitat complexity assessments and social surveys conducted at 38 sites within the area of the NECMA in Victoria.

1. Promote stock exclusion as a rehabilitation method at sites that have the ability to naturally regenerate canopy species particularly those with remnant vegetation patches adjacent to or nearby.
2. Conduct at least one follow up visit to each rehabilitated site. This will ensure funded works have been completed and enable participants to keep the funding program informed of both positive and negative processes during project implementation.
3. If follow up visits cannot be completed at all sites, sites should be selected at random for auditing. Similarly, to achieve feedback on the funding process, simple phone interviews should be conducted at a minimum to gauge landholders' perspectives about the positive and negative processes during the project implementation.

4. The incentives scheme combined with project support and follow up should be continued. This will help to drive practice change and build landholder confidence in environmental management practices.
5. There are multiple benefits associated with conducting rehabilitation works that are not immediately apparent during the incentive application phase. These benefits include: mitigation erosion, increased production, reduced stock loss, better stock health and easier stock management.
6. These multiple benefits should be emphasised when promoting the incentives schemes through field days, meetings and seminars to attract new and old scheme participant.
7. The use of local coordinators to access information from agencies and funding schemes should be investigated to avoid withdrawal and a lack of cohesion in local environmental rehabilitation groups.
8. A one page leaflet should be developed informing participants of the main outcomes of this assessment and evaluation project. The majority of participants were happy to participate in the project and positive that follow up visits were occurring. This leaflet can be produced by the JC-EC in association with the NECMA.

References

Jansen, A., Robertson, A., Thompson, L. and Wilson A. (2003) *Development and application of a method for the rapid appraisal of riparian condition*. River Management and Technical Guideline No. 4. Land and Water Australia.

North East Landcare (2006) Landcare in the north east (online) <http://northeast.landcarevic.net.au/> [Accessed June 2006].

Thompson, L. (2004) *Monitoring and evaluation of the Bidgee Banks project in the mid Murrumbidgee Catchment*. Report to NSW Department of Infrastructure Planning and Natural Resources.

Appendix 1 – Habitat complexity assessment

SiteID

GPS coordinates:

Funding Reason (circle):

Land Erosion / Environmental / Water quality / Native vegetation / Wetland / Mapping / Pests

Type of works: (circle):

Tree planting / Direct seeding / Earthworks / Rock walling / Weed removal/Fencing

Number of trees planted:

Approximate survival rate:

Structure

Variable	Score			
	0	1	2	3
Tree canopy (>6m) %	0	1-30	31-60	>60
Native tree canopy %	0	1-30	31-60	>60
Shrub canopy (≤5m) %	0	1-30	31-60	>60
Native shrub canopy %	0	1-30	31-60	>60
Ground cover %	0	1-30	31-60	>60
Native ground cover %	0	1-30	31-60	>60
Leaf litter %	0	1-30	31-60	>60
Native leaf litter %	0	1-30	31-60	>60
Sub Total	/24			

Noxious or Environmental Weeds

Weediness	Score
<5% cover of weeds	3
5-25% cover of weeds	2
25-50% cover of weeds	1
>50% cover of weeds	0

Regeneration

Regeneration	Score
Dense cohorts (>70%)	3
Moderate (30-70%)	2
Scattered (<30%)	1
No regeneration	0

Rocks & Coarse Woody Debris
(>0.5m diameter)

CWD	Score
>60% CWD	3
30-60% CWD	2
1-30% CWD	1
No CWD	0

Survival Rates

Rate	Score
>60% survival	3
30-60% survival	2
1-30% survival	1
No survival	0

Other Factors

	Yes	No
Recent grazing	0	1
Active erosion occurring	0	1
Evidence of feral animals	0	1
Presence of hollows/stags	1	0
Weeds managed	1	0
Isolated vegetation patch	0	1
Sub Total	/6	

Final Habitat Score	Score
Structure	
Weeds	
Regeneration	
CWD	
Survival	
Other	
Grand Total	/42

Appendix 2 – Human ethics information statement

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ABN: 83 878 708 551

**Assessment and evaluation of rehabilitated sites within the area of the North East
Catchment Management Authority (NECMA), Victoria.**

CONTACT DETAILS:

This project will be conducted by the Johnstone Centre – Environmental Consulting, Charles Sturt University for and on behalf of the North East Catchment Management Authority (NECMA).

