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## Revegetation information and training needs of Western Australia's extension intermediaries : a qualitative and quantitative market research report

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June 2002

# **Revegetation Information and Training Needs of Western Australia's Extension Intermediaries**

A Qualitative and Quantitative Market Research Report

**September 2001**



A Commonwealth Government Initiative

Funded by NHT Project 973855 State  
Agency Contributions to Land  
Conservation/Biodiversity Revegetation -  
Department of Agriculture

Capacity Building Component



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*Prepared by Stephen Lloyd,  
Department of Agriculture , Narrogin*

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# Revegetation Information and Training Needs of Western Australia's Extension Intermediaries

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## Summary

A survey was conducted in 2001 for the Department of Agriculture's Farm Forestry and Revegetation (FF&R) Project, of 'Intermediaries', that is, those persons who mediate between those with expertise in revegetation and those who require the information. The survey was instigated in order to improve the flow, quality and utility of information as required by the Intermediaries, and to identify further training needs.

The survey was undertaken using three Focus Groups (total of 19 respondents) in the wheatbelt shires of Merredin (low rainfall), and Northam and Narrogin (medium rainfall), and an E-mail survey (57 responses).

Intermediaries delivering FF&R information were moderately confident (or more than moderately confident) about the quality of information received, the range of information, their ability to pass information on to farmers and access to training. However, there was wide variation in these responses which was associated with the relative amounts of time (greater or lesser experience) by respondents in their Intermediary roles.

Since farmers' desires or needs for information dictate the Intermediaries' actions, requirements by individual Intermediaries for revegetation information and training reflected closely the needs of the communities they served.

Because the Intermediaries group represent different communities, both geographically and organisationally, their expressed needs for revegetation information and training show considerable variation. From this study only one clear trend could be outlined. That is, the great need for more revegetation information and training on the topic of commercial agroforestry.

## Introduction

The WA State Salinity Strategy recognises dryland salinity as one of the most critical environmental problems facing Western Australia. Revegetation with woody perennials is seen as the most important of all salinity control options. Under the State Salinity Strategy, the Department of Agriculture, Western Australia, has a commitment to facilitate the reintroduction of woody perennials into the Western Australian wheatbelt.

'Intermediaries' (extension officers who mediate between those with expertise in revegetation and those who require the information) play a key role in revegetation extension in Western Australia. The Intermediaries who participated in this study are typically Community Landcare coordinators (CLCs), Revegetation consultants, Greening Australia Bushcare officers, Department of Agriculture extension staff, and extension staff of the Department of Conservation and Land Management (CALM) all of whom play a significant role in the dissemination of revegetation information.

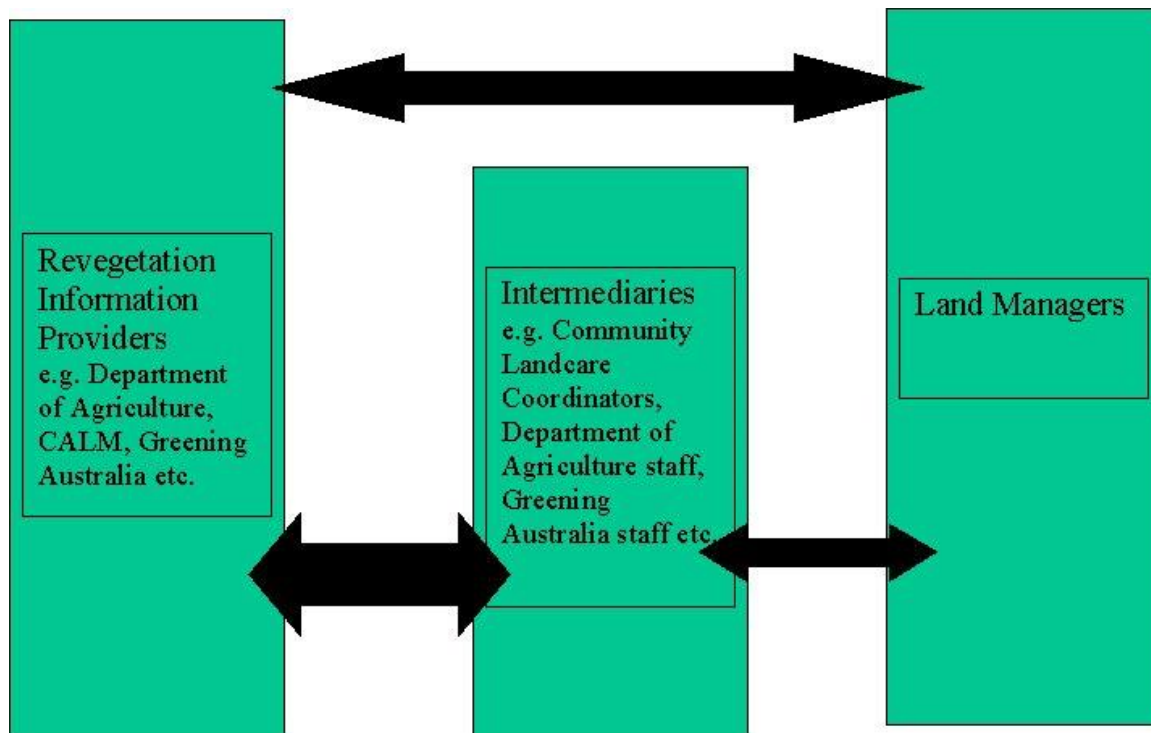
The Department of Agriculture's (FF&R) project uses a variety of communication and training methods to deliver 'best-practice' revegetation technology to Intermediaries. In an effort to improve this service, FF&R conducted the research discussed in the following to identify ways/methods that might improve the flow to (and utility) of farm forestry and revegetation information as used by the Intermediaries in Western Australia. This is to help realise the mission of the Farm Forestry and Revegetation (FF&R) project which is '*To improve access to, and use of revegetation information in the management of natural resources in agriculture.*' See Diagram 1 which shows the position of Intermediaries in relation to the gathering and dissemination of farm forestry and revegetation information.

The study sought answers to these broad questions:

Q1. How is existing revegetation information perceived?



- Q2. How do Intermediaries feel about extending revegetation information?
- Q3. What are the expressed revegetation information needs/wants of Intermediaries? (What are the expressed information needs/wants of farmers as perceived by Intermediaries?)
- Q4. How effective is revegetation information?
- Q5. How well are Intermediaries information and training needs being met?
- Q6. What information formats do Intermediaries prefer?



**Diagram 1. A simple model for dissemination of revegetation information in Western Australia.**

## Objectives

### Key Evaluation Questions





The aim of this study was to identify the requirements by Intermediaries for revegetation information, and their training needs. In broad terms the evaluation aimed to answer the following key questions:

- Q1. How is existing revegetation information perceived?
- Q2. How do Intermediaries feel about extending revegetation information?
- Q3. What are the expressed revegetation information needs/wants of Intermediaries? (What are the expressed information needs/wants of farmers as perceived by Intermediaries?)
- Q4. How effective is revegetation information?
- Q5. How well are Intermediaries' information and training needs being met?
- Q6. What information formats do Intermediaries prefer?

### Planned Use of Results







The evaluation has been conducted to document revegetation information and training needs of Intermediaries in order to:

Plan changes to the current FF&R project;

-  Develop recommendations at the FF&R project level, Sustainable Rural Development (SRD) Salinity Sub Program level, Revegetation Information and Training Provider level and Cross-Agency level;
-  Develop an improved future revegetation information and training structure;
-  Assess the effectiveness of existing revegetation information dissemination processes; and
-  Fulfil obligations to NHT for funding this project.

### Target Audiences

It is intended that the findings of the study will be disseminated to a wide range of organisations involved in the revegetation field, including:

-  The Department of Agriculture's Farm Forestry and Revegetation project, Sustainable Rural Development, Salinity Sub-Program and other programs;
-  Department of Agriculture at an agency level;
-  Department of Conservation and Land Management;
-  Forest Products Commission;
-  Department of Environment, Waters and Catchment Protection; and
-  The Natural Heritage Trust.

Other interested parties could be:

Greening Australia (WA), Land Management Society, Greenskills, CSIRO, Avon Working Group, Blackwood Basin Group, Regional Plantations Committees, Bushcare (NHT), Landcare (NHT) and Master TreeGrowers (WA and other states).

## Methodology

Because many of the questions refer to the needs and opinions of Farm Forestry and Revegetation customers (note, these customers are extension agents, not farmers or land managers), it was appropriate to approach this customer group for comment.

Intermediaries have been identified in Western Australia as primary customers of the FF&R Project. The database, held by the FF&R Project, was used to select focus groups and e-mail survey participants.

This study used a mixed method (using more than one data collection method) to take advantage of the benefits of both triangulation design and integrated design.

### Triangulation design:

Mixed methods can be used separately during the study and the results combined only during interpretation of all data. If the methods chosen have different biases and the findings converge, this enhances the validity of the findings.

### Integrated design:

A holistic integrated design will emphasise the interdependence and simultaneous interpretation of data. Interpretations are made from the different methods continuously, and inform about the selection of the most appropriate method for the next stage. This technique has the potential to produce stronger, relevant conclusions. (Caracelli and Green, 1997).

A log-frame for evaluation development (Attachment 1) includes means of verification, or methods of evaluation (fifth column). For this study, two methods of data collection from the intermediary audience are appropriate. These are Focus Groups and E-mail Survey. Each method has advantages and challenges (Table1). These two methods complement each other resulting in a well rounded data collection process.

**Table 1. Advantages and Challenges of Focus Groups and E-mail Surveys for collecting data**

Method	Advantages	Challenges
<b>Focus Groups</b>	<ul style="list-style-type: none"> <li>Allows people to be influenced by the comments of others and make decisions after listening to advice and counsel of others</li> <li>Inhibitions are often relaxed in group situations</li> <li>Provides flexibility to explore unanticipated issues</li> <li>The technique is easily understood and the results seem believable to those using the information</li> <li>Focus Groups can provide results quickly</li> <li>Focus Groups have a capacity to increase the size of a qualitative study</li> </ul>	<ul style="list-style-type: none"> <li>Can be hard to analyse responses</li> <li>A good facilitator is needed</li> <li>Difficulty in getting 8-12 people together</li> <li>The researcher has less control in a group interview compared to an individual interview</li> <li>Group interaction provides a social environment and comments must be interpreted within that context</li> <li>Easy to lift comments out of the context or come to premature conclusions</li> <li>Variation - each group tends to have unique characteristics.</li> </ul>
<b>Questionnaire - by E-mail</b>	<ul style="list-style-type: none"> <li>Inexpensive to administer</li> <li>Easy to compare and analyse</li> <li>Possible to administer to many people</li> <li>Can provide a broad sample of data</li> <li>Many sample questionnaires already exist</li> </ul>	<ul style="list-style-type: none"> <li>Are impersonal - there is little chance to build rapport</li> <li>Doesn't provide the rich picture (That is the contextual details)</li> <li>Occurs after the event, so participants may forget important issues</li> <li>Questionnaires are standardised so it is not possible to explain any points in the questions that participants may misinterpret</li> <li>Respondents may answer superficially especially if the questioner takes a long time to complete.</li> </ul>

## Focus Groups

Julie Pirotta, an independent qualitative market research consultant, was commissioned to conduct the Focus Group study.

Three Focus Group discussions were conducted. Each group consisted of either six or seven revegetation information Intermediaries. Each discussion focused broadly on the questions outlined in the Focus Group Discussion Outline (Attachment 2).

One discussion was held in each of these locations: Merredin, Northam and Narrogin. The Department of Agriculture invited participants to attend and organised appropriate venues and refreshments.

Participants were chosen to represent low and medium rainfall areas: Merredin consisted mainly of Intermediaries working in low rainfall areas whereas the remaining two locations consisted of people working in medium rainfall areas.

Many participants were Community Landcare Coordinators or worked with catchment groups. Others participants held positions in agencies such as the Department of Conservation and Land Management (CALM), Water and Rivers Commission (WRC), and the Department of Agriculture. Hence, some were generators as well as disseminators of revegetation information. One individual represented a farmer group and another was heavily involved in revegetation contracting.

The length of experience in the field varied from just a few months to many years. A range of ages as well as mix of males and females attended which is reflective of the gender balance in the field. A small number were ex-farmers but the majority had come from university backgrounds.

As a token of appreciation, each participant was given a Farm Forestry and Revegetation, Department of Agriculture-labelled thermal mug.

The Focus Groups took place in the week commencing 26 March 2001 and each lasted for up to two hours.

Julie Pirotta personally facilitated the discussions and analysed the findings.

## **E-mail Survey**

One-hundred-and-sixteen FF&R customers (all operational Intermediaries identified in WA) were chosen as the audience for the survey. Of these, 108 were emailed the survey (see Attachments 3 and 4). Eight did not have E-mail facilities. Respondents were scattered throughout WA's agricultural area.

Respondents were given one month to complete and return the survey. In this time, four reminder notices were issued to encourage a high response rate.

## **Analysis**

Data was analysed using Genstat version 5 and qualitative information compiled. A comparison of Mean and Standard Error was carried out for Questions 2, 3, and 4 (page 17) and also Questions 5 and 6 (page 21). Comparisons were also made of the different components of Question 8 using Chi-squared Pearson tests. Respondents were also grouped and compared for significant difference in response on the basis of Organisation of Employment, Rainfall zone and Length of time in current position.

## Results and Discussion

### Focus Groups

A total of 19 Intermediaries were interviewed in the confidential Focus Group Process. Results of this process are outlined in the report 'Exploring revegetation information and training needs amongst Intermediaries.

A Qualitative (Focus Group discussion) – Market Research Report'. This was prepared for Department of Agriculture Farm Forestry & Revegetation Project By Pirotta Consulting, April 2001 (see Attachment 5).

### E-mail Survey

Of 108 Intermediaries canvassed, 57 responses were received. Thus a response rate of 52 per cent was achieved.

Respondents were grouped according to organisations of employment, rainfall zones and experience in their positions. This is graphed in Figures 1, 2 and 3 respectively. Department of Agriculture staff and Community-Based Intermediaries represent the greatest number of respondents. Others included staff of the Department of Conservation and Land Management, Water and Rivers Commission, Greening Australia (WA) and a mix of private industry and consultants. There is good representation from all rainfall zones, with Intermediaries from State-based projects, 0-400 mm/yr and 400-600 mm/yr having slightly higher response rates than Intermediaries from other rainfall zones. Responses were received fairly evenly from the four 'time in current position' categories; 0-1yrs, 1-3yrs, 3-5yrs, >5yrs.

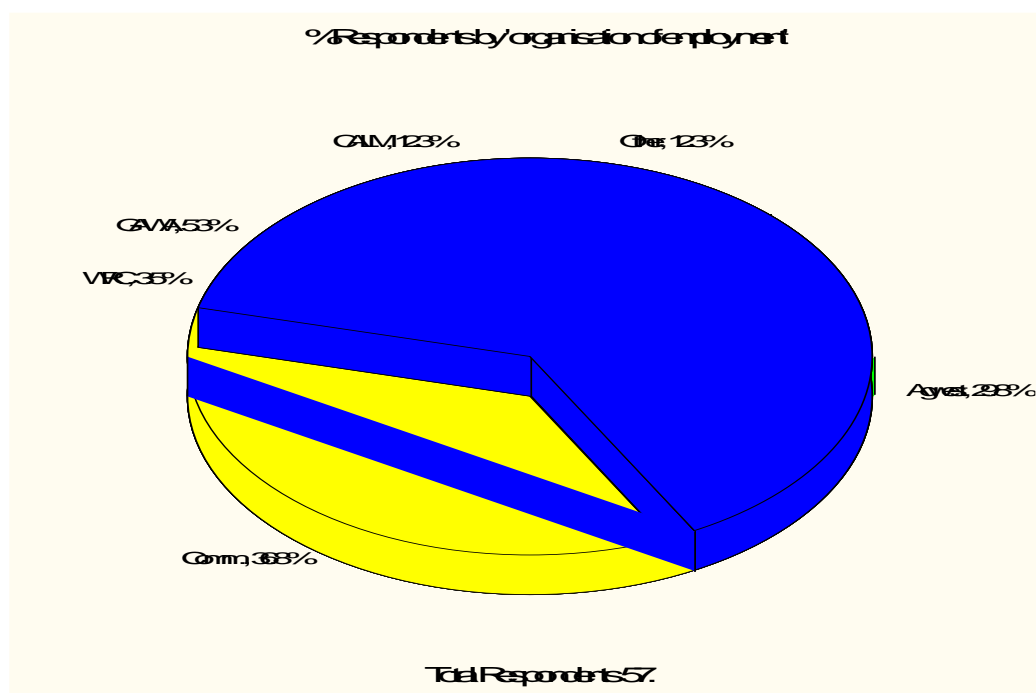


Figure 1. Per cent Respondents by 'organisation of employment'.

