



An Australian Government Initiative



Communication for Sustainable Private Native Forestry

**A report for the RIRDC/L&WA/FWPRDC
Joint Venture Agroforestry Program**

by Annabel Kater

June 2007

RIRDC Publication No 07/076
RIRDC Project No GAL-8A

© 2007 Rural Industries Research and Development Corporation.
All rights reserved.

ISBN 1 74151 473 8
ISSN 1440-6845

Communication for Sustainable Private Native Forestry – Some Needs

Publication No. 07/076

Project No. GAL-8A

The information contained in this publication is intended for general use to assist public knowledge and discussion and to help improve the development of sustainable regions. You must not rely on any information contained in this publication without taking specialist advice relevant to your particular circumstances.

While reasonable care has been taken in preparing this publication to ensure that information is true and correct, the Commonwealth of Australia gives no assurance as to the accuracy of any information in this publication.

The Commonwealth of Australia, the Rural Industries Research and Development Corporation (RIRDC), the authors or contributors expressly disclaim, to the maximum extent permitted by law, all responsibility and liability to any person, arising directly or indirectly from any act or omission, or for any consequences of any such act or omission, made in reliance on the contents of this publication, whether or not caused by any negligence on the part of the Commonwealth of Australia, RIRDC, the authors or contributors..

The Commonwealth of Australia does not necessarily endorse the views in this publication.

This publication is copyright. Apart from any use as permitted under the *Copyright Act 1968*, all other rights are reserved. However, wide dissemination is encouraged. Requests and inquiries concerning reproduction and ri

Researcher Contact Details

David Carr
Greening Australia Ltd.
PO Box 74
Yarralumla ACT 2600

Phone: (02) 6281 8585
Fax: (02) 6281 8590
Email: dcarr@greeningaustralia.org.au

In submitting this report, the researcher has agreed to RIRDC publishing this material in its edited form.

RIRDC Contact Details

Rural Industries Research and Development Corporation
Level 2, 15 National Circuit
BARTON ACT 2600
PO Box 4776
KINGSTON ACT 2604

Phone: 02 6272 4819
Fax: 02 6272 5877
Email: rirdc@rirdc.gov.au.
Web: <http://www.rirdc.gov.au>

Published in June 2007
Printed on environmentally friendly paper by Canprint

Foreword

One third of Australia's native forest estate exists on private land. It is a significant resource for conservation, and the production of forest products. In some regions, private native forests supply a significant proportion of hardwood timber harvest – and need to be managed for long term sustainable production. Private native forests are managed by farmers and other private landholders. This report describes the past and current methods of disseminating information to the managers of private native forests and reviews the effectiveness of this communication. The report identifies that a major factor contributing to the low uptake of private native forestry and sustainable management practices is the complex nature of managing this resource. The report proposes a redirection of effort to encompass workshops with natural resource management and policy groups, with the aim of improving support and uptake of this important information.

The report will be useful for people who deliver forestry extension, and also to those formulating policy and contemplating sustainable native forest management. It will also help farm forestry research and development.

This project was funded by the Natural Heritage Trust through the Joint Venture Agroforestry Program (JVAP), which is supported by three R&D Corporations — Rural Industries Research and Development Corporation (RIRDC), Land & Water Australia (L&WA), and Forest and Wood Products Research and Development Corporation (FWPRDC), together with the Murray-Darling Basin Commission (MDBC). The R&D Corporations are funded principally by the Australian Government. State and Australian Governments contribute funds to the MDBC.

This report is an addition to RIRDC's diverse range of over 1600 research publications. It forms part of our Agroforestry and Farm Forestry R&D program, which aims to integrate sustainable and productive agroforestry within Australian farming systems. The JVAP, under this program, is managed by RIRDC.

Most of our publications are available for viewing, downloading or purchasing online through our website:

- downloads at www.rirdc.gov.au/fullreports/index.html
- purchases at www.rirdc.gov.au/eshop

Peter O'Brien

Managing Director

Rural Industries Research and Development Corporation

Acknowledgments

The author would like to thank Alex Jay (Kiri Forestry Enterprises Pty Ltd) K. Matthews (Private Forestry Southern Queensland), H. Vaughan (DPI Victoria), B. Williams (PFCQ), P. Norman (NSW Dept. Infrastructure Planning and Natural Resources) and N. Piercy (DIPNR compliance officer for PNF in NSW) for advice on the private native situation. I would also like to thank M. Connell, G. Forest, D. Rooney and D. Carr for their comments on earlier versions of this document, and B. Clarke and R. Lott for technical edits to the final report.