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Charles Sturt University is a regional university that offers a unique study experience - access to city living along with the benefits of a regional lifestyle. There are five main network campuses based at Wagga Wagga, Albury-Wodonga, Bathurst, Orange and Dubbo. Expansive surroundings have allowed the development of fully operational, hands-on teaching facilities, a number of research active institutes as well as commercial consulting projects conducted by staff members.

This project proposes to undertake site compliance habitat assessments and to evaluate the success of the works including practice change. The assessments will aim to gain some ideas of success of site activities, evaluation to identify the reasons for success levels achieved, any further outcomes gained, and issues for participants which may impact on rehabilitation success. This will be conducted using a rapid site assessment method in addition to a social survey with each landholder where works were undertaken.

Social questionnaires will involve a set of 19 brief questions (including a mix of multiple choices, yes/no and open responses), that should take no longer than 30 minutes. This will be followed by a visual site assessment that records the success of rehabilitation works.

Social questionnaires will involve an informal sit down and verbal asking of questions. It is highly unlikely that there will be any risks or side effects from asking verbal questions and opinions. Any complaints or follow-up counselling that may be required should be forwarded to the Executive Officer of the Human Ethics Committee at Charles Sturt University. You do not have to participate in the project and can withdraw from the project at any time.

Data collected will be used to help identify (as a group) areas of strengths and weaknesses with the incentives projects. This includes your opinions on what you thought were the good aspects of the projects or how input could be better distributed by agency staff etc. All data collected will remain completely confidential and at no stage will individuals' names be written on the assessment sheets or social questionnaires. Any reports produced will not deal directly with individual outcomes or names but rather with the group of participants as a whole.

At no stage will interviews be tape recorded or names of individuals published. A site photograph will be taken at each rehabilitated site as a visual record of the works conducted and to monitor the change at each site over time.

If you agree to all the information outlined here we can now continue with the social questionnaire. This information sheet can be retained for you to refer to at any time.

NOTE: Charles Sturt University's Ethics in Human Research Committee has approved this project. If you have any complaints or reservations about the ethical conduct of this project, you may contact the Committee through the Executive Officer:

The Executive Officer
Ethics in Human Research Committee
Academic Secretariat
Charles Sturt University
Private Mail Bag 29
Bathurst NSW 2795

Tel: (02) 6338 4628
Fax: (02) 6338 4194

Any issues you raise will be treated in confidence and investigated fully and you will be informed of the outcome.

Appendix 3 – Social survey assessment

(for interviewers use only)

1. Which natural resource or environmental management issues are important to you?
2. Where did you hear about the environmental incentives scheme from? i.e. paper/field day/meeting?
3. Have you undertaken any rehabilitation works on your property prior to this incentive funded project?
4. Have you conducted additional rehabilitation works on your farm in other areas since receiving incentive funding? (Type?)
5. What was the driving influence behind you wanting to conduct rehabilitation works on your property?
6. Would you have conducted these works without funding assistance?
7. What do you see as being the value(s) of the rehabilitated area?

Aesthetics Habitat/wildlife Recreation

Other
8. What types of site preparation did you conduct (if any) prior to on-ground site works?
9. What follow-up management (if any) has been conducted in the rehabilitated area (e.g. weeds, vermin, watering etc)
10. What changes have you noticed within the rehabilitated areas and surrounds since conducting on-site works?
11. What do you feel are the approximate survival rates of tree plantings undertaken (percentage)?
12. Have the rehabilitation works on your farm given you confidence to change your farming practices without further economic incentives?
13. If yes, do you feel you can, or have used the knowledge gained from previous projects to help with implementation?
14. Are you planning to undertake further works on your property?
15. If yes, what type of works do you have planned and do you plan to seek funding assistance for these works?
16. Do you think the incentives process is effective?
17. What processes do you think have and/or could contribute to the on-ground success of rehabilitation?
18. Were you happy with the amount of advice/involvement available to you from agency staff?
19. Can you suggest any ways agency staff can improve their contributions to individual projects?