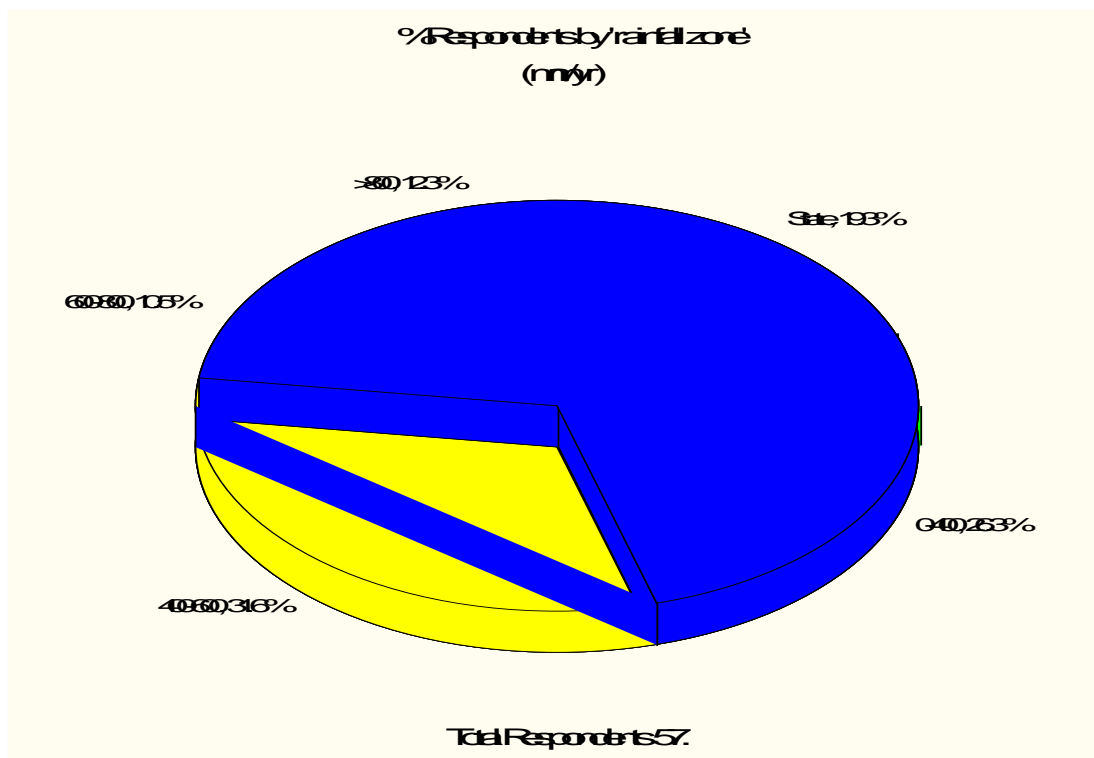


Figure 2. Per cent Respondents by 'rainfall zone' (mm/yr).

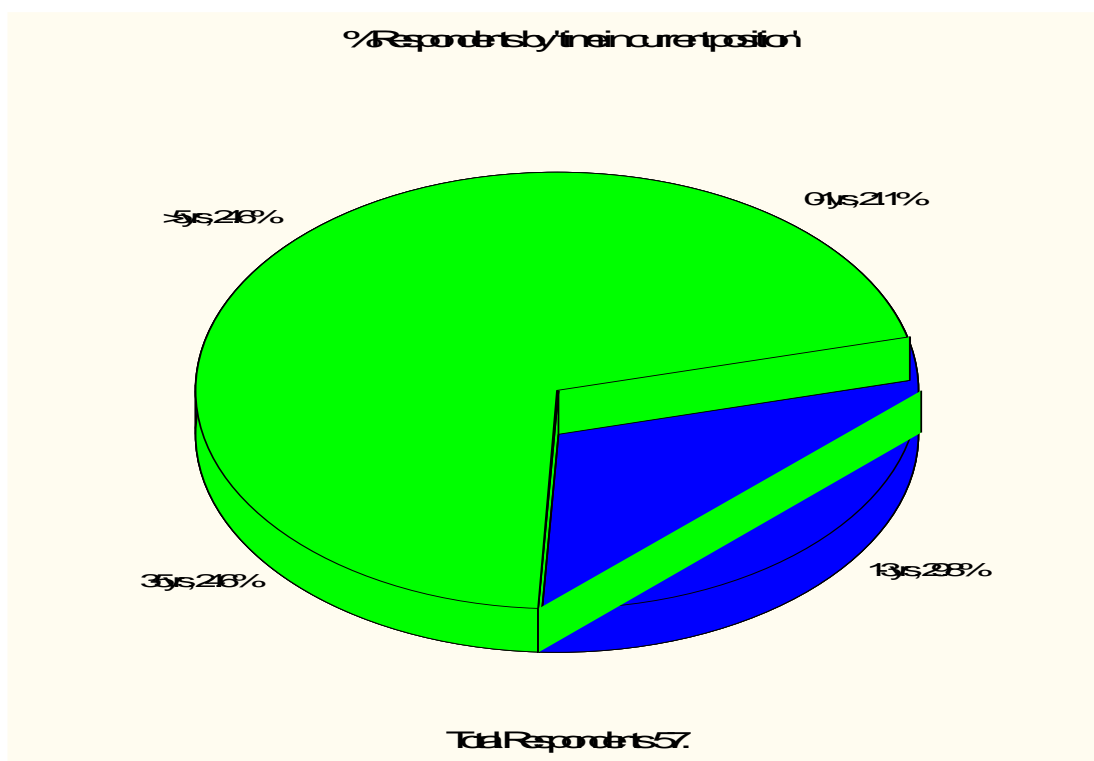


Figure 3. Per cent Respondents by 'time in current position'.

## Major findings

### Intermediaries are generally informed about revegetation options

The majority of respondents to the E-mail Survey felt ‘informed’ or ‘well informed’ about revegetation options. A histogram of responses to Question 1 is shown in Figure 4. The mean response was 3.6 while the standard deviation was 0.91.

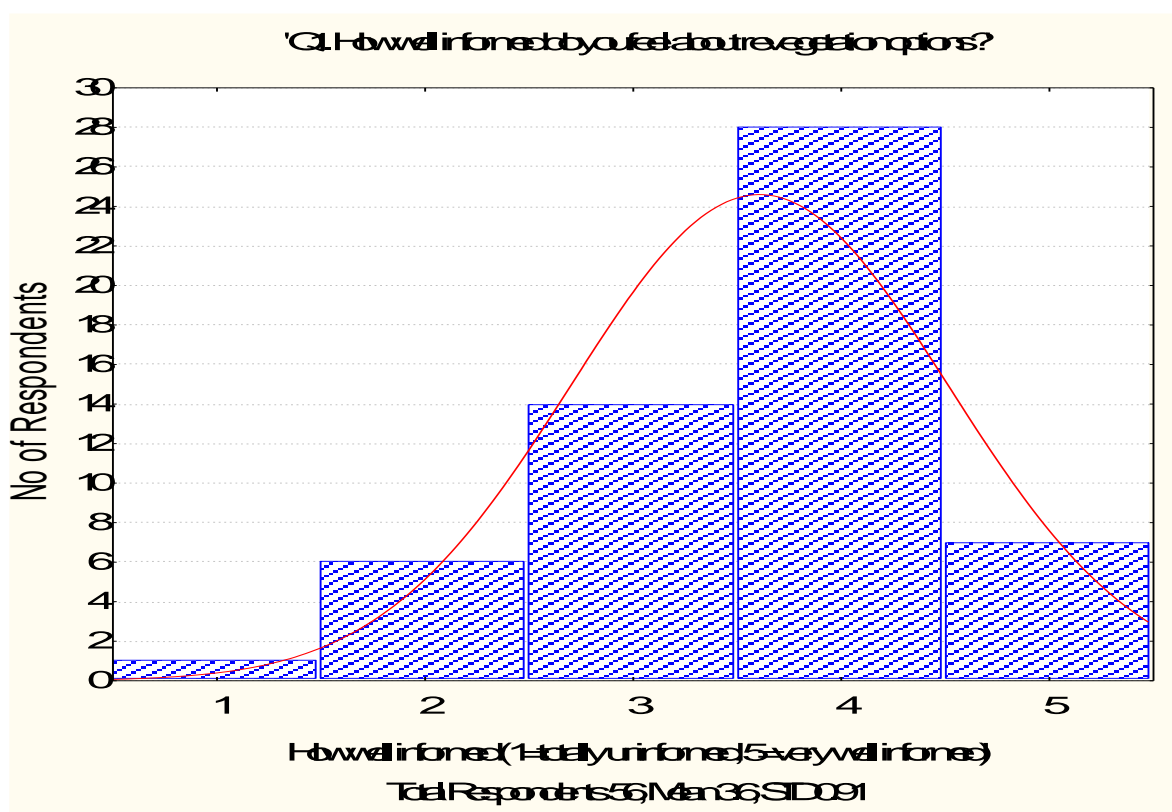


Figure 4. (Question 1.). How well informed do you feel about revegetation options?

Consensus from the Focus Group showed that for many Intermediaries, revegetation is only a part of their job and what they do know about the field is often ‘farmer-driven’. That is, a question is put to them and in researching the answer they develop knowledge about local revegetation issues. In contrast, there are some very well informed experts who may have agency positions that focus solely on revegetation.

Other results from Focus Groups expand on this. An observation frequently made in relation to revegetation information was that there were few ‘experts’ in the area. Many other people in this field have little expertise and are heavily reliant on the small pool of experts.

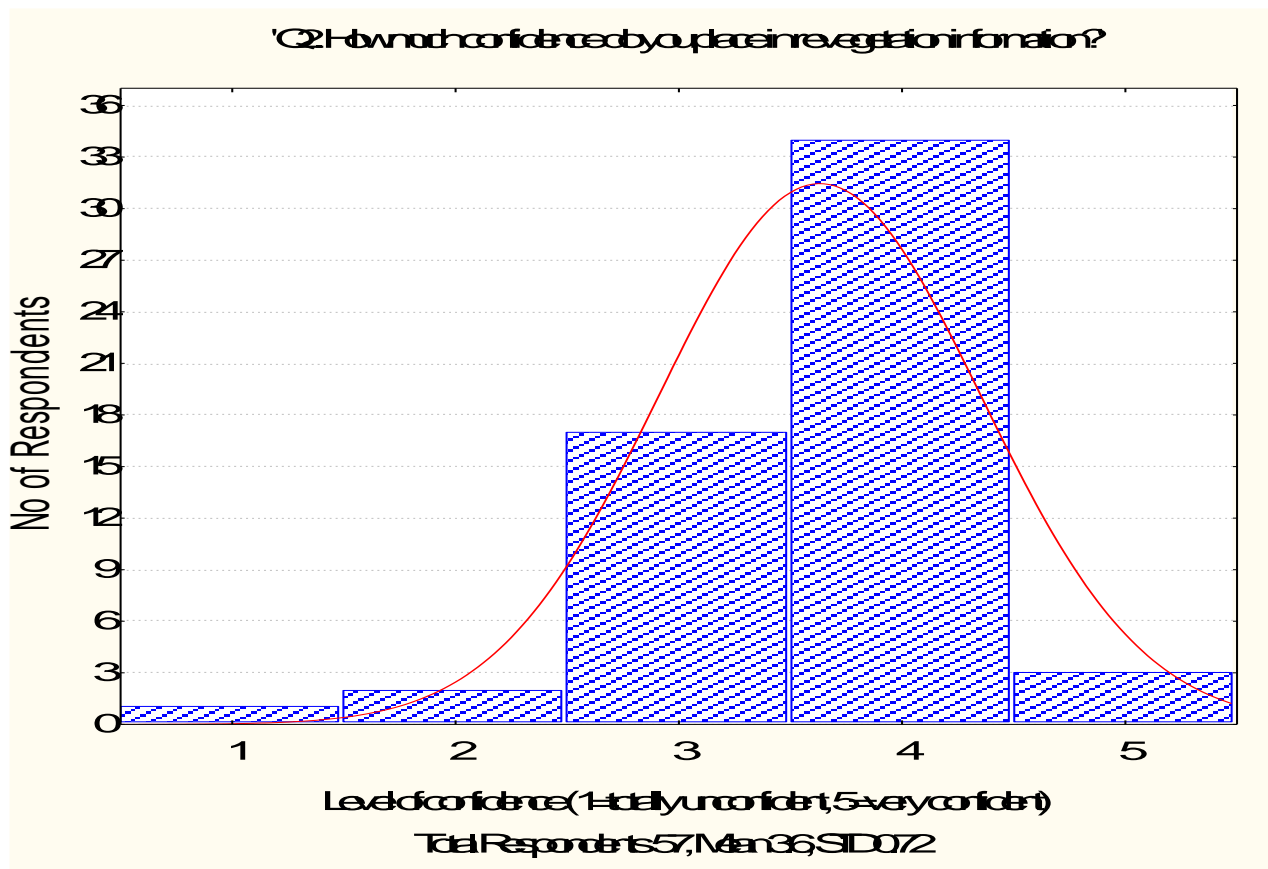
The Focus Groups also showed that knowledge of revegetation information may vary because of a lack of awareness of what is already available.

Intermediaries generally feel confident about their levels of revegetation information, and equally so in performing general extension with their communities. As a result they feel confident in passing on revegetation information to land managers. However, there is a variation in extension confidence among Intermediaries and this can be largely attributed to one’s individual experience in an Intermediary position.

*Most Intermediaries are ‘confident’ or ‘moderately confident’ in existing revegetation information. Figure 5 shows a mean response was 3.6 and the standard deviation was only 0.72. Qualitative information gained from the Focus Groups suggests that officers making*



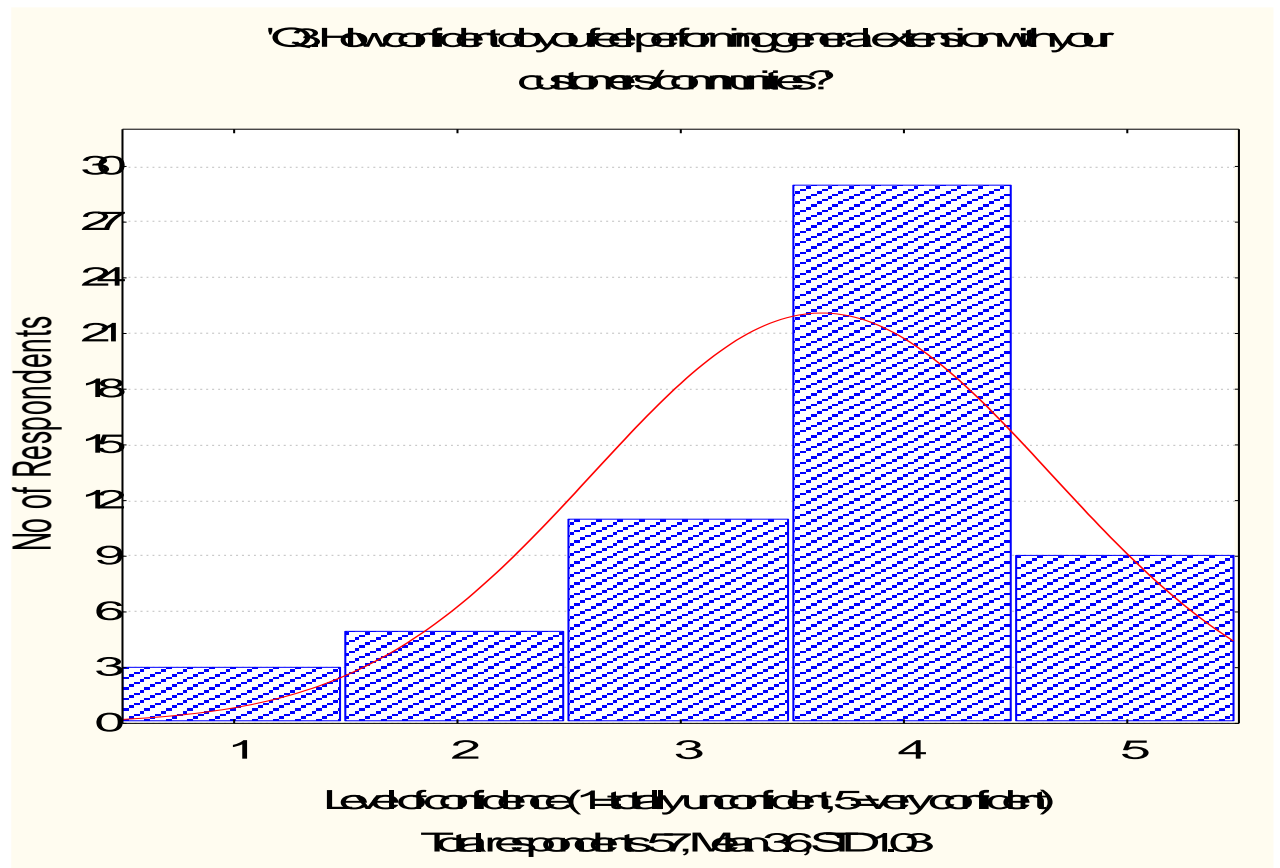
recommendations and advising farmers are confident in the materials they have. The information is considered to be reliable. There are no concerns about conflicting or inconsistent content, although there is recognition that experts can actively oppose each other's approaches to issues (such as the management of the watertable).