Contents

Foreword.....	iii
Acknowledgments.....	iv
Executive summary.....	vi
1. Introduction.....	1
2. Impediments to Private Native Forestry communication and adoption.....	2
2.1 Socio-economic factors.....	2
2.2 Concerns from regional communities.....	3
2.3 Lack of involvement from NRM bodies.....	3
2.4 Complexities of forest management.....	4
2.5 Legislative issues.....	4
2.6 Growing interest despite impediments.....	5
3. Existing stakeholders and communication pathways.....	8
3.1 Research organisations.....	8
3.2 Forestry stakeholders.....	8
3.3 NRM stakeholders.....	11
4. Efficacy of current communication and adoption pathways.....	12
4.1 One-on-one extension work.....	12
4.2 Field days and workshops.....	13
4.3 Training courses.....	13
4.4 Regulatory activities.....	14
4.5 Written information.....	14
5. Successful communication of project results: what is needed?.....	16
5.1 Accessing Natural Resource Management (NRM) bodies.....	16
5.2 Proposing practical training courses for landholders.....	18
5.3 Specific presentations to policy makers.....	18
5.4 Continued use of traditional communication pathways.....	19
5.5 Need for good quality reference material.....	19
5.6 Encouraging marketing and economic drivers.....	20
6. Conclusion.....	21
References.....	22

Executive summary

What the report is about

This report reviews past and current methods of disseminating information about private native forest management for sustainable harvest, and comments on its effectiveness. The report recommends activities for building capacity of landholders and natural resource management stakeholders in private native forest management, including delivering results from research projects.

Who is the report targeted at?

The report targets forest and natural resource management agencies and departments which provide funding support for extension programs, and researchers and extension groups involved with private native forestry. The report suggests involvement by each of these groups in delivery of workshops on private native forestry management needs.

Background

Privately owned native forests make up around one third of Australia's forest estate and are a significant resource for both production and conservation. The value of these forests as a source of timber for industry, an additional source of income for landowners, and as a conservation resource is increasingly being realised by both government and the community.

In the Spring, 2001 issue of *Forest Grower*, Peter Kanowski suggested that we have to “rebuild the credibility and trust in forest owners, managers and scientists, whereby forest owners could become recognised to be the leading proponents of sustainable forestry for the range of forest values”.

In 2005-2006, several small projects were funded by Natural Heritage Trust through the Joint Venture Agroforestry Program, to address the current state of knowledge and the environmental sustainability of harvesting private native forests for timber production. These projects were conducted in two stages, over two years. Stage one projects reviewed spatial data collection methodology and sustainability assessment criteria for private native forest management, to develop agreed common methodology in each of these areas. In addition, a small communication component was included to recommend effective methods of translating research results into on ground outcomes. This report forms the communication component. To date the work has only had an eastern Australian focus.

Aims/Objectives

The project aimed to recommend effective methods of translating results from private native forestry research projects, and general training for landholders, into on ground outcomes.

Methods used

The project reviewed past and current methods of disseminating information about private native forest management for sustainable harvest, and existing impediments to communication. It identified forestry and natural resource management (NRM) stakeholders involved with private native forestry (PNF), as well as the current communication and adoption pathways between these groups and research projects. The project then considered activities to increase information dissemination to relevant stakeholders.

Results

Existing impediments to communication include concerns by regional communities about the values and management of privately owned native forests, and concerns by landholders about the complexity of complying with regulations and of managing the forest itself.

Whilst traditional communication and adoption pathways such as extension, field days and workshops with landholders will be useful to communicate research project results, it is unlikely that the activities would be far reaching enough to effect significant on-ground change. A more targeted and cost-effective approach is recommended. The suggested model is a series of workshops whereby project participants deliver information about PNF, and the research project results, to the staff and decision-makers within regional NRM bodies. Data from the suite of JVAP projects can be used to explain

ecologically sustainable management of private native forests and move towards increasing public and landholder understanding and confidence in private native forestry.