Appendix 4 – Summary of social survey quotes and funding sources

Summary of all direct quotations from landholders (and funding body for each landholder) participating in social surveys for assessment and rehabilitation project for the North East Catchment Management Authority.

Question 1

Which natural resource or environmental management issues are important to you?

- *Get back to natural living within the universe I think North East Regional Erosion Action Plan*
- *Wanted to leave land better than we found it, both in terms of productivity and build up a bit of tree cover especially around the creek to stabilize it. Erosion control is a priority and its effects on water quality LPIS Landholder Grants 2001/02*
- *Satisfaction in a personal sense. [I can] go home and have a good night's sleep. North East Regional Erosion Action Plan*
- *Helped us manage our own pastures better and the stock; it doesn't take us as long to get 'em in now. They were a bugger to yard then [before fencing off the creek]. It was an all-day job. Bring some more native birds back I suppose. Got a Barking Owl in the tin mine. Landcare Assisted Erosion Management in NE Vic.*

Question 2

Where did you hear about the environmental incentives scheme from?

- *I wanted to get rid of the willows [approached NECMA with a site] right next to the road so people can see it as they drive past. The locals were shaking their heads: "Willows were the magic things – helping to stop erosion". They thought I'd lose the bank. They [NECMA] said they'd do it so that was fantastic. When the neighbour wanted to join in, that was fantastic. North East Regional Erosion Action Plan*
- *These schemes have been on-going forever. Environmental incentives were given to groups when they first started in landcare. People have continued to be interested. Landcare Assisted Erosion Management in NE Vic.*

Question 5

What was the driving influence behind you wanting to conduct rehabilitation works on your property?

- *Protect and improve your property. North East Regional Erosion Action Plan*
- *Isolated trees dying in paddocks. Erosion. LPIS Landholder Grants 2002/2003*
- *Always been there. A desire to keep farming on the same property. Landcare Assisted Erosion Management in NE Vic.*
- *No. Would have done something - fenced off the creek - but nothing like what we've done: Nowhere near the quantity we've done. Landcare Assisted Erosion Management in NE Vic.*
- *Give something back to the land. Try and restore it. Assist Landcare Increase Extent & Quality Nat Veg*
- *If you've got a healthy stream you've got healthy land. Assist Landcare Increase Extent & Quality Nat Veg*
- *If they want to they can call me a greenie!. North East Regional Erosion Action Plan*
- *Started with a blank bit of weed infested quarry and I wanted to make it look better. North East Regional Erosion Action Plan*

- *No. Would have done something - fenced off the creek - but nothing like what we've done: Nowhere near the quantity we've done. North East Regional Erosion Action Plan*
- *Management - good management. It's a business; it's got to be maintained. Beautifying the place. Landcare Assisted Erosion Management in NE Vic.*
- *Leave the land better than I found it. Landcare Assisted Erosion Management in NE Vic.*

Question 6

Would you have conducted these works without funding assistance?

- *Yes, probably, but it would've taken a damn lot longer and we would not have done the type of work we've done. LPIS Landholder Grants 2001/02*
- *No. Works subject to availability of rock and trees being supplied. LPIS Landholder Grants 2001/02*
- *Without funding assistance we would be a lot further behind. LPIS Landholder Grants 2002/2003*
- *Probably not most of them. Landcare Assisted Erosion Management in NE Vic.*
- *Money – the cost of fencing, tree guards, and such a lot of time [involved] in it. Probably less than 1 ha would have got done. It's a motivation too [incentives] with the assistance of a coordinator. You know you're picking up your trees at a certain time [of the year] so you have to have the spraying, fencing done. Assist Landcare Increase Extent & Quality Nat Veg*
- *Yes I had a 10 to 15 year plan. I intend to put in about 1000 to 1500 trees per year. North East Regional Erosion Action Plan*
- *Eventually – it's a time thing. We'd've had to save up. If there was more funding we'd do more. If there was more labour we'd do more. Landcare Assisted Erosion Management in NE Vic.*
- *No...much smaller scale. North East Regional Erosion Action Plan*
- *Not driving up the creek looking for a cow in calf. Landcare Assisted Erosion Management in NE Vic.*
- *No, if we didn't get any incentives. We'd do what we could. Lot of drive to got and do it. We're grateful of it. Landcare Assisted Erosion Management in NE Vic.*
- *Yes but on a greatly limited scale. Landcare Assisted Erosion Management in NE Vic.*

Question 7

What do you see as being the value(s) of the rehabilitated area?