**Figure 5. How much confidence do you place in revegetation information?**

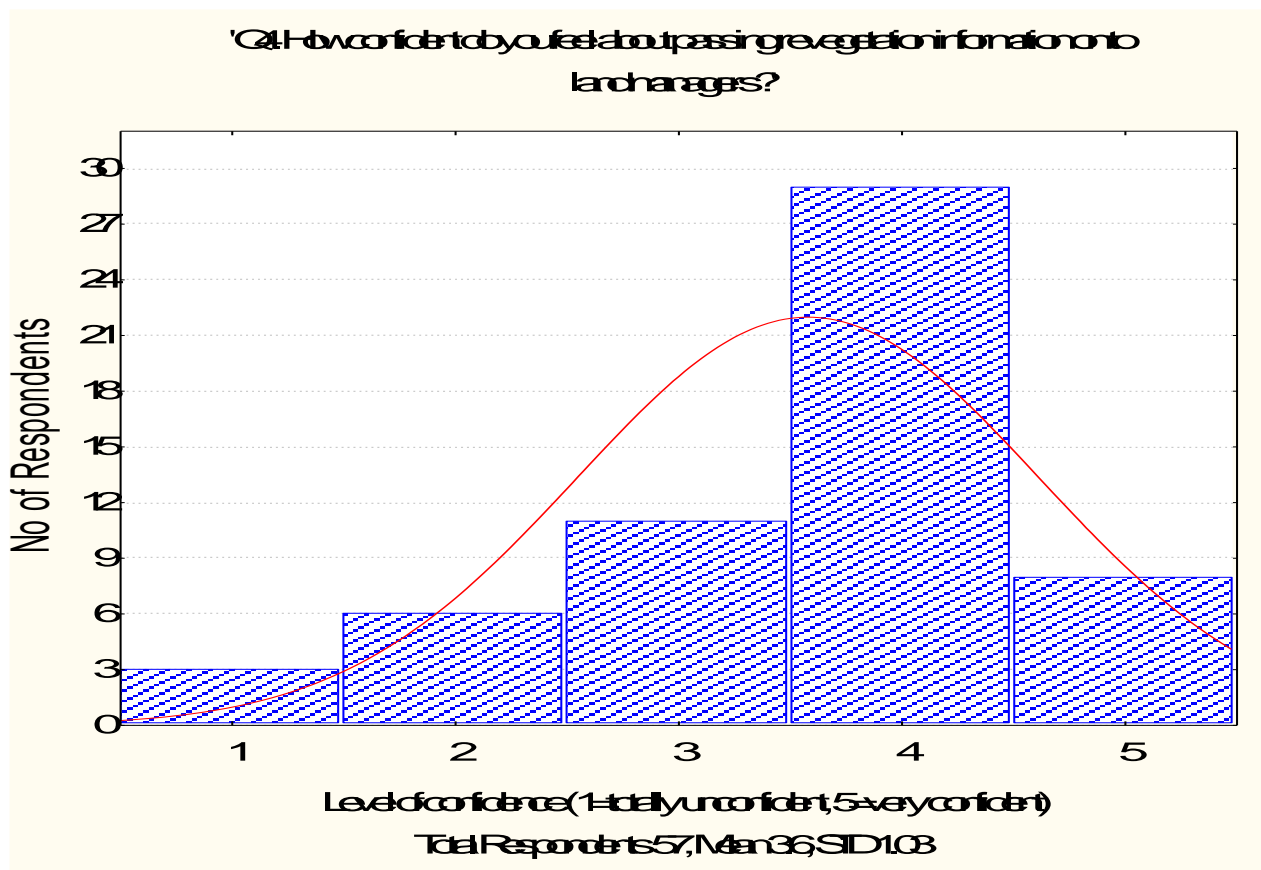
Intermediaries were confident in performing general extension with their own customers or communities. Figure 6 shows 40 out of 57 respondents felt 'confident' or 'moderately confident' in performing general extension. This question received a mean response of 3.6.

A standard deviation of 1.03 indicates a wide variation in responses to this question. This could relate to a respondent's amount of time in a current position which can range from as little as a few months to greater than 5 years. Focus Groups indicated that Intermediaries new-to-the-field can feel unsupported in their job overall, and that they have a steep learning curve.



**Figure 6. How confident do you feel in performing general extension with your customers/communities?**

Intermediaries felt 'confident' or 'moderately confident' about extending revegetation information to land managers. The mean response was 3.6 and the standard deviation was 1.03 as displayed in Figure 7.



**Figure 7. How confident do you feel about passing revegetation information on to land managers?**

The Focus Group research identified a number of barriers to effective dissemination of revegetation information. Barriers included Intermediaries not feeling confident about revegetation issues and/or feeling overwhelmed by the size of the field, and the amount of detailed knowledge required to responsibly advise a farmer. This can explain the responses that reflect Intermediaries feeling ‘totally unconfident’ or ‘unconfident’ passing revegetation information on to land managers.

Questions 2, 3 and 4 of the E-mail Survey are measured on the same scale of confidence (1=totally unconfident, 5=totally confident). Therefore, it is possible to compare the results of these questions.

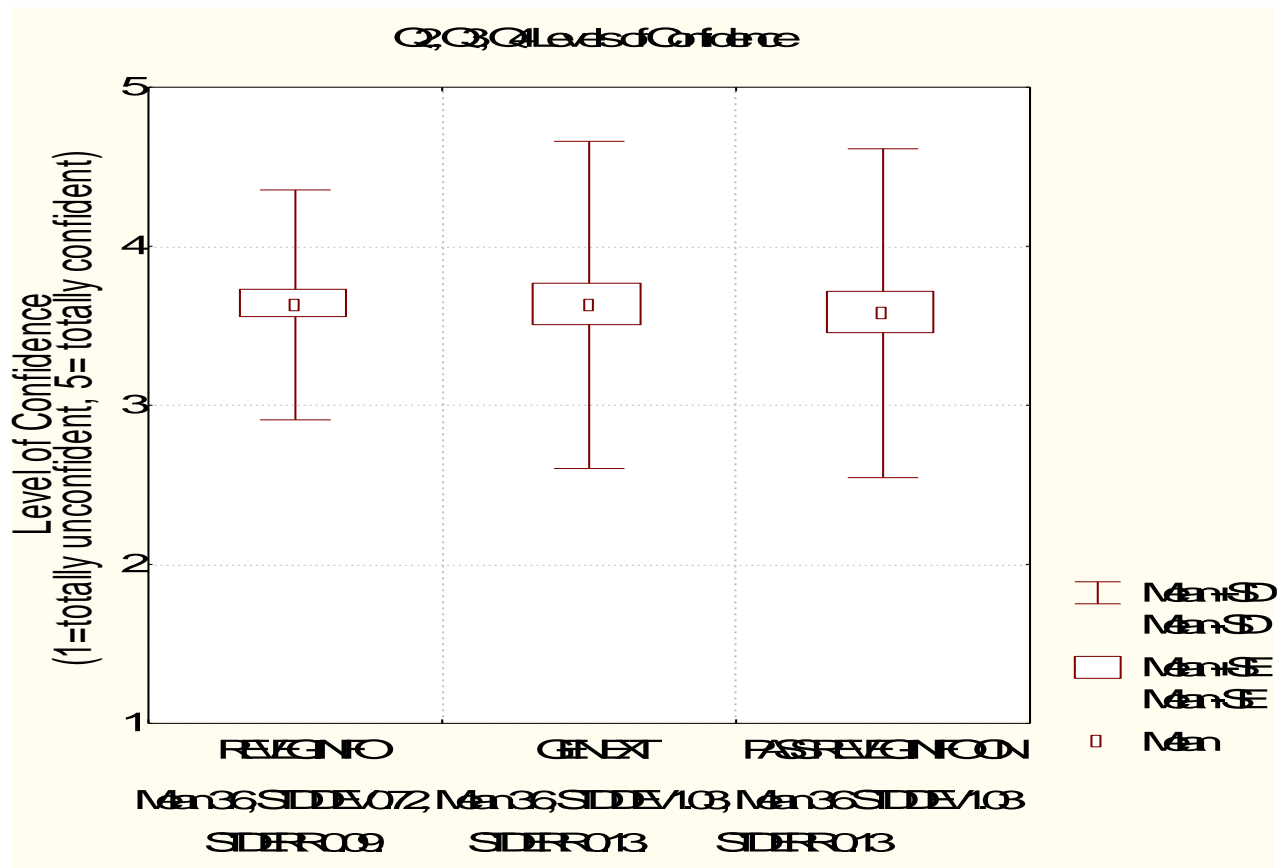


Figure 8. Comparison of Questions 2, 3 and 4.

The mean response and the standard error of Questions 2, 3 and 4 was very similar, as displayed in Figure 8. This indicates that respondents were equally confident concerning revegetation information available, their own ability to perform general extension and their ability to pass on revegetation information to land managers. Therefore, neither the revegetation information available nor the Intermediaries' ability to perform extension was a 'weak link' in revegetation extension in this context.

The standard deviation in response to Questions 2 is smaller than the standard deviation for Question 3 and 4. Statistically this is not significantly different, however, it points to a trend uncovered by the Focus Group analysis; a wide variation in Intermediaries confidence in general extension and hence, extension of revegetation information.

In Northam and Narrogin, Intermediaries tend to operate differently to those in Merredin. Intermediaries in Northam and Narrogin were more likely to be familiar with, and have their own established resources, and established networks to rely on.

The Focus group research discovered that in the Merredin area there seems to be a higher proportion of inexperienced people. Another problem for these Intermediaries is the dearth of research and information on revegetation in areas of low rainfall.

As a consequence, many of the officers in this region felt overwhelmed by the demands of their job and their ability to 'get their head around' revegetation.

"Where do you start? There is so much to take into account."

"If there's a request and the information is in front of me then I pass it on. Otherwise, I refer the farmer to an expert."

Hence, they can feel less confident in their own ability to handle the queries and can almost treat a farmer query like a ‘hot potato’, trying to pass it onto an expert as soon as possible.

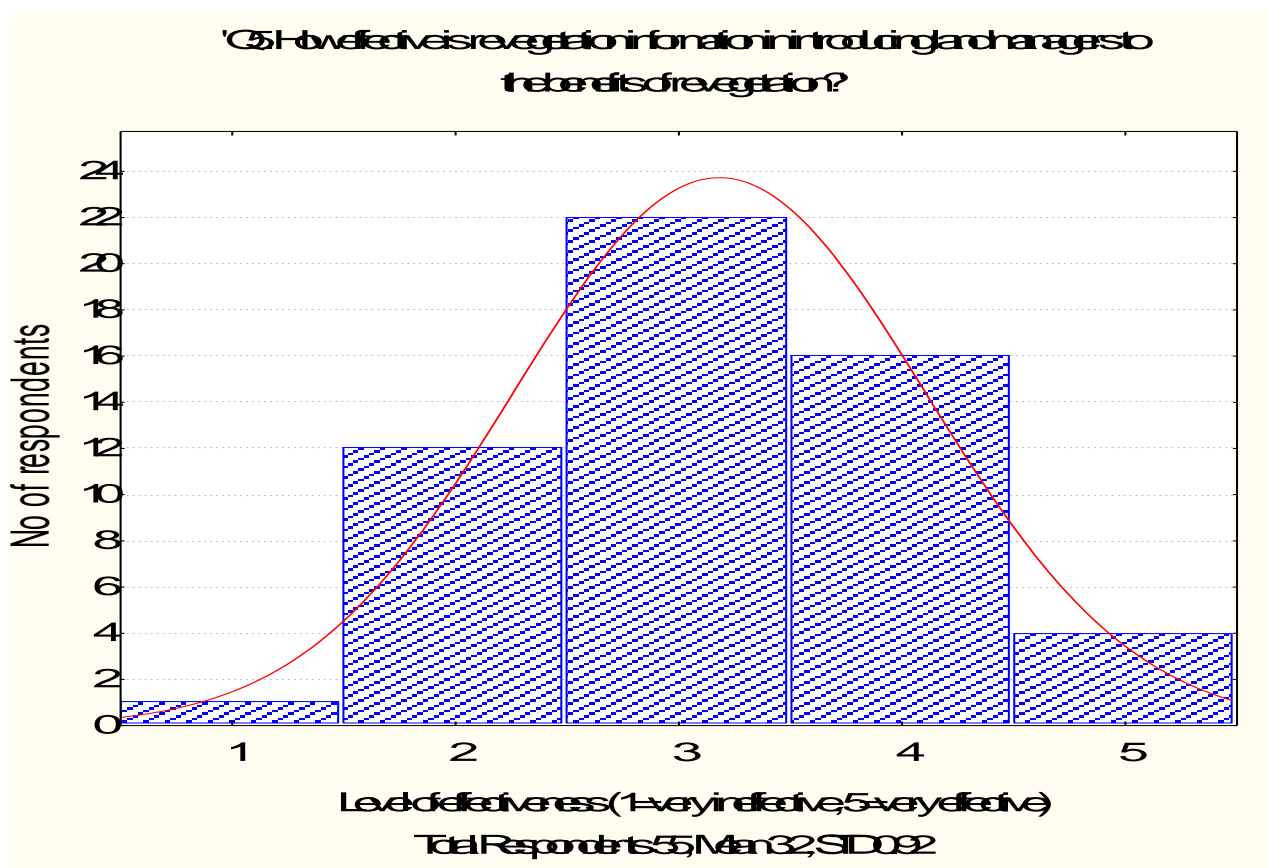
In summary, a wide variation in confidence in extension leads to a wide variation in the extension of revegetation information (despite generally, Intermediaries feel confident in passing revegetation information on to land managers). The cause of this variation is based on Intermediaries’ experience, and their access to information and networks.

- 🌐 Recommendation: FF&R address a lack of awareness of revegetation information and training, networks, and a lack of confidence in revegetation Intermediaries
- 🌐 By quickly identifying Intermediaries new to their position, personally visiting them and introducing them to basic information, training and networks.

**Intermediaries broadly receive two types of revegetation enquiry: introductory and specific. Existing revegetation information is generally effective in meeting the needs of both these types of enquiry. However, there is still ‘room for improvement’ in revegetation information.**

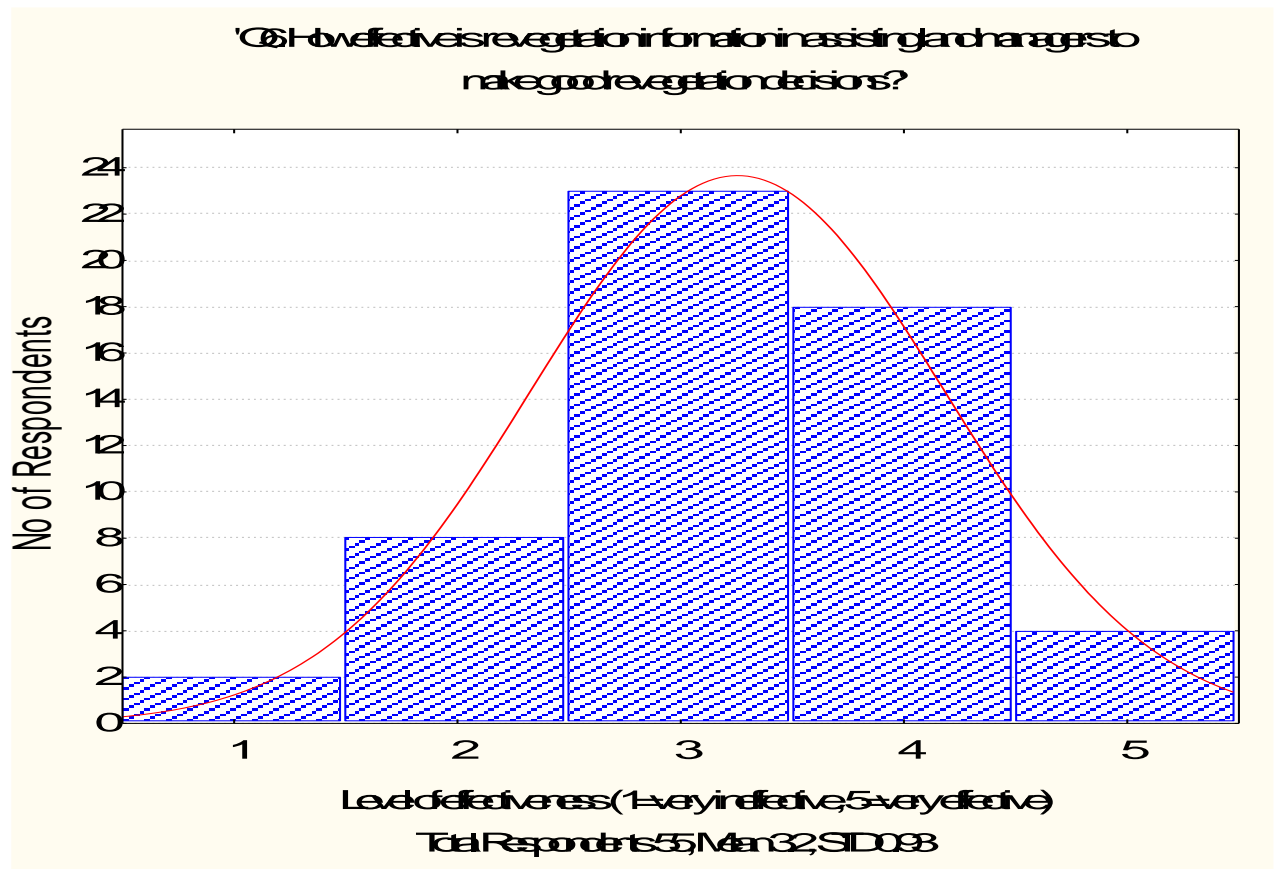
The qualitative Focus Group study identified that overall, there were two types of farmer revegetation enquiry. Both require information that is practically based as farmers are very much focused on the practical. The first type is general in nature and requires general, introductory information. The second type of enquiry is focused on a particular problem, for example, a particular piece of land that requires more specific information and ‘how to’ guidelines.

Most Intermediaries felt revegetation information was ‘moderately effective’ or ‘effective’ in introducing land managers to the benefits of revegetation. Figure 9 shows a mean response of 3.2 with a standard deviation of 0.92.



**Figure 9. How effective is revegetation information in introducing land managers to the benefits of revegetation?**

Similar to Question 5, Intermediaries felt revegetation information was ‘moderately effective’ or ‘effective’ in assisting land managers to make good revegetation decisions. Figure 10 shows a standard deviation of 0.93 around a mean of 3.2 in response to Question 6.



**Figure 10. How effective is revegetation information in assisting land managers to make good revegetation decisions.**

Questions 5 and 6 are measured on the same scale of confidence (1=very ineffective, 5=very effective). Therefore, it is reasonable to compare the results of these questions shown in Figure 11.