A significant aim of the workshops will be to encourage and facilitate investment by NRM planning organisations in projects that will improve the sustainability of PNF practices. In particular, training workshops for both NRM staff and landholders involved with PNF should be encouraged. The report also recommends that presentations on the project results are made by project participants to regulatory bodies and various certification schemes, where appropriate, to aid in the development of suitable and effective legislation and sustainability standards.

The recommended communication activities will require cooperation from a wide range of stakeholders in an industry which is currently fragmented. Good communication of research results and related training is essential if we are to move towards the sustainable management of our private forest resources.

Recommendations

The project recommends that:

- A series of workshops are conducted to deliver information about PNF, and the research project results, to the staff and decision-makers within regional NRM bodies and policy. These workshops should be coordinated by one key organisation, and include regional policy representatives, and private native forestry research project results presented by the researchers themselves.
- Existing 'traditional' methods of extension and communicating research results are continued, to complement the above workshops.

1. Introduction

Much of the productive native forest resource throughout eastern Australia is privately owned. Increasingly, these forests are being recognised as a significant resource for biodiversity conservation and for their significance as a resource for industry, given the general decline in areas available for timber production on public land (AFG, 2006). Taking forested leasehold land (46%) together with private freehold forest (24%), some 114.5 million ha, or 70% of Australia's native forests, were under private management as at December 2003 (ABARE, 2005).

The potential production and conservation benefits from native forests on private land will only be realised if they are skilfully managed in a sustainable manner. Private forest owners will require specialist knowledge of the ecological, economic, and social values of their private forests as well as the skills to translate this knowledge into active sustainable ecosystem management. This is a complex task which can only be achieved with assistance and input from a number of different stakeholders in the forestry and NRM sectors.

A suite of projects were funded over two years by the Natural Heritage Trust (NHT) through the Joint Venture Agroforestry Program (JVAP), to provide improved mapping and forest inventory data and to determine common methodologies against which the environmental sustainability of harvesting private native forests can be assessed. The projects occurred in eastern Australia.

Adoption of the results relies on ensuring the assessment methodologies and research results are effectively communicated to both forestry and NRM stakeholders and ultimately translated into on-ground outcomes. The information relating to PNF is complex given the diverse range of stakeholders and the range of socio-economic and other impediments that hinder the forestry industry on private land. In addition, stakeholders in the NRM sector often have little awareness of the management issues concerning the productive use of native forests on private land.

This report examines some of the major impediments to communicating sustainable management practices to landholders, and offers recommendations on the knowledge delivery and capacity building activities for communicating the results of research projects to different regions, sectors and stakeholders.

2. Impediments to Private Native Forestry communication and adoption

2.1 Socio-economic factors

In comparison with other rural industries, landholders harvesting areas of native forest on their properties are often impeded by a general lack of knowledge regarding native forest management practices amongst the community and their peers. This lack of ‘forestry culture’ has been identified as a serious impediment to communicating information to growers or other stakeholders and has largely been attributed to factors surrounding the scale and characteristics of the industry (Alexander et al. 1998).

Most operations, for instance, are relatively small-scale and often a secondary concern to one or more other agricultural enterprises. As a result, few forestry operations on private land are approached as a commercial enterprise in their own right. They are often carried out sporadically in response to market demands with very little regard for long-term planning or the need for financial investment in forest improvement (AFG, 1998). Landholders who are unaware that they require specialised silvicultural information to sustainably manage their forests, often sell timber directly to logging contractors with minimal involvement, receiving relatively low royalty payments (Kater, 2002).

In addition, forestry operations are dangerous, requiring specialised skills and equipment (and being subject to stringent OH&S requirements), making it difficult for landholders to carry out forestry operations themselves and retain full control of their forest operations. The combination of these factors often result in the sub-optimal management of the resource (see Box 1 below).

Box 1. Effects of poor management practices in dry forests in NSW and SE Qld.