- *Heaps more bird life. Husbandry easier through putting up dividing fences. Reduced areas of liver fluke infestation by fencing off wetter areas. LPIS Landholder Grants 2002/2003*

Question 9

What follow-up management (if any) has been conducted in the rehabilitated area

- *There's a few trees now throwing a bit of shade. Landcare Assisted Erosion Management in NE Vic.*

Question 10

What changes have you noticed within the rehabilitated areas and surrounds since conducting on-site works?

- *A lot more ground cover. Stopped really bad erosion by the crossing. Would've liked more but none available.* LPIS Landholder Grants 2001/02
- *Stabilised erosion but I think this would have happened with just grass and fencing measures* North East Regional Erosion Action Plan
- *Aesthetically much nicer. Native grasses looking better. Haven't noticed a big increase in birds yet.* North East Regional Erosion Action Plan
- *Fantastic to see trees growing. Heartening to see it is actually growing.* Assist Landcare Increase Extent & Quality Nat Veg

Question 12 and 13

Have the rehabilitation works on your farm given you confidence to change your farming practices without further economic incentives?

If yes, do you feel you can, or have used the knowledge gained from previous projects to help with implementation?

- *Confidence from previous works that were successful. Economic incentives would make it work quicker.* North East Regional Erosion Action Plan
- *Yes variations in stream and seasons. [We're on a] steep learning curve.* LPIS Landholder Grants 2001/02
- *No, if economic incentives are not there to ameliorate the costs...* LPIS Landholder Grants 2001/02
- *Farming practices will change with or without funding. If an area is eroding it's a liability so the farmer needs to do something to make it worth something.* LPIS Landholder Grants 2001/02
- *Have gained some knowledge. It's been a worthwhile exercise. We'll establish trees in an area where they shouldn't have been cleared.* LPIS Landholder Grants 2001/02
- *That rehabilitation work has been good for our management but we were changing anyway:*
 - as we gain more knowledge about our soils;*
 - as we see the benefit of smaller paddocks;*
 - as we put into practice what we've read about;*
 - it's like continuous improvement.* Landcare Assisted Erosion Management NEVic.
- *Yes, part of a continuum, keep on learning.* LPIS Landholder Grants 2002/2003
- *Yes. [Carrying] less stock, [they are] in better condition to go to market rather than heavier stocking and lighter cattle to market. Also reduced veterinarian costs; the cattle are healthier.* LPIS Landholder Grants 2002/2003
- *Rotating paddocks [is] better husbandry. Closer and more regular scrutiny of the herd of their food requirements: You can overfeed them. For example, cattle about to calve should be reduced in their feed access to the point of showing three ribs for easier calving. [It] equates to no stock losses of calf or cow.* LPIS Landholder Grants 2002/2003
- *Makes you feel better to come and see it. Makes you feel good. It's a whole watercourse thing. If I can contain the water down that laneway it's a benefit to me. It benefits the land below [the adjoining property area is a swamp/wetland].* LPIS Landholder Grants 2002/2003
- *Part of a continuous process.* Landcare Assisted Erosion Management in NE Vic.
- *No, it's for the community's benefits as well as mine.* Landcare Assisted Erosion Management in NE Vic.
- *Yes but we could only do things at a much smaller scale without help.* LPIS Landholder Grants 2002/2003

- *Yes, it's something we're doing. We don't count on the government to improve this situation here. Assist Landcare Increase Extent & Quality Nat Veg*
- *Yes, I look back and see the benefits now. Yes, learning as we go. Landcare Assisted Erosion Management in NE Vic.*
- *Doing stuff anyway, lifelong learning. Landcare Assisted Erosion Management in NE Vic.*
- *Would still have a go if there is economic incentives. It lets me do more than I would otherwise do. Last two years I've built in an environmental expenditure into the budget, between 5% to 7% overall. If we get more funding that's on top. We don't cut it [our budget] back. Assist Landcare Increase Extent & Quality Nat Veg*
- *Yes but if you hit hard times it would be the first thing that you would stop. Landcare Assisted Erosion Management in NE Vic.*

Question 14

Are you planning to undertake further works on your property?