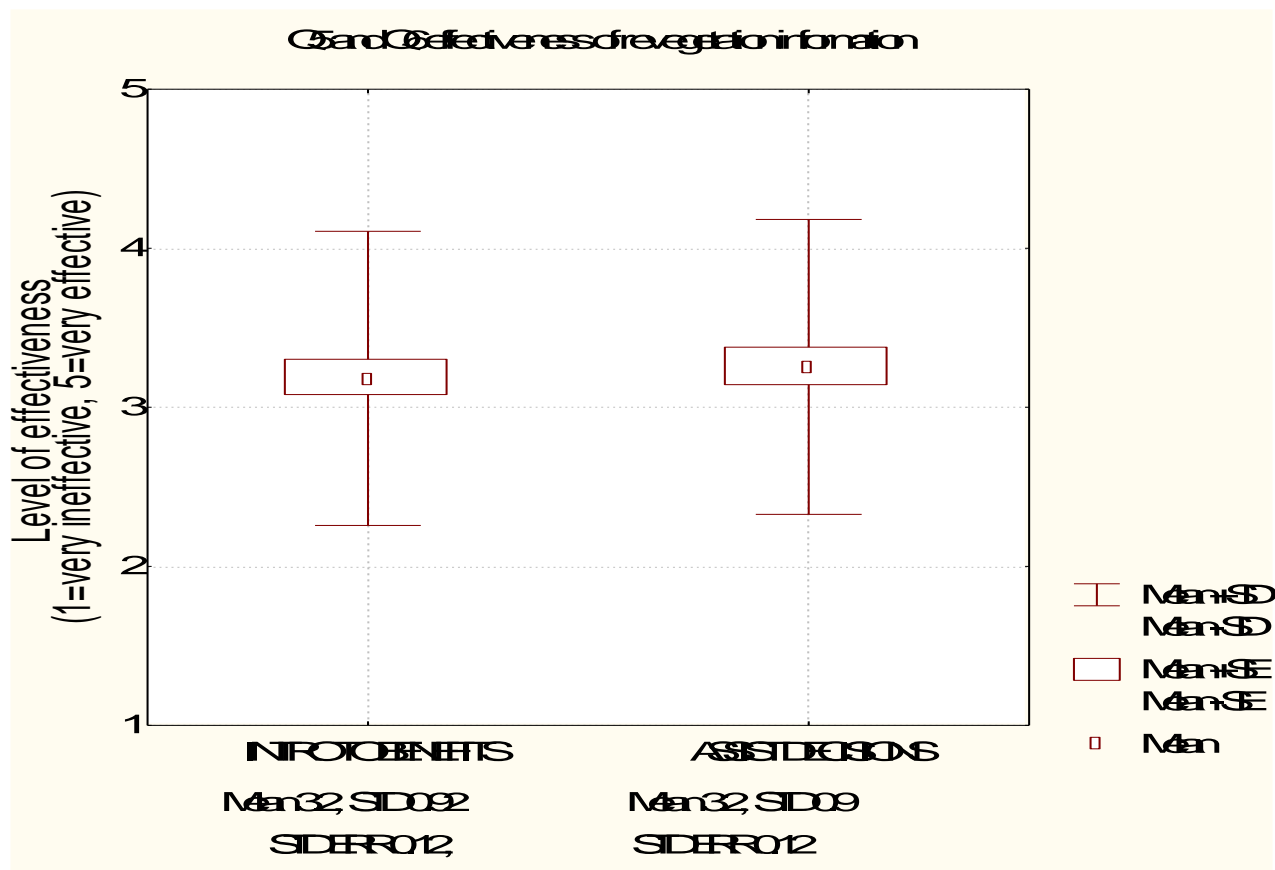


Figure 11. Comparison of Questions 5 and 6.

The mean responses for Questions 5 and 6 were similar, as were standard deviations and standard errors. This indicates that Intermediaries feel revegetation information is equally good at introducing and assisting decision making for land managers. There is no practical difference.

Several suggestions for improvement of revegetation information were identified during the Focus Group research. These were:

- 🌐 It must be kept in mind that there were two very different types of farmers. There are the broadacre farmers who are often entirely dependent on their farm income and who have generally had very poor seasons of late. The second group of farmers are those with small land holdings, or hobby farmers who are often city dwellers and are not entirely dependent on farm income. Information needs to be tailored differently for each of these two groups.
- 🌐 It is critical that the attitude of farmers towards revegetation be considered. Intermediaries consistently stated that information must be presented in a way that directly addresses farmers' perspectives. Concepts to be kept in mind in altering the style include being more accessible, less conservative or formal, younger, and not alienating in any way. One specific example of being out of touch with the audience is to use insultingly-low hourly rates for farmers in financial analyses, or to state fencing costs that are unrealistically low. Furthermore, using the 'dry sheep equivalent' for small land holders is inappropriate. Typical farmer questions are included below to provide a more realistic farmer perspective:
  - 🌐 Where should I put the trees?
  - 🌐 What should I plant?
  - 🌐 Where do I get it?

- 🌍 What do I need to do to this site?
- 🌍 Will it solve my problems down slope?
- 🌍 Do I have to fence it?
- 🌍 When can I graze it/how palatable is it?
- 🌍 Will it contribute to fire management?

- 🌍 Throughout the study, Intermediaries called for revegetation material that not only provides information but it also ‘sells’ or markets revegetation concepts to farmers. Coming from the farmer point of view is certainly effective in marketing. Such an approach, however, does not just include information focused on planting. Ideally, it will provide guidelines as to how to research certain crops/species to identify what the commercial benefit will be. It may even include spreadsheet analyses. It will need to clearly outline, in point form, the benefits to the farmer.

“If the farmers can’t get the commercial information they need, then they give up and keep doing the same.”

One suggestion, which is a good example of being more accessible as well as marketing revegetation, is to produce a one-page summary of the Revegetation on Farms Information Kits. It is expected that such a summary would capture the attention of farmers as well as make it easier for Intermediaries to take a wide range of introductory material to farm visits.

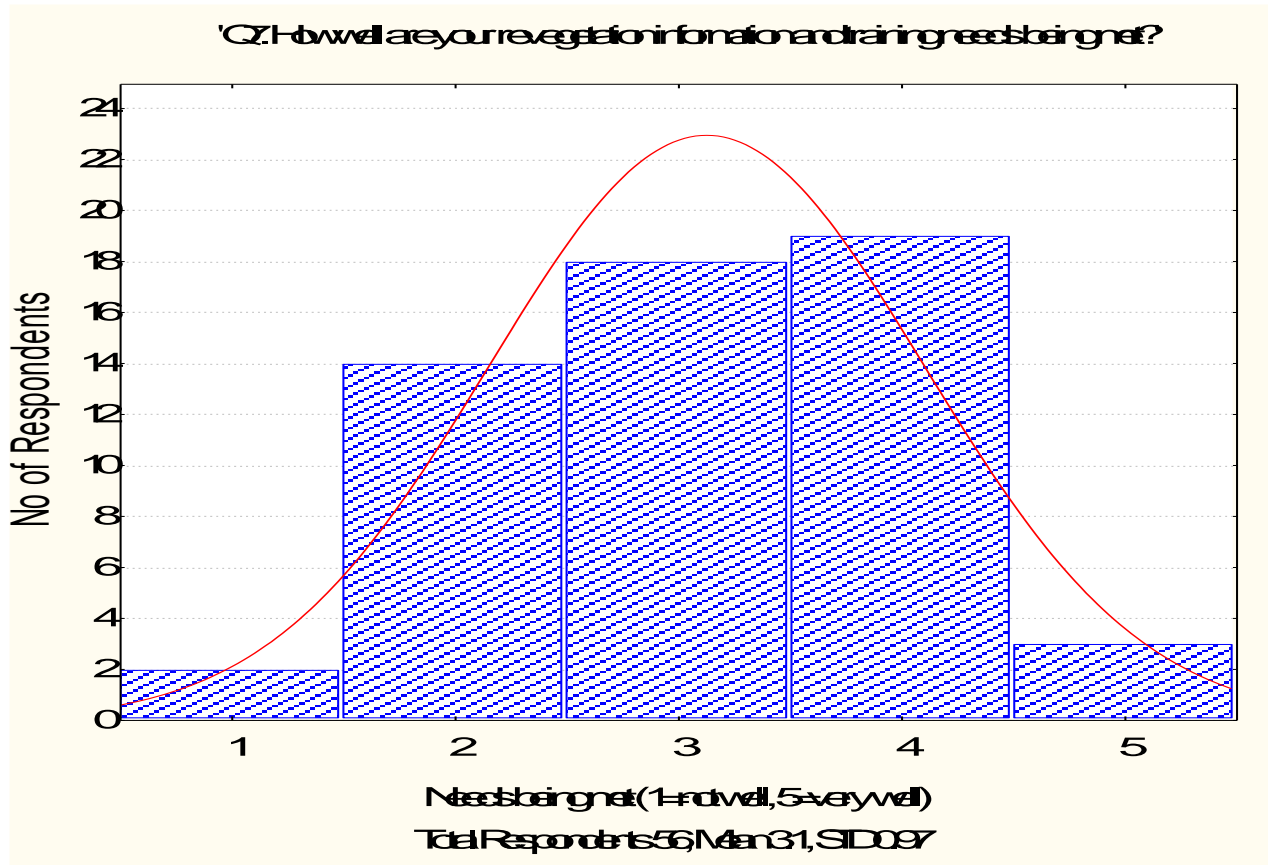
- 🌍 **Recommendation: FF&R make its product more ‘sellable’ by Intermediaries to farmers by:**
  - 🌍 **producing a one-page summary of all Information Kit Products available and distributing it widely. The summary should include basic information on each kit as well as clear information as to where to source the kits.**

From the Focus Groups it was discovered that few Intermediaries would expect farmers to act on the basis of written material alone as each farmer’s situation is unique and expert advice is required to ensure a successful planting.



**Intermediaries vary widely in how they feel their revegetation information and training needs are being met. This is due to a number of factors: experience in an Intermediary position and a lack of awareness of existing training.**

The E-mail Survey shows that Intermediaries feel their revegetation information and training needs are being met 'moderately well' or 'well'. However, there is a wide variation surrounding this among Intermediaries, as shown in Figure 12.



**Figure 12. How well are your revegetation information and training needs being met?**

During the qualitative Focus Group evaluation, discussion focused on training needs.

Intermediaries new to the field can feel unsupported in their job overall and have a steep learning curve. They call for more training in general, including more training on revegetation.

Revegetation training that already exists mentioned in the Focus Group research, included the TAFE Revegetation Training in the Merredin region. However, it could not be run last year due to lack of numbers. Given that Intermediaries in this area were especially keen on training, it was possibly not publicised adequately. If so, there is an opportunity for the Department of Agriculture to assist in raising awareness of existing training opportunities.

- 🌐 **Recommendation: All Revegetation information and training providers address a lack of awareness of revegetation training available by:**
  - 🌐 **Documenting and promoting existing training opportunities.**
- 🌐 **Recommendation: All Revegetation Information providers overcome a general lack of revegetation training (especially in the low rainfall zone) by:**
  - 🌐 **Increasing the resources for training and improving access to training.**

Another reason Intermediaries have difficulty attending revegetation-based training is that they are dictated to by farmer desires and needs. Many commented that they would love to be involved in more revegetation work but that is not what farmers always want.

Training workshops, preferably no more than one day in duration because of Intermediaries' busy schedules, were requested in this research. This training would consist of more introductory, generic information. It could also provide an opportunity for new Intermediaries to meet with some of the experts that they may need to contact later.

**The most used and preferred revegetation information formats are telephone enquiries, one-to-one visits, newsletters, information kits, and Farmnotes/Agnotes. Other used and preferred formats include WebPages, field days, workshops, guest speakers, peer meetings and demonstration sites.**

#### *High Use - High Preference Formats*

Figure 13. Shows use vs. preference for different information formats. The most used and preferred revegetation information and training formats were:

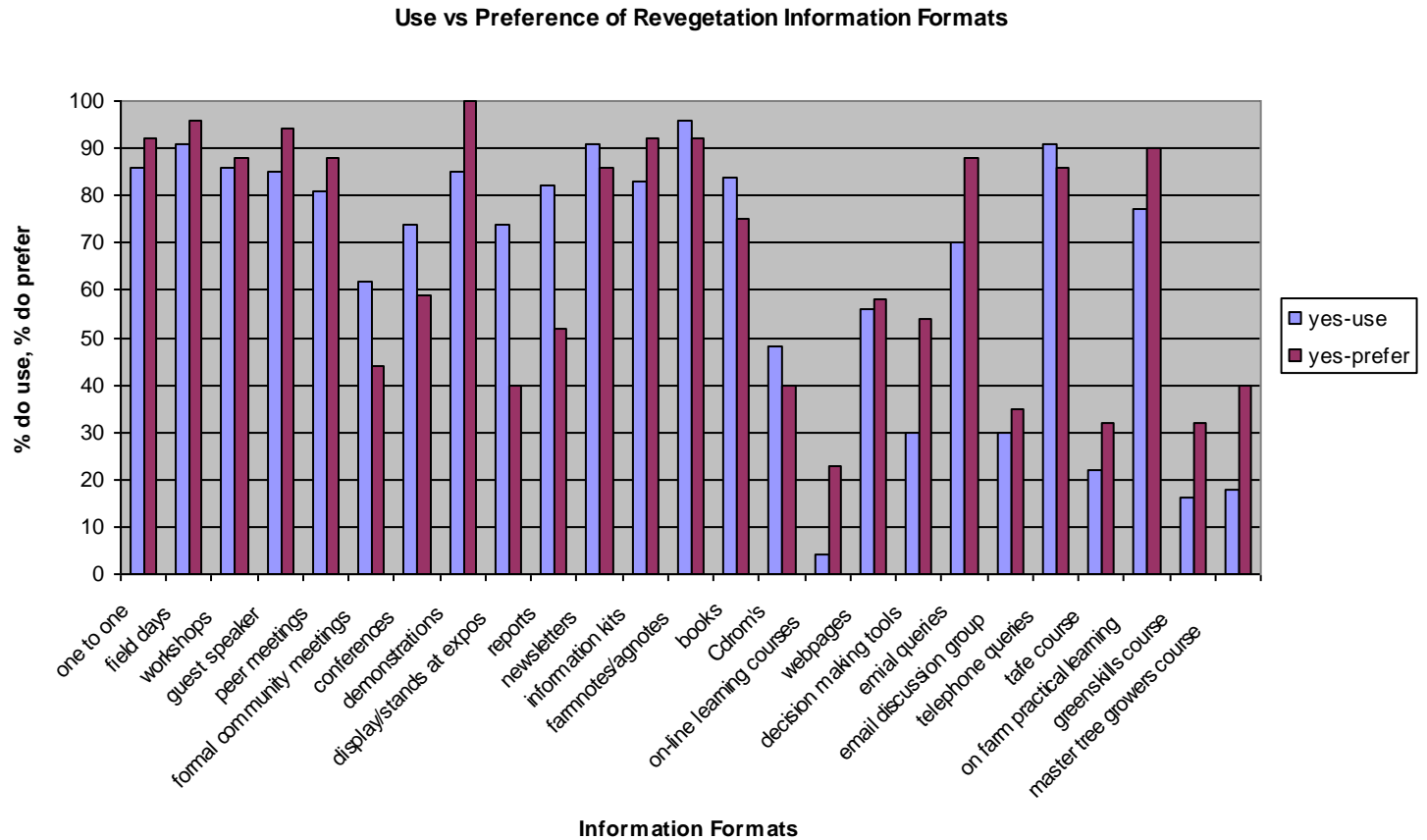
- 🌐 One-to-one visits;
- 🌐 Field days;
- 🌐 Workshops;
- 🌐 Guest speakers;
- 🌐 Peer meetings;
- 🌐 Demonstrations;
- 🌐 Newsletters;
- 🌐 Information kits;
- 🌐 Farmnotes/Agnotes; and,
- 🌐 Telephone enquiries.

All of these formats received an 80 per cent or higher positive response rate for both use and preference.

Of special note is the information format 'demonstrations'. Eighty-four per cent of all respondents use demonstrations for their own learning and all respondents (100 per cent) preferred to use 'demonstrations'.

- 🌐 **Recommendation: FF&R take advantage of the popularity of revegetation demonstrations by:**

- Investigating the effectiveness and efficiency of demonstrations in learning and influencing adoption.
- Recommendation: All revegetation information and training providers take advantage of the popularity of revegetation demonstrations by:
- Identifying and developing suitable revegetation demonstration sites.



**Figure 13. Intermediaries' use and preference for information formats.**

### *Preferred Formats for Information Gathering*

The major channels for information gathering for Intermediaries identified by the Focus Groups include:

- Telephoning the specialists - Greening Australia's Bushcare Officers are highly regarded and seem to be heavily accessed;
- Referring to one's own established information library; and
- Using relevant websites and newsletters.

### *Prefer Print Media*

Other qualitative results indicated that across the three Focus Groups, the most popular publications are those that are well set out, succinct and easy to read – because it makes the Intermediaries' job easier. The succinct style of the Farmnotes, Water Notes and Tree Notes were liked and, importantly, the Farmnotes have some credibility amongst farmers. Intermediaries themselves do not necessarily want or have the time to read full research articles.

Furthermore, easy-to-read materials are more popular amongst farmers. Hence, 'Revegetation on Farms' Information Kits were universally appealing as all the relevant information is in one kit. Information can be readily accessed and the whole kit can be lent to farmers, or items photocopied and sent off. In addition, the farmers like having the contact names supplied. The ideal, as identified by the Focus Groups, would be to have information such as the 'Revegetation on Farms' Information Kits, available electronically as well as printed, to facilitate easier dissemination as many farmers communicate via E-mail.

- **Recommendation: All NRM Projects providing extension to Intermediaries take advantage of new and increasingly-adopted technology by:**
  - **Making their written extension information readily available to Intermediaries in electronic format that can be easily E-mailed and downloaded.**

Although Farmnotes/Agnotes were rated highly in the E-mail Survey, some Intermediaries in the Focus Group were critical of Farmnotes. Some said Farmnotes can be described as too conservative, scientifically-focused and they use outdated language. This indicates that while Farmnotes are a popular revegetation information format there is still 'room for improvement'.

- **Recommendation: Department of Agriculture SRD Salinity Sub Program overcome a labelling as 'scientific' and 'conservative' by:**
  - **Adopting a 'marketing' approach to written material;**
  - **Avoiding a conservative or overtly technical style; and**
  - **Focusing on the 'bottom line' benefits of revegetation for farmers.**

### *Preferred Group Learning Formats*

Intermediaries also liked workshops or field days because of the opportunities they provide in meeting with and learning with farmers. An example of a good field day was the direct seeding one:

"I really liked the direct seeding field day because you could see it first hand, the farmers could come as well, there were good quality hand-outs and I could write my own notes."

Intermediaries also reported that farmers respond very well to farmer case studies and any farmer-to-farmer interaction. In addition, in consultations, it is considered most worthwhile to

be able to relate peer experiences and to direct farmers to the successful projects of neighbours.