Declining productivity in many of the dry open eucalypt forests on private land in coastal areas of NSW and SE Qld is often attributed to the lack of appropriate silvicultural planning (Ryan and Taylor 2002, Combe et al, 1998). Under traditional, highly selective logging regimes, these forests are typically repeatedly but lightly cut over on a ‘single tree selection’ basis.

Often referred to as ‘high grading’, this regime removes the more dynamic and productive trees in the forest, leaving an unnaturally high proportion of older defective stems or younger growth-restricted trees that may fail to respond to release (Florence, 1996). In addition, regeneration is not often actively sought or subsequently managed, and silvicultural treatments to improve stand condition are rarely applied. There is typically little or no supervision of logging contractors and little regard has been given to the quality or composition of the residual stand.

As the characteristics of ‘high grading’ are difficult to pick with the untrained eye, the gradual degradation of many privately owned forests through inappropriate logging practices has largely gone undisputed. Subsequently, degraded forests often have little perceived value for private forest owners who may have little awareness of restorative management options. The typically low returns for ‘restorative’ forestry operations and lack of markets for low value products also make it difficult for forest owners to invest in these operations (Spooner, 2005).

The socio-economic impediments are exacerbated by typically poor returns received by private landholders, due largely to the difficulties in competing in a market dominated by large state forest owners. This state dominance of the hardwood log supply in NSW and QLD in particular, has kept log royalty prices low and made it difficult for private forest owners to conduct a profitable PNF business which can invest in its own future (Jay, pers. comm.). Sawmillers, with a guaranteed supply from the state have traditionally been able to pick and choose amongst private forest owners to fulfil

their supply needs. In addition, industry players may find it easier to deal with a representative of a large resource rather than a multitude of small growers, each with their own particular idiosyncrasies (Vaughan, pers. comm.).

Such marketing impediments add to the broader problems in the industry that affect all land tenures. Hardwood log pricing, for instance, has been severely affected by product substitution from softwood, particularly within the structural markets (Vaughan, pers. comm.). In addition, returns to growers on all land tenures are relatively poor compared with the excessive 'marking up' along the value-adding chain which occurs with processing (Spooner, 2005). Low returns have often led to a general scepticism among landowners about whether the management of native forests on farms has commercial potential.

2.2 Concerns from regional communities

The effective communication of private native forest management issues to landholders and natural resource management (NRM) stakeholders (ie. regional NRM bodies and state agencies) is also threatened by some ingrained attitudes in the community. There has been a polarised debate between conservation and timber production interests in public forests for many years. In 2000, AFG warned that despite its potential to be an environmentally and socially responsible productive land use, the management of forests on private land is becoming a new target for conservation groups (AFG, 2000).

Given the conflicts over legislation in several states it appears that debate has polarised already with regard to the management of forests on private land. In NSW, for example, the development of a Code of Practice for timber harvesting on private land under the Native Vegetation Act (2003) is currently gridlocked by opposing lobby groups. A very similar situation exists in Queensland with the ongoing debate relating to the Vegetation Management Act and impending Code of Practice

To minimise such conflicts between conservation and production interests, private forest owners will need to become proactive in demonstrating the sustainability of their operations. This may be achieved, in part, through the continued formation of grower groups that explore certification and quality assurance for sustainable production and through good communication of research information from private native forestry projects.

2.3 Lack of involvement from NRM bodies

In many regions regulatory bodies and NRM stakeholders also have a poor understanding and knowledge of native forest management on private land. In many states PNF is seen purely as a regulatory issue, rather than a significant catchment management issue for conservation and NRM. In NSW this is evidenced by the scarcity of references to PNF in the Catchment Blueprint documents (produced by Catchment Management Committees prior to their formation into Catchment Management Authorities) in 2004 (see individual CMA websites for Catchment Blueprint details). There are also regions where PNF harvesting is seen as having negative impacts, and which results in a net loss of vegetation. Forestry considers that over-regulation occurs as a result (Vaughan, pers. comm., Thompson, pers. comm.).

These polar views and the attendant regulation are a disincentive to management of these forests and cloud understanding of harvested forest condition relative to unlogged or unmanaged native forests. Management is not just for wood products. Weeds, feral animals and fire are issues for conservation areas, public forests, unmanaged private native forests and harvested private native forests alike. Their management has implications for the environmental attributes of the surrounding regions that NRM bodies seek to improve e.g. biodiversity, water quality etc.