- *It's a case of time and money LPIS Landholder Grants 2001/02*
- *We are but not in the immediate future. Yes, we will look at more planting. Shift to an orchard without stock. The bushfire altered our priorities. LPIS Landholder Grants 2001/02*
- *Yes, Further fencing of XXX Creek. Installing a watering trough. Excluding cattle from drinking in the creek. Further revegetation [including] a bird life corridor 10m x 500m linking remnant patches. LPIS Landholder Grants 2002/2003*
- *Yes creek fencing and planting and water points in the paddocks. Landcare Assisted Erosion Management in NE Vic.*
- *Yes, it's and on-going thing. I try to do something [every] year, even if it's just a triangle [of a paddock corner]. North East Regional Erosion Action Plan*

Question 15

What type of works do you have planned and do you plan to seek funding assistance for these works?

- *Fencing to encourage natural regeneration. Plod along with what we've done. Rabbits and weeds travel along creek. LPIS Landholder Grants 2001/02*
- *Yes they were. Would not have put in as many trees in as a quick a time. North East Regional Erosion Action Plan*

Question 16

Do you think the incentives process is effective?

- *If not for the incentives precious little would have been done. North East Regional Erosion Action Plan*
- *No, it's insufficient to achieve what it is. Take semi-productive land out of production and fence it off. Infrastructure (fences) and maintenance is a draw on personal finances. People are being asked to address problems on private land that are not being addressed on adjacent public land. LPIS Landholder Grants 2001/02*
- *Partly – would be good to see one co-ordinator to access various funding bodies. LPIS Landholder Grants 2002/2003*
- *Yes, for sure. You know it needs to be done. You're committed to do it so you will. LPIS Landholder Grants 2002/2003*

- *The incentives program is the only way we're going to continue the activities. It's got to go back to group projects run by their own coordinators.* Landcare Assisted Erosion Management in NE Vic.
- *Yes – If they're [NECMA] willing to fund it we're willing to do the work.* Assist Landcare Increase Extent & Quality Nat Veg
- *Yes - give credit where it's due.* Landcare Assisted Erosion Management in NE Vic.
- *Yes if you can make it fit your project.* Landcare Assisted Erosion Management in NE Vic.
- *The biggest thing of the lot - getting rain when you need it. Keeping stock out when they're [trees] are young.* Landcare Assisted Erosion Management in NE Vic.
- *Yes very useful to the re-planting project we're doing now. Labour is a big contribution.* Assist Landcare Increase Extent & Quality Nat Veg

Question 17

What processes do you think have and/or could contribute to the on-ground success of rehabilitation?

- *Yes – Gotta have protection to start these things – like fencing.* North East Regional Erosion Action Plan
- *Very effective. A little bit goes a long way. Initial funding made a big difference to our on-ground works.* LPIS Landholder Grants 2001/02
- *Some kind of visitation from Department to say – “Yeh, this is fantastic what you’re doing but you need to do ‘this’ to keep it going”.* LPIS Landholder Grants 2001/02
- *Depending on the project, it’s got to be a joint effort: between public and private and neighbours.* LPIS Landholder Grants 2001/02
- *As long as you can get a back-up, like if your trees’ not doing as well as you would expect, they can suggest an alternative management strategy. A meeting in early autumn and spring to recommend what to do.* Assist Landcare Increase Extent & Quality Nat Veg

Question 18

Were you happy with the amount of advice/involvement available to you from agency staff?