Popular information formats can also be identified by studying the extension habits of experienced Intermediaries. Intermediaries respond to a farmer query by making a farm visit and/or having a lengthy telephone conversation to ascertain their needs. As a follow up, often an expert will be brought in, information will be posted or emailed out, and/or Website or relevant groups or people will be referred to. This process demonstrates that one-to-one visits, telephone enquiries, published information, E-mail enquiries, Website and networks are all important information formats in learning and extension.

### **Networks are critical for Intermediaries to extend revegetation information**

#### *Networks and Networking*

Networks generally are very important in the extension of revegetation information. This is indicated by the very high use of and preference for one-to-one visits, field days, guest speakers, workshops, peer meetings and telephone enquiries as in Figure 13 (Question 8 of the E-mail survey). Networks are a key issue as Intermediaries are heavily reliant on them for gathering information and linking farmers with appropriate groups. However, networks and an ability to network vary greatly among Intermediaries as was borne out in the Focus Groups. The importance of networking was highlighted in the group process itself, with less experienced participants keenly questioning other participants and often being corrected about inaccurate or incomplete knowledge.

The networks of more established Intermediaries seem to operate at a more successful level in that they receive good levels of help from their contacts. One 'new starter' complained that it can be difficult to access the upper levels of the Department of Agriculture. As a result, she must deal with juniors who do not always accurately assess her information needs. Consequently she receives the wrong information.

- 🌐 **Recommendation: The FF&R project assist Intermediaries to build diverse and high calibre networks and information resource libraries, by:**
- 🌐 **Developing an easily-accessible revegetation contacts database; and,**
- 🌐 **Developing an easily-accessible bibliographic database of revegetation.**

**The least used and least preferred revegetation formats are On-line learning courses, Greenskills courses, Master TreeGrower courses, TAFE courses, E-mail discussion groups and CD-ROMs.**

#### **Low Use - Low Preference Formats**

Figure 13. Shows use vs. preference for different information formats. The least used and least preferred revegetation information and training formats were:

- 🌐 On-line learning courses;
- 🌐 Greenskills courses;
- 🌐 Master TreeGrower courses;
- 🌐 TAFE courses;
- 🌐 E-mail discussion groups; and
- 🌐 CD-ROMs.

All of these formats received a 50 per cent (or lower) positive response rate to both use and preference from respondents.

On-line learning and E-mail discussion groups were not used or preferred in the E-mail Survey. However, the concept of on-line chat was discussed positively at one Focus Group. On-line chat groups, specifically on revegetation topics, were thought to be potentially helpful. When used, they need to be carefully thought out and supported because, as discussed in the Merredin region, there are so few experts that such a chat-line could result in farmers simply directing specific questions at experts. Intermediaries thought on-line chat groups could be a good means by which farmers might share revegetation stories and trial information.

### **Websites as an Information Format**

Websites were an area of contention in the evaluation. Intermediaries were polarised in their attitudes towards Website information. Many readily use this resource, while others expressed frustration with the amount of time it takes to log on and search for sites.

“It’s so time consuming searching for sites, it’s better to go to a Bushcare Officer.”

“There are so many sites and you have to wait for it to download and print out so I prefer to have hard copies on file.”

Many prefer CD-ROM formats, such as Rex ’96, because of the above reasons. CD’s have the advantage of being easy to access and loan.

### *Other Suggested Formats*

In the E-mail Survey respondents had the opportunity to add their own revegetation information formats and mark use and preference against these. Although few people responded, suggested formats were:

- 📍 NHT Training Course;
- 📍 course run by a variety of organisations;
- 📍 relevant journals;
- 📍 direct advice from specialists;
- 📍 universities;
- 📍 Bushcare, Land for Wildlife;
- 📍 Kings Park.

**There is a significant difference in Intermediary use and preference for some revegetation information formats. Those formats that are used but not preferred are; Formal community meetings, Conferences, Displays/stands at expos and reports. Revegetation information providers using these formats to reach the Intermediary audience may be wasting resources.**

**Those formats that are preferred but not yet used are; Demonstrations, On-line learning courses, Decision making tools, E-mail queries, On-farm practical learning, Greenskills course and Master tree growers course. Revegetation information providers may benefit from investing more into these formats when extending to the Intermediary audience.**

Of great interest to the study are the information formats in Figure 13 that showed a significant difference between use and preference for the format.

From Figure 13 these formats can be visually identified and this is supported by statistical analysis (Pearson Chi squared test).

## High Use - Low Preference Formats

Table 2 shows where use and preference for an information format differed significantly (preference lower than use).

**Table 2. Information Formats with Use Significantly Higher than Preference**

Information format	Pearson Chi-squared test, significantly different if $>0.05$
Formal community meetings	$P= 0.011$ , significantly different
Conferences	$P= 0.025$ , significantly different
Displays/stands at expos	$P= 0.001$ , significantly different
Reports	$P= 0.001$ , significantly different

These information formats are being used by Intermediaries, however, their preference for these formats is significantly lower. Projects or programs using these formats to deliver revegetation information to Intermediaries may not be effective or efficient. Use of these formats should be reviewed, carefully considering audience and intended learning outcome.

Reports are not a preferred format and this was supported by Focus Group findings. An example of a publication that was rejected outright due to its 'heaviness' was the Dongolocking Pilot Planning Project for Remnant Vegetation.

All of these areas represent potential savings for information providers currently using these information formats to reach the Intermediary audience.

- 🌐 **Recommendation: All NRM Projects providing extension to Intermediaries prevent inefficient use of time and resources by:**
  - 🌐 **Reviewing the use made of Formal community meetings, Conferences, Displays/stands at expos and reports as primary extension tools aimed at the Intermediary audience.**

### Low Use - High Preference Formats

Table 3 shows where use and preference for an information format differed significantly (that is, use was lower than preference).


**Table 3. Information Formats with Preference Significantly Higher than Use**

Information format	Pearson Chi-squared test, significantly different if $>0.05$
Demonstrations	$P= 0.001$ , significantly different
On-line learning courses	$P= 0.001$ , significantly different
Decision making tools	$P= 0.001$ , significantly different
E-mail queries	$P= 0.002$ , significantly different
On-farm practical learning	$P= 0.013$ , significantly different
Greenskills course	$P= 0.008$ , significantly different
Master tree growers course	$P= 0.001$ , significantly different

These formats are preferred by Intermediaries significantly more than they are currently being used. This suggests that Intermediaries are comfortable with the formats, however, there is currently little revegetation information or training available through them. Therefore, more effective use could be made of these formats by people who provide extension information to Intermediaries.

The E-mail Survey results suggest that opportunities that would represent greatest return on input (that is, where the current difference between preference and use is highest) would be demonstrations, E-mail enquiries and on-farm practical learning. These formats are a high priority for information providers who wish to expand their effectiveness.

 **Recommendation: All NRM Projects providing extension to Intermediaries take advantage of 'growth' extension formats with the Intermediary audience by:**

 **Expanding input into demonstrations, E-mail enquiries and on-farm practical learning as extension mediums for this audience.**

Focus Group results showed Greenskills and Master Tree Grower courses were beneficial, however, there was very little use of or preference for them as indicated in the E-mail Survey results. Once again this may be due to lack of awareness.

Organisation of employment and number of years in an intermediate position can influence Intermediaries' confidence in extending revegetation information.

Respondents' information was analysed to discover whether responses to Question 1 to 8 were associated with the respondents' qualifying information, That is, organisation of employment, length of time in position or rainfall area (see Attachment 6).

There is no association between any of the demographic criteria and responses to Questions 1 to 7 (Table 4).



**Table 4. Significance of chi-squared statistics**

	<i>Organisation</i>	<i>Years in position</i>	<i>Rainfall area</i>
Q1	0.364	0.488	0.436
Q2	0.807	0.326	0.132
Q3	0.815	0.510	0.974
Q4	0.349	0.125	0.633
Q5	0.587	0.315	0.796
Q6	0.590	0.331	0.308
Q7	0.577	0.727	0.540

Statistical analysis revealed the following relationships:

- There was an association between usage and preference for some formats (mentioned in Question 8) and organisation of employment;
- There was also an association between some formats and time in position; and
- There was little association between rainfall area and formats.

However, when making a large number of tests of significance at the 5% level of significance, we would expect approximately 5% of the tests to be significant by chance. The number of results from statistical analysis pointing to the above relationships totalled about 5% of all analyses performed. This indicates that we have very few real results.

However, if we look purely at the effects of organisation on responses, total significant results are about 11% (above the 5% chance estimation) indicating that there are probably some real effects here.

Consistently, throughout the Focus Group research, experience was recognised as important in relation to an Intermediarie's overall effectiveness. Experience influenced size and calibre of networks, ability to source and judge information, methods of dealing with farmer enquiries and one's overall confidence in a position. Experienced Intermediaries felt very confident and were judged by others as being effective. The qualitative Focus Group information indicated strongly that increased experience leads to increased confidence in extending revegetation information. Conversely, little experience leads to less confidence in extending revegetation information.

- Recommendation: FF&R more suitably address its audience and use its resources more effectively by:**
- Segmenting its audience (by organisation of employment and other relevant qualifying information) and establishing and implementing suitable extension methods and protocols for each segment identified.**

**There is an overwhelming need for revegetation information and training that focuses on commercial agroforestry. Beyond this the revegetation information and training needs of Intermediaries vary widely.**

Question 9 of the E-mail Survey asked 'Which revegetation topics would you like to see addressed with information and training or more information and training?' Six respondents chose to leave this question unanswered, while two gave a Nil or No answer. The remaining 49 respondents offered a total of 103 comments.

These are displayed in Table 5.

**Table 5. Which revegetation topics would you like to see addressed with information and training or more information and training?**

* Options for acidic soils (wodgil ie more acidic at depth) - productive (pasture/non-pasture options).
* Options for waterlogged; waterlogged/saline areas.
* Productive options for low rainfall areas (other than oil mallees)
1) Seed Germination techniques with specific examples of species used in revegetation works.
2) Fact sheets with examples of vegetation types and the fauna species that utilise these plant species or vegetation community types (eg birds nesting in dense bushy shrubs of particular species such as tammar thickets, fauna that use dead wood - both hollows and fallen timbers, etc) for different areas.
3) Access to some of the scientific studies that have been conducted, for example the impacts to remnant (or original) vegetation by grazing, or some of the fauna and flora survey information that have been conducted in remnants throughout the south west of WA. This could either be in the form of a bibliography or reference list sent out or some of this information put into more simple language and compiled into fact sheets or something similar.
4) Fact sheets with details on vegetation and soil associations.
1. Bushfood opportunities
2. Horticultural opportunities ie fruit and nut trees
3. Native timber opportunities
4. Exotic timber opportunities - sugar gum, various acacias etc
5. Identify potential commercial timbers in each region that could be cultivated.
6. Identify proven commercial options that have an existing market that is accessible.
1. Marketing
2. Economics of broad scale tree crops, i.e. Maritime Pine, Eucalypt sawlogs & Oil mallee
3. Cooperatives
Alternative timber crops (ie other than pines)
Alternatives to introduced species for wood chips eg native veg species.
Managing areas for fauna
Better dissemination of ongoing research / result between organisations
Biomass production - for energy (electricity)
Short rotation commercial tree crops
Commercial agroforestry planting options
Commercial Integrated farm forestry options
Can't see a real need for any topics at the moment
Commercial crops - the figures (how much money are they going to make?)
Productive use of saltland (how much money are they going to make?)
Commercial crops for low-very low rainfall areas
Profitable saline revegetation systems
Water-use efficiency of different species
Commercial Crops - <i>M. uncinata</i> , Samphire
Commercial Crops such as oil mallees, farmers are interested in these but I have limited knowledge on the subject ie how they are harvested, what age, how frequently after the first harvest etc.
Commercial Crops.... - Industry development ...
Commercial options,

management scenarios for revegetation designs eg grazing options,
Combinations of reveg options eg introduced pasture species under indigenous overstorey, or non-indigenous timber species over indigenous understorey,
commercial tree species suitable for below 400 mm/yr rainfall that will be supported by subsidies by NHT, CALM, etc.
Creekline reveg,
Bushland reveg,
Wildlife corridor design
Bushcare
Structure
Width and connection of revegetation
Species lists - revegetation
Planning before planting
Direct seeding for nature conservation
Sandalwood for commercial use
Options for low rainfall
Don't have a current need for the info, and am not sure what is currently available, so I would rather not answer this question.
Economic and productive reveg systems that can fit into cropping system
Emphasis on revegetating upper catchments and working / planting on contours.
Importance of Biodiversity, ecosystem approach, rather than just a few species to lower the water table and salinity threat.
Existing vegetation information on mapping - eg Beard's vegetation maps, land monitor, etc
Saline production systems
Natural vegetation communities - RCA catchments
Economics of low rainfall agroforestry species
Farm planning
GIS
Drainage
There is a need to highlight the need for revegetation and remnant protection, as well as the need for establishing perennials across the whole landscape - look at Dr Chris Clarke's publications (Murdoch University).
We need to have incentive schemes that encourage farmers to establish perennial pastures and other perennial crops, whilst also being attached to biodiversity aspects. For example, you get \$x per ha to establish lucerne if you fence off all of your remnants (@ \$x/km). The same incentive could go for reveg
Given the huge problem of salinity we are faced with, there is no way that we will be able to address it only with the establishment and protection of native vegetation. There needs to be commercial solutions. Farmers are hesitant to establish lucerne due to high cost of establishment and the change in farming practice. We need to explore more options for putting perennial plants on the currently annual agricultural land. Local tree species would be ideal. Can we explore Wandoo and Jarrah tree crops?
Honey production of oil mallees on WA farms
I think locally based training on commercial crops may be useful for farmers
I would like to see some training in how to design and establish woodlots on farms. I am often handing out treenotes or other info on potential timber crops and when asked about how quickly do these things grow? Or how do you establish them?, what spacings do you plant them, when do you prune, fertilise, etc., etc..I'm left to say ----ed if I know! The answer is no-one knows up here because they haven't been tried. We really need some basic research to produce the extension material and then empower our extension staff with confidence in their recommendations.
Information on the state of the markets associated with alternative crops
Local bush foods or other commercial products sourced from (local) native plants













Designing wildlife corridors
Revegetation for habitat purposes (ie: who lives where)
More info on commercial crops in low rainfall areas. More info on techniques to regenerate native veg when seed bank is already there (in heavily grazed areas that have recently been fenced off)
Update on Oil Mallees - in Agmemo article etc.
More on direct seeding in all landscapes (rainfall zones and light to heavy soils, etc)
Water use benefits of direct seeded revegetation over seedlings, etc
Farm firewood production (plantations)
Eucalypts for poles - uses/growing them/economics (treated and untreated)
More productive uses of species for high rainfall areas, though generally it is not limited like the lower rainfall areas
Native /bush foods and medicine crops
Low rainfall trials and demo sites with thorough support
Perennial/ legume pastures for acidic soils
Attain better understanding of local soil types and properties
Native cut flower growing
Alternative commercial crops for buffers etc
Biodiversity - much many spp plants is enough?
Nil
Not surprisingly all
Range and design criteria (on-ground layout, species, etc) of trees, bush, crops, etc, for commercial use in combination with benefits to natural resource management, especially in terms of their suitability for management of soil- and groundwater in each land-management unit.
Weed control.
Details on the use of direct seeding in low-rainfall areas.
Reveg for commercial gain.
Cost-Benefit analysis of revegetation for nature conservation and in systems where alley farms are used for eg.
Revegetation for nature conservation
Revegetation with regional native species with economic potential
Native revegetation to specific soils / landscape positions / climates
Best practice revegetation options, including establishment and maintenance (not necessarily just for native species) for <450mm rainfall zone
saltbush - saltland pasture in particular, floriculture
Small scale/small property commercial crops
Realities for Swan Coastal Plain
Some serious discussion on commercial crops rather than the somewhat vague 'demonstrations' approach that some groups are supporting. For example, one group has been making recommendations regarding farm forestry prospects for 'high value' timber species, and has festooned the Wheatbelt with 'demonstration' plots. Invariably these plots are not based on any sound silvicultural notion; they are merely a collection of plants, which periodically have been used for commercial purposes at some point in history. Anyone practising extension work needs to make sure that they are promoting a realistic proposition. (Sorry Stephen, you can probably guess who I mean, but the issue is still there, for the extension workers to get it right and for the farming group to be able to have access to readily decipherable information so they are not at the mercy of any particular extension source)
More work along the lines of Gav Mullan's case studies at Dongolocking, especially with corridor selection and design
Specialty timbers
Use of timber belts (e.g. windbreaks of commercial species)
Tools to assess commercial viability of timber crops

Timber crops for sub-saline and waterlogged areas
Specialty timbers
Perennial crops
Summer crops
Specific tree planting information re. Species habitat, which fauna species use which flora as habitat/food etc.
Agroforestry in lower rainfall areas
Commercial tree crop options. I.e. more info. on Acacia, Oil Mallees Sandlewood, and any other possible species for specific areas.
Case studies of past tree planting trial, i.e. Sharing of information!
The usual - commercial tree crops for medium to low rainfall zones (but not for oil mallees - already get enough information on this).
There is a vacuum of information regarding the integration of commercial vegetation species and their role in landscape and ecosystem function.
There is little current information that I'm aware of in regard to farm forestry/ agroforestry on the Swan Coastal Plain. A lot of work was apparently done in the past but there's been no follow up. It has been suggested by a community member that we pull a tour together to look at all the tree sites established about 10 years ago and see 'where they are at'. I am yet to have the chance to follow this suggestion up and try to find out who the people are that were involved with the establishment and monitoring of the sites and if any of them are still in the system [other than the landholders].
Using native bush for seed collection
Weed control on sites direct seeded last season, but no germination of seed until current season (ie timing to kill weeds without killing too many germinating native seedlings)!
Commercial seed orchards (native species)
Herbicide tolerances of native plants
Alley farming - topics such as: effects of different tree/shrub species on surrounding crops/pastures (nutrients, toxins etc); optimal widths of alleys; planting north/south (minimise shading) vs contour plantings
would like to see more information on
- Commercial perennial tree crops for mid rainfall areas.
- Direct seeding,
- Floriculture
- Bushfoods
- Native Grasses














Of the 103 responses, 51 related to commercial crops, either generally or specifically, for example, commercial tree species or floriculture respectively. This represents a significant expressed need in the Intermediary community for more revegetation information and training based on commercial agroforestry options.