In his research, Lindenmayer argues that the management of native forests on private land is complex, site-specific and multi-scaled (Lindenmayer, 2007). He notes that private native forestry is relevant on

several levels from landscape managers to private forest owners and argues that NRM bodies or landscape managers need a vision for the forest landscape just as landholders need a vision for the forest stands which comprise those landscapes.

For these reasons it is necessary to improve the understanding of NRM and private native forestry. NRM bodies and landscape managers will need to understand the complex issues involved with PNF and begin to make clear objectives for these forest areas. These objectives need to be complemented by strategies and practical tools.

There are some regions where the potential benefits of PNF are well recognised by NRM bodies and positive reference to PNF is made in regional vegetation plans. This occurs predominantly in areas where PNF is reasonably common such as East Gippsland, in Victoria, south east Queensland and the North Coast of NSW (see section 2.6 below). These ideas provide examples for other regions.

2.4 Complexities of forest management

The difficulties in communicating information on sustainable practices to landholders are exacerbated by the complexity of the information being delivered. To carry out sustainable forest management, landholders need to consider forest ecology and silviculture, biodiversity conservation, issues of harvesting, roading and machinery, and timber processing and marketing.

The extreme diversity of forest types and conditions found on private land throughout Australia, along with the wide variation in management objectives of the landholders involved increases this complexity considerably. Management must be appropriate to forest type, logging history, other forest disturbance and landscape context (Clinnick et. al. in press). For these reasons it is not possible to apply generic forest management regimes across a region and individual silvicultural solutions are required. Without prior time invested in site-specific forest assessment and inventory, it is unlikely that an extension officer can impart adequate information on sustainable forest management regimes in a single site visit. These factors make extension work in private forest management very complex and costly. However, landholders can be trained to do their own inventory and to design management based on this.

In comparison, delivering advice and training on planted forests to landholders is far more straightforward. In an afternoon site visit with follow up material, an extension officer could, for instance, advise a landholder on plantation design and establishment, species selection, maximising environmental benefits and touch briefly on future management needs and economics.

2.5 Legislative issues

There are perceptions amongst private forest owners that the legislation concerning harvest of forests on private land is limiting and inflexible in certain states. In NSW and Qld for instance, the legislation is perceived to have caused confusion and uncertainty amongst landholders. It has been suggested that as the number of agency players in PNF has increased, the level of understanding of the issues amongst policy-makers and bureaucrats has declined and that no matter how well skilled the growers become, they may be forced into unsustainable practices by poor policy and regulation (Norman, pers. comm.). Presently the policy and regulation environment make landowners resentful and unlikely to seek advice that may bring with it further regulation. This works against good practice in managing private native forests.

In Queensland, there are significant communication issues which require attention due to changes in the Vegetation Management Act and pending final revision of the Private Native Forest Code of Practice. There appear to be only limited resources from government to provide direct extension support to educate and inform landholders regarding these changes and how they will affect vegetation

and timber management (Williams, pers. comm). There are similar problems in NSW with the introduction of the new regulations for the Native Vegetation Act (2003).

While the regulations associated with PNF in NSW and QLD are still under development, these processes have also been plagued by ongoing polarised debate between conservation and production interests (see Section 2.2). It is hoped that the research results from current projects will be able to guide the development of appropriate regulations in the future.

In Victoria the regulation of PNF operations is the responsibility of local government. State Government is responsible for policy, including native vegetation management and commercial forestry. State government and the Private Forestry Development Committees (eg: Gippsland Private Forestry) deliver extension programs. Adherence to Regional level planning, and the Planning and Environment Act, which incorporates the Native Vegetation Management Framework and the Code of Forest Practices for Timber Production are the main requirements for operational private native forestry to occur.