- *We've gained from the advice we've had I'm quite sure of that.* LPIS Landholder Grants 2002/2003
- *Yes, back before CMA. No, we don't see any of those [Agency] guys.* Landcare Assisted Erosion Management in NE Vic.
- *Some staff are more interested in their job rather the local issues we were facing.* North East Regional Erosion Action Plan.
- *There are no agency staff. There are no agency extension staff any more. Full stop.* Landcare Assisted Erosion Management in NE Vic.
- *No we weren't happy with some of the information we received. [Agency staff] came out at taxpayers expense and didn't have a clue what they were talking about. Should listen to people that have had previous earthworks experience. The Landcare Group - local people know what they're talking about.* Landcare Assisted Erosion Management in NE Vic.
- *You're the first person I've had contact with, so, no.* Assist Landcare Increase Extent & Quality Nat Veg
- *Yes, so-so. On a scale of one to five, a three for DPI. I'm not the nature expert. I'm growing cows.* Landcare Assisted Erosion Management in NE Vic.

Question 19

Can you suggest any ways agency staff can improve their contributions to individual projects?

- *No. But we should meet [to find out] how we are going with the show. North East Regional Erosion Action Plan*
- *Not really. [They are] sort of overwhelmed by the work load. The coordinators - it's almost hopeless really. North East Regional Erosion Action Plan*
- *It'd be really nice to have that intrinsic involvement: To see how their vision panned out. [They (CMA) are] often very good at giving money away but not good at coming back to see how it's gone LPIS Landholder Grants 2001/02*
- *DSE walked away from it [Landcare]. To be fair they spent a lot of time in the early days. We were left to our own resources. They were there at the end of the phone. I suppose we don't really need them these days. If you've got a good coordinator they can lay their hands on the people or information you need. Landcare Assisted Erosion Management in NE Vic.*
- *[Agency staff] should: Leave it up to local people. Listen to you. Share the landowner's point of view. More local knowledge and common sense goes a long way. Landcare Assisted Erosion Management in NE Vic.*
- *Need to use the language of the farmers North East Regional Erosion Action Plan*
- *Follow up at least one day to inspect. Be present at time of job or works. North East Regional Erosion Action Plan*
- *Not as many bureaucrats! LPIS Landholder Grants 2001/02*
- *As soon as the funding ceased for the project the agency staff moved on so there was no continuity. I had [agency staffer] call the week before she left the project. LPIS Landholder Grants 2001/02*
- *Follow up is very important to ensure money is being used for the right purposes North East Regional Erosion Action Plan*
- *Great to see follow up LPIS Landholder Grants 2001/02*
- *They've done a pretty good job as they are probably busy. LPIS Landholder Grants 2002/2003*
- *Accountability - audits required and an examination of personal gain. LPIS Landholder Grants 2002/2003*
- *Not really. All pretty thorough in their approach. LPIS Landholder Grants 2002/2003*
- *Maybe more follow-up with regard to these [on-ground works]. You're doing a good job but you need to look at blackberries, etc...All these different agencies have got funds, but you don't know [about them]. Landcare Assisted Erosion Management in NE Vic.*
- *They're not there so how can they do it. Landcare Assisted Erosion Management in NE Vic.*
- *I think they're doing a good job. I think they're supporting you in your choice. They don't tell you what to do. Assist Landcare Increase Extent & Quality Nat Veg*
- *Making themselves known and explaining their role and then following up on it. Landcare Assisted Erosion Management in NE Vic.*
- *Interacting with Landcare group; keep people interested in Landcare. [For example] liaison regarding funding programs with groups; and resources and encouragement for individuals. Landcare Assisted Erosion Management in NE Vic.*
- *I think that they've got to get into the Landcare groups. Waterwatch information leaflets are good information. Internet sites – I don't look at the internet. Assist Landcare Increase Extent & Quality Nat Veg*

- *No, not really. They're more than helpful. They all do more than they're paid for. Assist Landcare Increase Extent & Quality Nat Veg*
- *If there was more funding I would have contributed more of my own resources. Assist Landcare Increase Extent & Quality Nat Veg*
- *We're willing to put the work in. You've got to do it [monitoring]. We could've gone and bought 20 bags of oats! Assist Landcare Increase Extent & Quality Nat Veg*