Other responses were extremely varied, none that could be amalgamated into a group of more than five. This indicates that apart from a strong trend towards commercial agroforestry options, the revegetation information needs of Intermediaries are greatly varied. This statement derived from the E-mail Survey is also apparent in the Focus Group results. In fact the Focus Group results go further and identify the source of the revegetation information need: 'Intermediaries are dictated by farmer desires and needs.'

The Focus Groups found there are calls for much more detailed information (including specific information for the appropriate rainfall, soil type and position for individual species). Whilst this was the main need, calls are also made for more introductory information and practical tips (such as site preparation, things to consider, potential problems and how to look after seedlings).

- 
**Recommendation: All Revegetation information and training providers assist Intermediaries in quickly and easily identifying information suitable for them by:**
  - 
**Qualifying existing and future information by biogeographical indicators (For example rainfall and soil type).**
- 
**Recommendation: FF&R overcome a general lack of knowledge in the farming community (especially in the low rainfall zone, <400 mm/yr) about the basics of revegetation by:**
  - 
**Developing a Revegetation Information Kit that addresses the following common farmer questions:**
    - 
**Where should I put the trees?**
    - 
**What should I plant?**
    - 
**Where do I get it?**
    - 
**What do I need to do to this site?**
    - 
**Will it solve my problems down-slope?**
    - 
**Do I have to fence it?**
    - 
**When can I graze it/how palatable is it?**
    - 
**Will it contribute to fire management?**

Other specific topics were brought up in the Focus Groups but none were strong trends. Group participants were asked what were specific areas of information they would they like to obtain. Research into specific areas was often requested, including:

- 
 Plant placement;
- 
 Results of local trials;
- 
 Chemical control of weeds;
- 
 Practical establishment details such as seeding rates, seeds versus seedlings, fertilisers and so on;
- 
 Where species can be purchased from;
- 
 Farmer checklist or flow chart to help farmers plan and stay on track;
- 
 Data or some kind of proof that native flora can assist/add to production;
- 
 Compatibility of farming with trees, for example the effects of chemicals on trees;
- 
 Grazing compatibility with trees because cost of fencing is prohibitive;
- 
 More specific Rex'96 categories;
- 
 Alley farming;
- 
 More riparian information; and
- 
 Calls were made for Revegetation on Farms Information Kits on cash crops other than oil mallee and sandalwood. For example, speciality woods, jojoba oil, tea tree and broom bush. Some also requested kits on biodiverse revegetation and managing remnant bushland.

Varieties mentioned again indicate no strong trends apart from a leaning towards commercial crops.

## **Validity and Reliability**

Measuring attitudes and beliefs is not dealing with tangible, observable identities. There is nothing to calibrate instruments against except existing theories and concepts (Pannell, 1999). There are many problems in attempting to measure attitudes accurately and reliably. These need to be recognised and addressed to ensure the results are interpreted in the context of the evaluation from which they have been gained.

Reliability is whether a person would give consistent answers to your survey in different times, places or contexts. While validity is whether the questionnaire actually measures what it sets out to measure.

This evaluation (through the combination of both methodologies) has produced valid results. Both the Focus Group qualitative results and the E-mail Survey quantitative results return the same response. For example, both techniques revealed that Intermediaries are confident in existing revegetation information even though the questions were posed in different ways in different environments. In this way validity was implicit in the triangulation of the mixed method approach.

However, the results of the Focus Groups or E-mail Survey may not be valid on their own. The E-mail Survey returned a mean response of 3.6 for many questions. The consistent repetition of the same mean value for different questions may indicate a lack of validity. The scaling method used to rank responses along a continuum could have contributed to this. Also, the use of only 5 categories in the 1-5 scale could have influenced responses. Pannell (1999) states “Studies carried out to detect how many categories we can reliably discriminate between and what would be the optimal number of categories in a rating scale suggest the following:

- ④ Two to four categories are not enough: responses to the four point scale (For example Strongly agree, agree, disagree, strongly disagree) have been found to not collapse down into a two point scale
- ④ Seven and nine point scales can be used more reliably than scales with fewer points (That is with seven or nine points respondents give the same rating to the same or similar questions)
- ④ Some multivariate statistical procedures only work properly when data has been generated using rating scales with six or more categories.

Overall, seven to nine categories produce the most reliable and valid ratings”.

Therefore while the validity of each method can be reasonably questioned the evaluation as a whole is valid because of the validity implicit in the triangulation of the mixed method approach.

While valid as a whole, this evaluation does lack reliability, especially the E-mail Survey methodology. Although both methods underwent pilot tests, neither the Focus Groups or the E-mail Survey were repeated with the same respondents. Foddy (1993) outlines several factors prevent people from answering the same questions consistently.

- ④ “Even simple factual questions are often answered incorrectly.
- ④ The relationship between what people say they do and what they actually do is sometimes poor.
- ④ Peoples’ attitudes, beliefs, opinions, habits and interests often seem to be extraordinarily unstable.

- 🌐 Respondents commonly misinterpret questions.”

Beyond basic pilots, none of these factors have been tested for or accounted for in the E-mail Survey design. Effectively there was no reliability testing of this evaluation.

In summary, when the results of this survey are utilised it must be remembered that while the evaluation is valid the reliability has not been tested.

- 🌐 **Recommendation: FF&R address concerns over the reliability of results in this study by:**
- 🌐 **Performing another qualitative study into the revegetation information and training needs of the same audience.**



## Conclusions

### 1. (General, and in relation to information and training requirements)

#### *General*

Revegetation Intermediaries were moderately confident (or more than moderately confident) about the quality of information, the range of information, ability to pass information on to farmers and access to training. However, there was wide variation in these responses which was usually related to length of service and experience in the Intermediary role.

Farmers' desires or needs dictate Intermediaries' actions. Therefore, the revegetation information and training needs of Intermediaries do reflect very closely the revegetation information and training needs of the communities they represent.

Because the Intermediaries group represents different communities, both geographically and organisationally, their expressed revegetation information and training needs show considerable variation. From this study only one clear trend emerged. That is, the great need for more revegetation information and training on the topic of commercial agroforestry.

#### *Information Resources and Use*

Intermediaries indicated that existing information was considered 'moderately effective' or 'effective' as a tool to introduce benefits and assist land managers in good revegetation decision making. However, several suggestions for improvement became obvious in the course of the study. Two key suggestions were:

- 🌐 Information be written with the farmer's perspective in mind.
- 🌐 Revegetation information material must 'sell' revegetation as a farming option.

#### *Training Resources and Use*

Intermediaries consider their revegetation information and training needs are being met 'moderately well' or 'well', However, there is a wide variation among Intermediaries. Intermediaries new to the field can feel unsupported in their job and they have a steep learning curve. They call for more training in general, including more training on revegetation. However, training courses that do exist are often not well attended. Given that Intermediaries were especially keen on training, there may be a lack of publicity/awareness of them. Another reason Intermediaries have difficulty attending revegetation-based training is that activities of Intermediaries are dictated by farmer desires and needs. Many commented that they would like to be involved in more revegetation work but that is not what farmers always want.

#### *Preferred and Used Information Formats*

This study has identified:







- 🌐 One-to-one visits;
- 🌐 Field days;
- 🌐 Workshops;
- 🌐 Guest speakers;
- 🌐 Peer meetings;
- 🌐 Demonstrations;
- 🌐 Newsletters;
- 🌐 Information kits;
- 🌐 Farmnotes/Agnotes; and,

## Telephone enquiries

as the most used and preferred revegetation information formats among Intermediaries.








### *Least Preferred and Least Used Information Formats*

Least used and least preferred revegetation information and training formats among Intermediaries include:

-  On-line learning courses;
-  Greenskills course;
-  Master TreeGrower course;
-  TAFE courses;
-  E-mail discussion groups; and
-  CD-ROMs.

### *Potential Growth Formats*

Interestingly, several formats (including some of the above) were preferred by Intermediaries more than they were currently used. These are:

-  Demonstrations
-  On-line learning courses
-  Decision making tools
-  E-mail queries
-  On-farm practical learning
-  Greenskills course
-  Master TreeGrower course.

This study has identified these formats as potential ‘growth formats’ for extending information on to Intermediaries.

## **2. (In relation to the study’s six key questions)**

**This evaluation has answered the following key questions.**

### *Q1. How is existing revegetation information perceived?*

Intermediaries are ‘confident’ or ‘moderately confident’ about existing revegetation information. The information is considered to be reliable. There are no concerns about conflicting or inconsistent content.

*Q2. How do Intermediaries feel about extending revegetation information?*

Intermediaries generally feel ‘informed’ or ‘well informed’ about revegetation options. Those that don’t are either new to their Intermediary position and still developing awareness of revegetation options and networks or are one of the perceived ‘small group of experts’ that are very well informed about revegetation options.

‘Most Intermediaries felt ‘moderately confident’ or ‘confident’ in passing revegetation information on to farmers. This is a result of having a ‘moderately confident’ or ‘confident’ attitude towards the existing revegetation information and a similar attitude toward their own ability to perform general extension with their customers/communities.

However, while the majority of Intermediaries feel ‘moderately confident’ or ‘confident’ in passing revegetation information on to farmers a number feel less confident. This is often related to the amount of time in an Intermediary position, with new Intermediaries feeling less confident because of isolation, a lack of readily available information, a lack of awareness of revegetation information and training and a feeling of being overwhelmed.

*Q3. What are the expressed revegetation information needs/wants of Intermediaries? (What are the expressed information needs/wants of farmers as perceived by Intermediaries?)*

Intermediaries are dictated to by farmers’ desires or needs. Therefore, the revegetation information and training needs of Intermediaries reflect very closely the revegetation information and training needs of the communities they represent.

Also because the Intermediaries group represents a vast variety of communities, both geographically and organisationally, their expressed needs for revegetation information and training are also greatly varied.

From this study only one clear trend could be outlined. That is the great need for more revegetation information and training on the topic of commercial agroforestry.

*Q4. How effective is revegetation information?*

As a tool to introduce benefits and assist land managers in good revegetation decision making, existing information is considered by Intermediaries to be ‘moderately effective’ or ‘effective’. However, several suggestions for improvement became obvious through the study. Two key suggestions are:

- 🌐 Information be written with the farmer’s perspective in mind: and
- 🌐 Revegetation information material must ‘sell’ revegetation as a farming option.

*Q5. How well are Intermediaries information and training needs being met?*

Intermediaries feel their revegetation information and training needs are being met ‘moderately well’ or ‘well’.

However, there is a wide variation surrounding this among Intermediaries. Intermediaries new to the field can feel unsupported in their job overall and have a steep learning curve. They call for more training in general, including more training on revegetation. However, training courses that do exist are often not well attended. Given that Intermediaries in this area were especially keen on training, possibly it was not publicised adequately. Another reason Intermediaries have difficulty attending revegetation-based training is that Intermediaries are dictated to by farmer desires and needs. Many commented that they would love to be involved in more revegetation work but that is not always what farmers want.

*Q6. What information formats do Intermediaries prefer?*

This study has identified the following as the most used and most preferred revegetation information formats among Intermediaries.

- 🌐 One-to-one visits;
- 🌐 Field days;
- 🌐 Workshops;
- 🌐 Guest speakers;
- 🌐 Peer meetings;
- 🌐 Demonstrations;
- 🌐 Newsletters;
- 🌐 Information kits;
- 🌐 Farmnotes/Agnotes; and,
- 🌐 Telephone enquiries

Least used (and least preferred) revegetation information and training formats among Intermediaries include:

- 🌐 On-line learning courses;
- 🌐 Greenskills course;
- 🌐 Master Tree growers course;
- 🌐 TAFE courses;
- 🌐 E-mail discussion groups; and
- 🌐 CD-ROMs.

Interestingly a number of formats were preferred by Intermediaries more than they were currently used. These are:

- 🌐 Demonstrations;
- 🌐 On-line learning courses;
- 🌐 Decision making tools;
- 🌐 E-mail queries;
- 🌐 On-farm practical learning;
- 🌐 Greenskills course; and

Master tree growers course.

This study has identified these formats as potential ‘growth formats’ for extending information on to Intermediaries.

## Recommendations

### 1.0 Improved Extension

- 🌐 **Recommendation 1.1. FF&R make their products more ‘sellable’, from Intermediaries to farmers, by:**
  - 🌐 producing a one-page summary of all Information Kits Products available and distributing it widely. The summary should include basic information on each kit as well as clear information on to where to source the kits.
- 🌐 **Recommendation 1.2. FF&R more suitably address its audience and use its resources more effectively by:**
  - 🌐 Segmenting its audience (by organisation of employment and other relevant qualifying information) and establishing and implementing suitable extension methods and protocols for each segment identified.
- 🌐 **Recommendation 1.3. FF&R address concerns over the reliability of results in this study by:**
  - 🌐 Performing another qualitative study into the revegetation information and training needs of the same audience.
- 🌐 **Recommendation 1.4. Department of Agriculture SRD Salinity Sub Program overcome labelling as ‘scientific’ and ‘conservative’ by:**
  - 🌐 Adopting a ‘marketing’ approach to written material with the aim of ‘selling’ revegetation,
  - 🌐 Avoiding a conservative or overtly technical style
  - 🌐 Focusing on the ‘bottom line’ benefits to farmers of revegetation.
- 🌐 **Recommendation 1.5. All Revegetation information and training providers assist Intermediaries in quickly and easily identifying information suitable for them by:**
  - 🌐 Qualifying existing and future information by biogeographical indicators (for example, Rainfall and Soil type).

### 2.0 Information Formats

- 🌐 **Recommendation 2.1. FF&R take advantage of the popularity of revegetation demonstrations by:**
  - 🌐 Investigating the effectiveness and efficiency of demonstrations in learning and influencing adoption.
- 🌐 **Recommendation 2.2. All revegetation information and training providers take advantage of the popularity of revegetation demonstrations by:**
  - 🌐 Identifying and developing suitable revegetation demonstration sites.
- 🌐 **Recommendation 2.3. All NRM Projects providing extension to Intermediaries take advantage of ‘growth’ extension formats with the Intermediary audience by:**
  - 🌐 Expanding input into demonstrations, E-mail enquiries and on-farm practical learning, as extension mediums for this audience.
- 🌐 **Recommendation 2.4. All NRM Projects providing extension to Intermediaries prevent inefficient use of time and resources by:**
  - 🌐 Reviewing Formal community meetings, Conferences, Displays/stands at expos and reports as primary extension tools aimed at the Intermediary audience.

- **Recommendation 2.5. All NRM Projects providing extension to Intermediaries take advantage of new and increasingly adopted technology by:**
  - Making their written extension information readily available to Intermediaries in an electronic format that can be easily E-mailed and downloaded.

### 3.0 Information Topics

- **Recommendation 3.1. FF&R overcome a general lack of knowledge in the farming community (especially in the low rainfall zone, >400 mm/yr) about the basics of revegetation by:**
  - Developing a Revegetation Information Kit that addresses the following questions commonly asked by farmers:
    - Where should I put the trees?
    - What should I plant?
    - Where do I get it?
    - What do I need to do to this site?
    - Will it solve my problems down-slope?
    - Do I have to fence it?
    - When can I graze it/how palatable is it?
    - Will it contribute to fire management?

### 4.0 Training

- **Recommendation 4.1. All Revegetation information and training providers address a lack of awareness of revegetation training available by:**
  - Documenting and promoting existing training opportunities.
- **Recommendation 4.2. All Revegetation Information providers overcome a general lack of revegetation training (especially in the low rainfall zone) by:**
  - Increasing the resources for training and improving access to training.

### 5.0 Networking/Liaison

- **Recommendation 5.1. FF&R overcome a lack of awareness of revegetation information and training, networks, and confidence in revegetation extension in new Intermediaries by:**
  - quickly identifying Intermediaries new to their position, personally visiting them and introducing them to basic revegetation information, training and networks.
- **Recommendation 5.2. FF&R project assist Intermediaries to build diverse and high calibre networks and information resource libraries by:**
  - Developing an easily-accessible database of revegetation contacts, and,
  - Developing an easily-accessible, bibliographic database for revegetation.