It can be argued, that confusion with the regulations and where to gain extension services for PNF have promoted poor forest management in areas of Victoria (Vaughan, pers. comm.). Landholders find it difficult to navigate their way through the complex legislative processes and will sometimes not seek advice on forest management for fear of interference by regulatory bodies and the additional costs involved with the process. Further difficulties arise with the legislation where the general public (due to a lack of education) equate PNF operations with clearing for urban development or agriculture rather than harvesting for timber products and regeneration (Vaughan, pers. comm.).

2.6 Growing interest despite impediments

Despite the inherent problems outlined above, there appears to be a recent growing interest from landholders and government in the sustainable active management of private forests for harvesting (e.g. see Section 3.2 'Currently in SE Queensland). While it is difficult to quantify, this interest is evident in most states in the provision of funding for a small number of projects on PNF to NGO's, government departments, research organisations and universities. There is also an increase in the number of publications, trials, demonstration projects and field days. Evidence for this is provided in the following examples.

Example – PNF activities in Queensland

In South East Queensland (SEQ) there has been an increase in the number of landholders contacting the PFDC to better manage their native forests, as well as projects that aim to meet this growing demand (Matthews, pers. comm.)

- The Burnett/Mary Regional Group (BMRG) has listed the sustainable management of remnant and regrowth forest as an important NRM issue in their regional plan and has highlighted management actions to be undertaken in their regional investment strategy.
- Natural Resource Management South East Queensland (NRMSEQ) has listed the sustainable management of regrowth forest as an important NRM issue in their regional management plan. NRMSEQ has employed a Farm Forestry Extension Facilitator for their region under National Landcare Program funding and is currently looking to extend this project into the Western Catchments Region. The Farm Forestry Extension Facilitator position will facilitate the organisation and delivery of Master TreeGrowers (MTG) courses, field days, workshops and collation of resource material relating to both planted forestry as well as native forest management. (For further information on MTG courses see Reid and Stephen 2007. MTG courses are coordinated by Rowan Reid University of Melbourne and local experts and scientists with relevant expertise are brought together to present the course and work with a local group of interested landholders. The courses can focus on farm forestry or private native forestry). NRMSEQ has indicated that the Private Forestry Southern Queensland will be required to service the delivery of the native forest management components of this project.

- Mackay/Whitsunday Natural Resource Management (MWNRM) has devolved funding to PFSQ for the delivery of extension relating to PNF in combination with grazing land management, within the northern parts of the Burnett/Mary region.
- PFSQ continues to provide a range of services to landholders, industry and projects. In addition, PFSQ recently published a landholder guide relating to rights and responsibilities under state legislation for landholders contemplating PNF. PFSQ produces a quarterly magazine “Southern Queensland Forestry News” which aims to inform landholders of current developments, changing management practices, projects and other relevant information. PFSQ has recently employed an additional staff member as Native Forest Project Manager, responsible for the delivery of extension throughout SEQ as well as the management of input into the wide variety of complementary projects.
- AgForests Project is a Federal Government funded project that is a partnership between AgForce and Timber Queensland. The AgForests project aims to extend sustainable PNF practices through a range of mechanisms. The AgForest project is mainly focused on the central Burnett region. PFSQ has been contracted to supply a range of reference material as well as field days, workshops, inventory and forest management plans.
- Grazing Land Management (GLM) is a State Government initiative which aims to provide training for landholders relating to sustainable grazing land management. PFSQ is working with GLM in reciprocal service delivery to incorporate a component of PNF into GLM courses and vice versa.
- AgForward is an initiative of AgForce and is a State Government funded project. AgForward aims to deliver a high number of property management plans and Property Maps of Assessable Vegetation (PMAV's) training courses throughout Queensland for the sake of promoting best management practices in accordance with State Legislation compliance. AgForward has recognised a strong linkage between the work currently performed by PFSQ relating to native forest management and the aims and objectives of AgForward.
- In Queensland, the Central Queensland Forest Association currently has three funded projects relating to the development of private forestry (Williams, pers.comm.).

Example – Coastal regions of NSW

In the coastal regions of NSW there has been an increase in funded projects and group activities in private native forestry indicative of an increase in interest from private landholders wishing to become proactive about managing their native forests on a more sustainable basis. Examples include:

- The Mid North Coast Farm Forestry Network (MNCFF) in conjunction with Landcare received NHT funding in early 2005 for a project focussed on PNF education, awareness and training to build on a previous PNF project funded by the PFDC (www.mncff.org.au),
- The MNCFF have participated in a forestry certification pilot project for the Australian Forestry Standard and are currently exploring group certification under Forest Stewardship Council (FSC) (see <http://www.betterbusiness.nsw.gov.au/fip.htm>);
- The MNCFF are exploring options for value-adding and co-operative marketing;
- The Hunter Regional Landcare Network received National Landcare Program funding in 2005 to run a Master TreeGrowers course specifically for private native forest management;
- The Hunter/Central Rivers CMA listed the sustainable management of woody regrowth as an important NRM issue in their catchment blueprint.
- Hunter Farm Forestry Network field days on PNF in 2004/5 have each been well attended (25-30 landholders). They too are considering a marketing co-operative for private growers in the Hunter region.
- Preliminary work by the South East NSW Farm Forestry Project has determined that there is a nucleus of landholders with a strong interest in learning how to manage their native forests in an holistic manner to maximise the environmental, commercial and aesthetic values (Bauhus, 2000).

This increase in interest may be attributed to several factors: Specific NHT projects are likely to have increased public awareness and interest in PNF. It is also likely that growing pressure from industry to access private forests due to supply problems (Kater, 2002) has sparked interest from landholders in harvesting their native forests. Changes in legislation requirements in some states may also have forced landholders to review their forest management activities.

3. Existing stakeholders and communication pathways

3.1 Research organisations

There are a number of organisations involved with research on PNF management in eastern Australia. These include:

- Australian National University, University of Melbourne, Southern Cross University and University of Queensland;
- The Joint Venture Agroforestry Program (managing agent Rural Industries Research and Development Corporation (RIRDC)), and Land & Water Australia.
- CSIRO
- Bureau of Rural Sciences (BRS)
- State Government departments such as State Forestry departments or Department of Primary Industries (DPI) in Victoria, Qld, and NSW,;
- Private Forestry Development Committees (PFDCs) (funded through NHT).
- Non-government organisations who partner in research with universities or other organisations;
- Forestry consultants.
- Australian Forest Growers (AFG)

Forestry research organisations often disseminate information on the management of private native forests through:

- written material such as reports, magazine articles, newsletters, scientific journals, media releases,
- conferences,
- trials and demonstrations with associated field days
- communication with government or non-government organisations,
- direct communication with professional organisations, private grower groups and networks, and
- the internet and email discussion groups.

Research organisations have not traditionally had the means to directly disseminate results of their work to a large number of individual private forest owners. This is now changing as these organisations compete for small consultancy style contracts and are increasingly becoming involved in organisation, presentation and liaison activities (Connell pers. comm.).

3.2 Forestry stakeholders

Private forestry staff in a range of organisations

A range of people manage or coordinate farm forestry projects, often funded through NHT or directly through state government agencies. These projects have typically developed where a community group or organisation has shown interest and applied for funding. These projects are not evenly distributed across the states and they occur within a diverse range of organisations such as PFDCs, Greening Australia, State Government agencies, Landcare, Catchment Management Authorities or Local Government. The NHT projects have historically focused on planted farm forestry with only a relatively small proportion of time being spent on PNF. There are, however, a growing number of projects that are dedicated entirely to PNF (See section 2.6). While there appears to be no comprehensive listing of farm forestry projects involved with PNF, they are often referred to on the individual websites of the organisations which house them.

Project officers often form a crucial link in the communication pathway for PNF management acting as ‘translators’, seeking out and disseminating information to private forest owners. They typically disseminate information through a range of pathways such as:

- one on one extension to landholders including site visits,
- workshops, presentations or field days,
- training courses (eg Master TreeGrowers courses),
- printed material such as handouts, manuals, case studies and magazine articles, and
- CDs and information on web sites.

A problem in continuity of extension and skills development is the short-term nature of funding, and its location in a range of organizations. The example of South East Queensland below shows the changes in PNF project staff since 1998, but also that some PNF communication is taking place and how it is being done.