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Attachment 1. Evaluation Log-Frame

	Goals	Narrative Summary - <i>'what will success look like?'</i>	Measurable indicators - <i>'can be evaluation questions'</i>	Means of Verification - <i>'methods of evaluation'</i>	Assumptions
<b>Broader Goal</b>	<ul style="list-style-type: none"> <li>Increased adoption of broad scale revegetation practices in the agricultural region</li> </ul>				
<b>Objectives/purpose</b>	<ul style="list-style-type: none"> <li>The purpose of revegetation information dissemination activities is to promote available revegetation options Frontlines (and thus land managers)</li> <li>The purpose of revegetation information is to inform and educate Frontlines (and thus land managers) to best practice revegetation options and techniques.</li> </ul>	<ul style="list-style-type: none"> <li>Frontliners will have sufficient knowledge about revegetation options to pass on to WA land managers</li> <li>A high level of liaison and feedback between Frontliners and revegetation information providers resulting in a dynamic and constantly effective revegetation information dissemination extension methodology</li> <li>Frontliners have great confidence in</li> </ul>	<ul style="list-style-type: none"> <li>How confident do frontliners feel in available revegetation information?</li> <li>As a result of current revegetation information dissemination do you feel informed and educated about revegetation options?</li> <li>What are your revegetation and training needs?</li> <li>How well do you feel these needs are being met?</li> <li>Have you, in the past, passed on information to WA land managers provided to you from revegetation information providers?</li> <li>How confident do you feel passing revegetation information on to land managers?</li> </ul>	<ul style="list-style-type: none"> <li>A double stratified sample of frontliners can be approached in a focus group setting.</li> <li>All frontliners can be contacted by e-mail questionnaire (specifically relating to revegetation information needs and preferred format)</li> <li>The FF&amp;R team can be approached in a workshop setting)</li> <li>Review of results from Juana Roe's report.</li> </ul>	<ul style="list-style-type: none"> <li>Information on revegetation options is not previously available.</li> <li>Frontliners will pass on correct revegetation information to land managers</li> <li>Frontliners will be willing to work with revegetation information providers</li> <li>Frontliners want revegetation information.</li> <li>Frontliners responses will vary depending upon experience in position and rainfall zone of their position.</li> </ul>



		the information provided by revegetation information providers			
<b>Outputs</b>	<ul style="list-style-type: none"> <li>● Clear, concise and relevant information is available in a form that can</li> <li>● Learn about revegetation options</li> <li>● Pass the information on to land managers and land managers can feel confident in making decisions about those revegetation options.</li> </ul>	<ul style="list-style-type: none"> <li>● Revegetation is available to Frontliners</li> <li>● The information is sufficient for land managers to make decisions about revegetation options.</li> <li>● The information is clear, concise and congruent (not conflicting/contradictory)</li> <li>● Revegetation topics relevant to Frontliners and land managers is available in the information provided.</li> </ul>	<ul style="list-style-type: none"> <li>● What information formats do you use for learning?</li> <li>● What formats do you prefer?</li> <li>● Is the information sufficient to introduce land managers to revegetation options?</li> <li>● Is the information sufficient for land managers to make decisions?</li> <li>● Is the information clear, concise?</li> <li>● What information topics interest Frontliners?</li> <li>● Are the above topics currently adequately addressed?</li> </ul>	<ul style="list-style-type: none"> <li>● A double stratified sample of frontliners can be approached in a focus group setting.</li> <li>● All frontliners can be contacted by e-mail questionnaire (specifically relating to revegetation information needs and preferred format)</li> <li>● The FF&amp;R team can be approached in a workshop setting)</li> <li>● Review of results from Juana Roe's report.</li> </ul>	<ul style="list-style-type: none"> <li>● Information on revegetation options is not readily available in a clear concise format.</li> <li>● Frontliners have and accurate understanding of land managers information needs?</li> <li>● Frontliners responses will vary depending upon experience in position and rainfall zone of their position.</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>● Production of information</li> <li>● Information is effectively disseminated</li> </ul>				

## **Attachment 2.**

### **Revegetation information needs research**

#### **Draft focus group outline**

**13 February 2001**

- Introduction: 'warm up' group by providing background of study, qualitative market research and myself. Invite participants to go around and introduce themselves with some relevant information. Provide focus group guidelines and emphasise that I may need to keep the discussion moving on but there will be an opportunity after the discussion to stay and catch up with each other.
- Purpose of research: generally to gain a good understanding of what your needs are when disseminating revegetation information to land managers so that AgWest and, possibly other information providers, can make your job easier.
- So, to start off with, can you tell me a little about what it's like to do the kind of work that you do?
  - what do you enjoy about it? And what are the major challenges?
  - what do you find you spend most of your time on?
  - what do you think could be improved in your role in terms of assisting land managers with revegetation?
- Tell me some more about the whole area of how revegetation information passes from the various providers to you and then onto land managers:
  - what are some of the kinds of things that are happening that are good?
  - and things that could be improved?
- Can you give me some suggestions of things that are not currently occurring that you'd like to see happen?
- Who are the revegetation information providers? Any others?
- How do you feel about these groups (in general and then prompt on the key groups)?
- How do you find the revegetation information that is provided?
  - what do you find particularly useful? And what is not so useful? Why?
- Is revegetation information consistent between sources (or conflicting)?
  - Is it clear and concise? Examples?
- How well informed do you feel about revegetation options?
- How confident do you feel about passing the information on to land managers? Why? Tell me more about your levels of confidence in the information provided.
- In which situations do you pass the information on? (prompt for some examples).
- Do you feel the information available is sufficient for land managers to make good revegetation decisions?

- Are you aware of any decisions that have been made based on the information?  
Examples?

Which topics would you like to see addressed with quality information or more quality information?

- How do you prefer to have this revegetation information presented to you? (unprompted and then prompt on the list of options provided).
- Are there any types of different needs that you think could emerge in the future for yourselves or land managers?
- Thank you for your time and contribution. Is there anything else that you'd like to add before we close?

### **Attachment 3.**

#### **Cover E-mail accompanying E-mail Survey**

Agriculture Western Australia's Farm Forestry & Revegetation (FF&R) project is interested in helping you do your job better!

FF&R is evaluating the revegetation information and training needs of 'on-ground' Natural Resource Management (NRM) professionals. The aim of this evaluation is to develop and implement changes in which revegetation information and training is produced, so it is more useful to you.

As an 'on-ground' NRM professional we would greatly appreciate it if you could answer this brief survey. The survey should take approximately 10 minutes of your time.

Specifically, the survey seeks your views on:

- Current revegetation information and training
- Your future revegetation information needs
- Which formats you would prefer for delivery of this information.

Your responses will be treated as strictly confidential. Only I will know who responded. All information will be analysed and collated (with names removed) before it is presented to program managers and funding organizations.

- To fill out the survey
- Open the word document
- Respond to all questions
- Save the word document (if it asks you to save in a different format select 'No')
- Close the word document
- Select forward in your e-mail program
- Place [sjlloyd@agric.wa.gov.au](mailto:sjlloyd@agric.wa.gov.au) in the TO box
- Send

This is a chance to have your say - and we look forward to your response. A copy of the evaluation report will be made available to you when all components of the evaluation are complete. If you require more information, please contact me on 9881 0222 or [sjlloyd@agric.wa.gov.au](mailto:sjlloyd@agric.wa.gov.au)

## Attachment 4.

**Farm Forestry and Revegetation  
Revegetation Information and Training Needs  
E-mail Questionnaire**

Revegetation information and training refers to all information and skill-building related to revegetation, regardless of its source. Please consider all revegetation information and training when filling out this survey including Government agency and Private sector.

Please type your responses on this page and save the document when finished.

Type your written answers in the space provided or mark your answers as shown in the examples provided.

Please mark your answers with a '\*’.

E.g.

Q1. How confident do you feel about extension?				
1	2	3	4	5
Totally unconfident				Vert unconfident

**Or**

## What information formats do you use?

**Yes = Yes, I use this**  
**No = No, I don't use this**

**And**

### Which information formats do you prefer?

**Prefer = I prefer this format**  
**Don't = I don't prefer this format**

E.g.

Information & Training formats	Use?		Prefer	
	Yes	No	Prefer	Do not
Television	*			*

## BASIC INFORMATION

**Position/Organisation** *(please enter job title and organisation you work for):*

**Length of time in current position:**    **0-1yrs**        **1-3yrs**        **3-5yrs**        **>5yrs**

**Rainfall in your area:**    **0-400 mm/yr**   **400-600 mm/yr**   **600/800mm/yr**   **>800 mm/yr**

## QUESTIONS

**Q1. How well informed do you feel about revegetation options?**

1	2	3	4	5
totally uninformed			very well informed	

**Q2. How much confidence do you place in revegetation information?**

1	2	3	4	5
totally unconfident			very confident	

**Q3. How confident do you feel performing general extension with your customers/ communities?**

1	2	3	4	5
totally unconfident			very confident	

**Q4. How confident do you feel about passing revegetation information on to land managers?**

1	2	3	4	5
totally unconfident			very confident	

**Q5. How effective is revegetation information in introducing land managers to the benefits of revegetation?**

1	2	3	4	5
very ineffective			very effective	

**Q6. How effective is revegetation information in *assisting land managers to make good revegetation decisions*?**

1	2	3	4	5
very ineffective			very effective	

**Q7. How well are your revegetation information and training needs being met?**

1	2	3	4	5
not well			very well	

**Q8. For your own learning what information formats do you use?** Yes = Yes, I use this  
No = No, I don't use this

**And**

**For your own learning which information formats do you prefer?**

**Prefer = I**

**prefer this format**

**Don't = I don't prefer this format**

(Please include other suggestions at the bottom of the list in the space provided)

Information & Training formats	Use?		Prefer?	
	Yes	No	Prefer	Don't
One-to-one visits				
Field days				
Workshops				
Guest speaker				
Peer meetings				
Formal/community meetings				
Conferences				
Demonstrations				
Display stands at expos/shows				
Reports				
Newsletter				
Information kits				
Farmnotes/Agnotes				
Books				
CD ROM's				
On-line learning course				
WebPages				
Decision making tools				
Email queries				
Email discussion groups				
Telephone enquiries				
TAFE courses				
On-farm practical learning				
Greenskills course				
Master Tree Growers course				
Other ( <i>please specify</i> )				
Other				
Other				



Q9. Which revegetation topics would you like to see addressed with information and training or more information and training?

Please feel free to be as broad or as specific as you wish.

E.g. 'Commercial crops' or 'Brown mallet for tool handles'

Q10. Is there anything else you would like to add about your revegetation information and training needs?

Thank you for your time!

Please return this email to Stephen Lloyd at [sjlloyd@agric.wa.gov.au](mailto:sjlloyd@agric.wa.gov.au) by 15/5/01

# **Exploration Revegetation Information and Training Needs amongst intermediaries**

## **A Qualitative (focus group discussion) Market Research Report**

Prepared for:

Agriculture Western Australia  
Farm Forests & Revegetation Project

By Pirotta Consulting

April 2001



Funded by NHT Project 973855 State  
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Conservation/Biodiversity Revegetation -  
Department of Agriculture  
Capacity Building Component

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## **1.0 Executive Summary**

This report presents the findings of three focus group discussions with people who disseminate revegetation information to farmers. Participants included Community Landcare Coordinators, people who work in government agencies involved with developing as well as disseminating information and a couple of people who work for farmers in the sustainable agriculture field.

The overall research aim was to assess the revegetation information and training needs of Farm, Forestry and Revegetation Customers in order to improve the effectiveness of the current dissemination process.

Below the key conclusions and recommendations are presented with detailed findings presented in the body of the report.

### **1.1 Conclusions**

The types of information required by these information intermediaries are threefold. The most common type needed is of a practical nature: both general information that introduces farmers to the principles and basics of revegetation, as well as the much more specific, detailed information that can guide planting decisions. The third type of information is less practical, more about revegetation concepts and theory and is more for conservation interest groups.

The demand, at the moment, is very much focused on the practical information: from which species is needed for a certain rainfall area and soil type through to highlighting that seedlings need to be planted in the ground as soon as possible and kept moist prior to planting.

Intermediaries do not expect farmers to embark on a revegetation project based on written information alone. Generally, it is used as an introduction and/or guide and experts are referred to for a comprehensive consultation.

Intermediaries themselves vary greatly in their level of knowledge and confidence regarding revegetation. They are polarised in that there is a small group who are confident in their role as advisers and a much larger group of inexperienced intermediaries. Hence, the reliance on expert advisers is considerable and is not likely to change for sometime.

Intermediaries who are familiar with the available information and feel they are in a position to evaluate it, believe that they can confidently pass it onto farmers. These people are confident in their role as information disseminators and as the first point of contact for farmers. The less experienced often try to pass farmer queries onto experts quickly as they lack confidence as well as time.

There are two key criticisms of the information currently available:

- There are large gaps in the information in regard to what species is appropriate for which rainfall level and soil type - for the low rainfall area it seems that rather than holes in information, there is a dearth of it.
- The information generally is not written from the perspective of the farmer.

This latter point is critical as intermediaries can feel like they are ‘selling a product that there is no market for’. Hence, it is simply not good enough to present the information to farmers, they need to be convinced that revegetation is advantageous to them. And, essentially, that boils down to improving their yields and bottom line.

This highlights another important aspect of how revegetation is generally being approached in the current climate - farmers are looking towards cash crops, sustainable agriculture rather

than nature conservation. This perspective needs to be recognised and acknowledged by providers of information. If agencies want to encourage more nature conservation then they will need to convince farmers why this is worthwhile. If they want farmers to also plant more native tree cash crops then they need to make the information very accessible.

*“If the farmers can’t get the commercial information they need, then they give up and keep doing the same.”*

Information must be readily available, clearly point out the benefits and basically hold the hand of the farmers in the decision making process: from doing their own research on crops through to planting and watering. Greening Australia’s Bushcare Officers are highly regarded and frequently used for assistance by many intermediaries.

The most commonly used and highly regarded publications, based on this limited qualitative study, are AGWEST’s Revegetation on Farms Information Kits, as well as the Farmnotes, Tree Notes and Water Notes. The WRC publications are commended for writing with the audience in mind. Many other publications were mentioned by isolated individuals who, typically, had certain specific research interests.

These publications are liked because they are set out in a way that is easy to read and understand, the kits are comprehensive, the single sheets are convenient for copying and sending off and the Farmnotes have credibility amongst farmers.

There are several criticisms of Rex’96 which mean that it is rarely used as more than an encyclopaedia. It needs updating, includes eastern states species, is not detailed enough in terms of soil type, rainfall area and positioning, and the search engine is not specific enough. The CD format is liked due to its flexibility and ease of use.

The Internet polarises opinions: some view it as an invaluable tool, others are frustrated by the time it takes to get on, search and download things.

AGWEST’s publications can be criticised for being too scientific in their style as well as ‘blokey’. That is, it is set out and written in a ‘male’ way yet more wives are becoming involved in farm management, and revegetation can be more appealing to women. The publications are not viewed as coming from the point of view of the farmer.

Some comments were made that AGWEST officers do not necessarily assess intermediaries’ needs accurately. It seems that they need to develop their listening skills more intently and/or have their confidence/competence in the revegetation area increased to be able to better assist intermediaries. (Possibly, they are in a similar situation to some of those included in this research in terms of lack of expertise.)

Approaches that work better with farmers are one-on-one consultations with intermediaries who have a strong farming and revegetation background, as well as facilitating farmer-to-farmer interaction.

## **1.2 Recommendations**

Based on the research findings, the following suggestions and recommendations are made. Some of these could be further tested in the subsequent quantitative phases of the evaluation project.

- **Convince farmers** of the merits of both cash crop and nature conservation revegetation by:
  - directly listing the bottom-line benefits;
  - walking them through the whole revegetation decision process, assisted by flow charts and financial analysis;

- support/train intermediaries in how to gain the respect and confidence of farmers; and
- develop a regular newsletter that keeps revegetation constantly on the agenda and helps to build familiarity amongst farmers.
- **Overtly acknowledge that revegetation is a young field by:**
  - supporting trials and experimentation;
  - encouraging/assisting in the sharing of experiences and case studies amongst intermediaries and farmers alike; and
  - having electronic and written lists of current research and trials widely disseminated.
- **Raise awareness** amongst farmers and intermediaries of:
  - research and development available;
  - farmer trial activity;
  - experts available;
  - other relevant contacts; and
  - revegetation issues of concern.
- **Assist all new intermediaries** but especially those in the Merredin area by:
  - providing a directory of resources and experts on commencement, including an order sheet for resources;
  - assist leaving intermediaries to hand over their accumulated expertise;
  - hold regular induction courses that are no longer than one day at a time;
  - help to facilitate building of networks; and
  - report key findings of this evaluation to help all intermediaries gain a shared understanding of their issues, problems and challenges (it could be used a basis for workshopping ways forward).
- **Develop the information resource base by:**
  - approaching the content, length, style and format to maximise impact;
  - employ public relations or marketing experts within the farming sector to edit or develop resources;
  - make AGWEST publications more accessible to both male and female audiences by employing a female editor who can make the style more neutral;
  - facilitate regular expert talks/discussions with intermediaries and farmers so that a face can be put to revegetation;
  - develop one page summaries of the Revegetation Kits;
  - develop one page summaries of site preparation and planting; and
  - strongly support any Websites with a non-electronic search guide and introduction.
- **Encourage easy access to the experts:**
  - establish a 'Revegetation Telephone Hotline'; and
  - have on-line expert forums.

- **Coordinate revegetation species availability with local nurseries** as they do not necessarily stock local revegetation species.

## **2.0 Background and Research Objectives**

### **2.1 Background**

Agriculture Western Australia (AGWEST) is currently conducting an evaluation of revegetation information and training needs of Farm, Forestry and Revegetation (FF&R) customers. The purpose of the evaluation is to assess the needs of customers.

Overall, the evaluation is being conducted to document needs in order to plan changes to the current project and develop recommendations at the agency level.

It is intended that the findings of the study will be disseminated to a wide range of organisations involved in the revegetation field.

Three research methods have been chosen to conduct the evaluation in order to take advantage of both triangulation and integrated research designs. It was decided to use external consultants for parts of the project due to potential bias if AGWEST staff conducted certain tasks.

The three methods chosen are:

- Focus group discussions;
- Semi-structured telephone interviews; and
- E-mail questionnaire.

Julie Pirotta, an independent qualitative market research consultant, was commissioned to conduct the focus group study. This report details the research objectives, method and findings of the study.

### **2.2 Research objectives**

The overall research aim of the focus groups was to assess the information and training needs of FF&R Customers in order to improve the effectiveness of the current dissemination process.

More specifically, the research objectives that guided the study included:

- To gain a deep understanding of and to document current and future information and training needs of customers;
- To assess the effectiveness of various types of information already available to customers including what AGWEST offers and the AGWEST delivery model;
- To explore perceptions and expectations of AGWEST and other information providers amongst customers;
- To investigate how needs differ amongst various client groups such as farmers and intermediaries; and
- To provide strategic guidance and recommendations for improving the delivery and use of revegetation information products to encourage revegetation practices.



### **3.0 Research approach**

A total of three focus group discussions were conducted. Each group consisted of between six and seven revegetation information intermediaries.

One discussion was held in each of these locations: Merredin, Northam and Narrogin. AGWEST invited participants to attend and organised appropriate venues and refreshments.

Participants were chosen to represent low and medium rainfall areas: Merredin consisted mainly of intermediaries working in low rainfall areas whereas the remaining two locations consisted of both medium rainfall.

Many participants were employed as Community Landcare Coordinators or with catchment groups whereas others held positions in agencies such as CALM, WRC and AGWEST. Hence, some were generators as well as disseminators of revegetation information. One individual represented a farmer group and another was heavily involved in revegetation contracting.

As can be seen in the title of this report, these people have been called ‘intermediaries’ given that they mediate between those with the expertise in revegetation and those who require the information.

The length of experience in the field varied from just a few months to many, many years. A range of ages as well as mix of males and females attended which is reflective of the gender balance in the field. A small number were ex-farmers but the majority had come from university backgrounds.

As a token of appreciation, each participant was given an AGWEST labelled thermal mug.

The groups took place the week commencing 26 March 2001 and each lasted for up to two hours.

Julie Pirotta personally facilitated the discussions and analysed the findings.

## **4.0 Attitudes to revegetation**

### **4.1 Farmers**

It is critical that the attitude of farmers towards revegetation be considered in this investigation. Intermediaries consistently stated that information must be presented in a way that directly addresses farmers' perspectives.

Given that Northam was included in the study, it must be kept in mind that there are two very different types of farmer. There are the broad-acre farmers who are often entirely dependent on their farm income and who have generally had very poor seasons of late. The second group of farmers are those of small land holdings or hobby farmers who are often city dwellers and are not entirely dependent on farm income.

It seems that the broad-acre farmer is very focused on profit margins and, hence, wants all his farm activities to produce better yields. Revegetation is most often approached with this attitude. (The researcher recently conducted extensive qualitative research with farmers in the Wheatbelt and the South-West on a different subject. This research certainly confirms the profit focus. Many farmers feel like they are fighting to stay financially viable.)

In one group, there were reports that some farmers were doing good revegetation work. However, it was felt that this was linked to grants and now that the grants are running out the work will not continue because other activities are believed to have a better effect on profits.

### **4.2 Intermediaries**

Intermediaries are dictated by farmer desires and needs. Many commented that they would love to be involved in more revegetation work but that is not what farmers always want.

Throughout the study, intermediaries called for revegetation material to not only provide information but to also 'sell' or market revegetation to farmers.

As for their own attitudes towards revegetation, intermediaries vary. Many are nature conservation focused whereas others are more aligned to farmers and are happy with revegetation cash crops. The latter group often (strongly) act as advocates for the farmer's point of view whereas the focus of concern for the former group is on nature.

One's location, experience and workload can also have an influence on attitudes towards revegetation and how farmer queries are handled. This is discussed in detail in Section 5 of this report. Overall, the area is viewed as being experimental and experiential. This can cause problems with disseminating information which are discussed in the following section.

### **4.3 Barriers to revegetation**

Key issues that act as barriers to revegetation include:

- A lack of awareness of the bottom line benefits and/or of options available. As one group participant commented:  
*"We're trying to sell a product where there is no market for it."*
- Lack of funds and/or both farmers and intermediaries have other priorities.
- Intermediaries own lack of expertise as well as too few experts available.
- Information not being specific enough.
- The 'once bitten, twice shy' syndrome where a farmer has been unsuccessful in previous revegetation attempts because of either natural circumstances, such as drought or locusts, or because of lack of appropriate care, planning, preparation or advice.

(Interestingly, farmers may not be aware that seedlings should be planted as soon as possible and kept well watered: there were stories of farmers leaving seedlings in their pots on front verandahs or in the back of utes where they quickly dry out and die.)

- Farmers may not plan well, they may lack long term objectives and an overall farm management approach. A couple of examples given were of farmers planting trees for wind breaks and then chopping them down for wood and incorrectly planting one very long row of trees for addressing salinity.

## 5.0 The nature of intermediaries' jobs

### 5.1 What the job is like

In order to put into context the dissemination of revegetation information, group participants were asked to describe what their jobs were like. Common descriptions offered included:

- Frustrating;
- Challenging;
- Very diverse;
- Busy, sometimes having a lack of resources, support and training;
- Extremely satisfying at times; and
- The often unexpected people contact being enjoyable.

### 5.2 Revegetation knowledge

An observation frequently made in relation to revegetation information is that there are a small number of real experts in the area and then the rest of the people in the field have little expertise and are heavily reliant on the small pool of experts.

Intermediaries appear to follow this pattern. Many of the Community Landcare Coordinators are fresh out of agriculture college and may not even have experienced living in the Wheatbelt. Furthermore, revegetation is only a part of their job and what they do know about the field is often 'farmer-driven', that is, a question is put to them and in researching the answer they develop knowledge about local revegetation issues. (Unfortunately this knowledge is lost when a coordinator moves on and there can be a high turnover of coordinators, especially of new graduates in the Merredin area.)

**One confident intermediary pointed out that he did not want to be 100% responsible for revegetation decisions. This highlights that the small pool of experts will be heavily relied on in the near future. The challenge for information providers is to minimise this reliance.**

"There is so much to know and the field is changing all the time ... I live with my inadequacies because I can't keep up with it...I don't want to be 100% responsible so I get the experts in."

In contrast, there are some very well informed experts who may have agency positions that focus solely on revegetation.

Not only do knowledge and confidence vary, but also having well established networks. This is a key issue as intermediaries are heavily reliant on networks for gathering information and linking farmers with appropriate groups. (The importance of networking was highlighted in the group process itself with less experienced participants keenly questioning other participants and often being corrected about inaccurate or incomplete knowledge.)

### 5.3 Handling farmer queries

Overall, there are two types of farmer revegetation query. Both require information that is practically based as farmers are very much focused on the practical. The first type is more general in nature which requires general, introductory information. The second type of query is focused on a particular problem, a particular piece of land and needs much more specific information and 'how to' guidelines.

Conservation groups and other community groups may be more interested in concepts and theories relating to revegetation rather than practical information.

All of the above factors impact on how intermediaries handle farmer queries. In Northam and Narrogin, intermediaries tend to behave differently to those in Merredin. In the former areas, they are more likely to respond to a farmer query by making a farm visit and/or having a lengthy telephone conversation to ascertain their needs. As a follow up, often an expert will be brought in, information will be posted or emailed out, and/or Websites or relevant groups or people will be referred to. These intermediaries are more likely to be familiar with and have their own established resources, as well as established networks to rely on.

“We need to rely on our own knowledge and experience.”

The difference with intermediaries in the Merredin area is due to a number of factors. Firstly, there seems to be a higher proportion of inexperienced people. Study participants in the other focus groups pointed out that a Merredin posting is not highly sought after and, hence, attracts new graduates. Another problem for these intermediaries is the dearth of research and information on low rainfall area revegetation.

As a consequence, many of the officers in this region felt overwhelmed by their job demands and with getting their head around revegetation.

“Where do you start? There is so much to take into account.”

*“If there’s a request and the information is in front of me then I pass it on. Otherwise, I refer the farmer to an expert.”*

Hence, they can feel less confident in their own ability to handle the queries and can almost treat a farmer query like a ‘hot potato’ trying to pass it onto an expert as soon as possible.

Another observation is that, compared to Northam and Narrogin, intermediaries in Merredin seem to be isolated from networks and information. Furthermore, the networks of more established officers seem to be of a better ‘calibre’ in that their contacts are better at helping them. (One new starter complained that it can be difficult to access the upper levels of AGWEST and, hence, she must deal with juniors who do not necessarily accurately assess her information needs. Consequently she receives the wrong information.)

The researcher had the impression that revegetation is more established in Narrogin than in Merredin and there is a greater availability of volunteers to assist with revegetation projects in Narrogin and Northam. Also, small land holders in Northam may be more open to revegetation than broad-acre farmers. If this is the case, then Merredin officers, comparatively speaking, have even more hurdles to contend with.

## **6.0 Barriers to effective information dissemination**

The research has uncovered a range of issues that need to be addressed in order to more effectively reach both intermediaries and farmers with revegetation information.

In reference to intermediaries, key issues include:

- Lack of awareness of what is already available;
- Competing priorities and a lack of time/resources to carry out all of one's duties;
- Previous incumbents not passing on information for new Community Landcare Coordinators; and
- Not feeling confident about revegetation issues and/or feeling overwhelmed by the size of the field and amount of detailed knowledge required to responsibly advise a farmer.

Barriers for farmers accessing the information include:

- Lack of proven, local research and knowledge;
- The style and content of existing information;
- Not being aware of, or convinced of, the benefits of revegetation;
- Expecting others to filter and interpret the available information and make recommendations rather than doing their own research; and
- Lacking confidence in the knowledge and skills of intermediaries and/or feeling that the intermediaries do not have the farmers' best interests at heart (that is, improving profitability).

One intermediary who has extensive farming and revegetation experience reported being very popular with farmers. He believes that farmers relax with him because he speaks their language and understands their situation.

“They need to be able to respect and relate to you.”

## **7.0 Perceptions of information and training currently available**

### **7.1 Channels of information**

Generally, the major channels for information gathering for intermediaries include:

- Relying on one's own experience and knowledge;
- Telephoning the experts that one knows of - Greening Australia's Bushcare Officers are highly regarded and seem to be heavily accessed;
- Referring to one's established information library; and
- Utilising relevant Websites and newsletters.

### **7.2 Confidence in information**

Those officers who are making recommendations and advising farmers are confident in the materials they have. The information is considered to be reliable. However, few would expect farmers to act on the basis of written material alone as each farmer's situation is unique and expert advice is required to ensure a successful planting. (It was felt that possibly some farmers are acting on the basis of the information alone because they are not always successful.)

There are no concerns about conflicting or inconsistent content although there is recognition that the experts can actively oppose each other's approaches to issues such as the management of the watertable.

### **7.3 Popular publications**

Across the three focus groups, the most popular publications are those that are well set out, succinct and easy to read because it makes their own job easier. Intermediaries themselves do not necessarily want or have the time to read full research articles. (An example of a publication that was rejected outright due to its 'heaviness' is the Dongolocking Pilot Planning Project for Remnant Vegetation.) Furthermore, easy to read materials are more popular amongst farmers.

The WRC material is recognised as being written with the audience in mind which is important to intermediaries and is not the case with many other publications. The succinct style of the Farmnotes, Water Notes and Tree Notes is also liked and, importantly, the Farmnotes have some credibility amongst farmers.

Those more focused on cash crops also mentioned Forest Products Commission's publications.

### **7.4 AGWEST publications**

Views of AGWEST's publications vary. For example, Revegetation on Farms Information Kits are universally appealing as all the relevant information is in one kit. Information can be readily accessed and the whole kit can be lent to farmers or bits photocopied and sent off. In addition, the farmers like having the contact names supplied.

In contrast, some are strongly critical of the writing style and format of other publications, including Farmnotes. AGWEST's publications can be described as too conservative, scientifically focused, 'blokey' and using outdated language. In the next section of this report, specific suggestions for improvement are outlined. Suffice to say here that many felt the scientific content of Farmnotes needs updating with more recent research.

A small number also criticised the department for focusing on their own research passions rather than on what farmers need, that is, production type revegetation.

The Rex'96 CD is considered to be equivalent to an encyclopaedia. It is referred to for more general information because, despite being quite detailed, there are drawbacks. The information is not detailed enough upon which to base final decisions and some of it needs updating. The search engine is not specific enough as it provides far too many listings to wade through. Another key disadvantage is the inclusion of many eastern states species which can be misleading as they cannot be successfully used in the west.

A couple of other references were made regarding AGWEST's resources although these were not necessarily to do with the FF&R project. They are mentioned here as they provide a fuller picture of how these particular individuals experience AGWEST overall. One person had tried to print some posters out from the Website and could not get it done and another gave up receiving some photographic orders after waiting four months.

## **7.5 Training**

Intermediaries new to the field can feel unsupported in their job overall and have a steep learning curve. They call for more training in general, including more training on revegetation.

Revegetation training that already exists mentioned in the research included the TAFE Revegetation Training in the Merredin region. However, it could not be run last year due to lack of numbers. Some believed that it was not publicised enough. Given that intermediaries in this area were especially keen on training, possibly it was not publicised adequately. If so, there is an opportunity for AGWEST to assist in raising awareness of what training already exists.

Little other training was mentioned except for direct seeding days and, those more focused on cash crops, also mentioned the Masters Tree Grower Workshops. Both types of training were felt to be good.

Training workshops, preferably no more than one day in duration because of intermediaries' busy schedules, were requested in the research. This training would consist of more introductory, generic information and could be an opportunity for new people to personally meet some of the experts who they may need to contact later.



## 8.0 Overall suggestions for improvement

There are calls for much more detailed information that includes the appropriate rainfall, soil type and position for individual species. Whilst this is the main need, calls are also made for more introductory information and practical tips such as site preparation, things to consider, potential problems and how to look after seedlings.

In terms of style, content, language and formatting, intermediaries believe that revegetation information, especially that produced by AGWEST, needs to be:

- Written from the point of view of the farmers themselves;
- Less like a scientific report and focused more on practical applications; and
- Less ‘blokey’ and more ‘female’.

In relation to the last point, in one focus group it was pointed out that wives are becoming more involved in farm management (and this is confirmed by the researcher’s recent farmer research). In addition, it is felt that women can generally be more interested in revegetation issues than men. Rather than becoming overtly female-oriented, it is recommended that the style just become less ‘male’ which may be partly achieved by writing in a less formal, less scientific manner.

Concepts to be kept in mind in altering the style include being more accessible, less conservative or formal, younger and not alienating in any way. One specific example of being out of touch with the audience is using insultingly low hourly rates for farmers in financial analyses and the costs of fencing being unrealistically low. Furthermore, using the ‘dry sheep equivalent’ for small land holders is inappropriate.

Not only does the information need to be more accessible to farmers but it must sell revegetation. Coming from the farmer point of view is certainly effective in marketing. Such an approach, however, does not just include information focused on planting. Ideally, it will provide guidelines as to how to research certain crops/species to establish what the commercial benefit will be. It may even include spreadsheet analyses. It will need to clearly outline, in point form, the benefits to the farmer.

*“If the farmers can’t get the commercial information they need, then they give up and keep doing the same.”*

One suggestion which is a good example of being more accessible as well as marketing revegetation is producing a one page summary of the Revegetation on Farms Information Kits. It is expected that such a summary would capture the attention of farmers as well as make it easier for intermediaries to take a wide range of introductory material to farm visits.

Typical farmer questions are included below to assist with orienting towards the farmer perspective:

- Where should I put the trees?
- What should I plant?
- Where do I get it?
- What do I need to do to this site?
- Will it solve my problems down slope?
- Do I have to fence it?
- When can I graze it/how palatable is it?
- Will it contribute to fire management?

Intermediaries also report that farmers respond very well to farmer case studies and any farmer-to-farmer interaction. In addition, in any consultations, relating peer experiences and directing farmers to successful projects of neighbours is worthwhile.

## 9.0 Additional specific topics

Group participants were asked what specific areas of information would they like. Often they want more research into specific areas.

Suggestions included:

- Plant placement;
- Results of local trials;
- Chemical control of weeds;
- Practical establishment details such as seeding rates, seeds versus seedlings, fertilisers and so on;
- Where species can be purchased from;
- Farmer checklist or flow chart to help farmers plan and stay on track;
- Data or some kind of proof that native flora can assist/add to production;
- Compatibility of farming with trees, for example the effects of chemicals on trees;
- Grazing compatibility with trees because cost of fencing is prohibitive;
- More specific Rex'96 categories;
- Alley farming; and
- More riparian information.

Calls were made for Revegetation on Farms Information Kits on cash crops other than oil mallee and sandalwood. For example, speciality woods, jojoba oil, tea tree and broome bush. (Apparently, however, they already exist. If this is the case then it is a good example of the need for increasing awareness of what is already available.) Some also requested kits on biodiverse revegetation and managing remnant bushland.

Other topics, which are more relevant for intermediaries than farmers, include:

- Databases that list funding opportunities, similar to the one available for the Blackwood region;
- A summary of revegetation research papers;
- An index of all available materials;
- A list of relevant Internet chat-lists; and
- A directory of experts available for advice, speaking engagements and so on.

Furthermore, on-line chat groups specifically on revegetation topics could be helpful. Although, it would need to be carefully thought out and supported because, as discussed in the Merredin region, there are so few experts that such a chat-line could degenerate into farmers simply directly specific questions at experts. Intermediaries felt that if it was approached correctly then it could be a good opportunity to encourage farmers to share revegetation stories and trials amongst themselves.

## 10.0 Presentation format preferences

Group participants were asked how they prefer revegetation information to be presented to them.

Intermediaries can be polarised in their attitudes towards Website information. Many readily use this resource whilst others find it frustrating waiting to log on and searching for sites.

“It’s so time consuming searching for sites, it’s better to go to a Bushcare Officer.”

“There are so many sites and you have to wait for it to download and print out so I prefer to have hard copies on file.”

Many prefer CD formats, such as Rex’96, because of the above reasons. CD’s have the advantage of being easy to access and loan.

Printed matter can be liked as it is easy to store, photocopy and post. Single sheets are ideal in this way and enable intermediaries to develop their own individual ‘kits’. Intermediaries seem to prefer the information to be presented very simply just like farmers as they have little time to wade through articles and journals.

The ideal is to have information, such as the Revegetation on Farms Information Kits, available electronically as well as printed to facilitate easier dissemination as many farmers do communicate via e-mail.

Intermediaries can also like workshops or field days where both they and farmers can attend together because it gives them the chance to learn and connect with farmers at the same time. An example of a good field day was the direct seeding one:

“I really liked the direct seeding field day because you could see it first hand, the farmers could come as well, there were good quality hand-outs and I could write my own notes as well.”

Intermediaries who are new to the field would welcome not only written indexes and guides but, as previously mentioned, also training workshops.

Some intermediaries also requested more ‘marketing’ materials. That is, posters and pamphlets with simple layouts, pictures and key concepts, as well as fridge magnets and so on.

Videos on topics such as site preparation and nature conservation would be helpful for large group presentations. In fact, whole presentation kits which include power point slides and other relevant materials would be helpful for some.