PNF was housed in a variety of organisations in South East Queensland between 1998-2002:

- Greening Australia had three full time staff employed under the federally funded Farm Forestry Support Program. Extension was delivered through the Albert, Bremer and Logan catchments, Lockyer and Fassifern Valley, Cooloola Shire as well as Isis Shire.
- There were also a number of NHT projects managed by State Agencies that were Queensland state wide, such as the Cooperative Development Project and Farm Forest Property Management Planning project.
- Further north there were a number of farm forestry projects which had native forest management as a major component, covering the Fitzroy basin, Mackay Whitsunday region and others.
- One native forest management specific project that was highly successful was the NHT project delivered through the Mary Valley Sunshine Coast Farm Forestry Program (MVSCFFP). The MVSCFFP was highly successful in raising awareness of best management practices, the development of web-based material relating to native forest management, development of demonstration sites, guides, case studies and many field days and workshops.

Currently in SEQ

- Private Forestry South Queensland (PFSQ) has been promoting, demonstrating and developing systems for private native forest management for the last 2 years. A major output of PFSQ has been the development of management guidelines. These have been improved as a consequence of PFSQ's own management of harvesting, marketing and post-harvest management of private native forest.
- In recognition of this work, PFSQ has been contracted under a number of projects (see section 2.6) for the delivery of native forest extension throughout SEQ and could easily be regarded as the lead agency in PNF extension delivery in SEQ. PFSQ is delivering this extension through a range of mechanisms such as a five-part series of training courses in approximately 10 locations, demonstration of harvesting and marketing systems, further development of information resources and the delivery of a large number of one day awareness raising field days.

Private Forestry Development Committees (PFDCs)

PFDCs were originally referred to as Regional Plantation Committees (RPCs). As the name suggests, they were predominantly focused on encouraging plantation development. While plantation development remains a primary focus for these committees, many PFDCs are now supporting PNF activities in their regions. The PFDCs have an executive officer, funded under a partnership arrangement between state and federal governments and they typically use the same communication pathways as the other forestry staff outlined above.

There are currently fifteen PFDCs in eastern Australia, including seven in NSW, four in Victoria, three in Queensland and one in Tasmania. PFDCs often have unique focuses between regions and some are more focused on PNF than others. In SEQ for instance, PFSQ has a number of projects that specifically focus on PNF extension and the development of regionally-specific management guides (See Section 2.6).

Farm forestry networks

Farm forestry networks are predominantly volunteer-based community groups focused on farm forestry that have developed in response to regional NHT farm forestry projects, or a PFDC presence or a MTG course. Their formation has often been driven by a NHT funded project coordinator and a committed group of landholders. These grass roots organisations typically disseminate information to their members and the general public through the same channels and using the traditional methods described above. They are often focussed on education and awareness raising, however they are often limited by their voluntary nature and require support to carry their influence further.

There are approximately ten of these networks in Victoria, at least six in NSW and at least three networks in Queensland (Agroforestry News, various dates). While the majority of these groups started out with a primary focus on planted farm forestry, many are moving into the arena of PNF management. Some networks are very active and have had considerable success with PNF education, other networks membership has waned and their education program has been less successful.

Australian Forest Growers

Australian Forest Growers (AFG) is the national association representing small holder private forestry and commercial tree growing interests in Australia. AFG supports private growers through representation and lobbying on policy and planning issues and also plays a role in education and awareness-raising through conferences, general dissemination of information and production of a quarterly magazine.

AFG has a total of seventeen regional branches throughout eastern Australia that hold meetings, events and field days (www.afg.asn.au). Many of these branches have a significant role in PNF issues in their region. In central Queensland, for example, AFG is very active in on-ground activity relating to PNF as well as industry issues (Williams, pers. comm.).

Fee for service providers

Forestry consultants provide research or advice on a cost recovery basis. In some states, government forestry departments may provide advice for landholders on a cost recovery basis (eg: DPI Forests in NSW). Other groups such as PFDCs and certain NGOs provide some user pays services. Private Forestry Southern Queensland, for instance, provides user pays services to landholders managing native forest. Services include the development of forest management plans, harvest management, preliminary inspections, marketing and post-harvest silviculture. The role for forestry consultants has grown in Victoria in recent years, especially as legislation has become more complex (Vaughan, pers. comm.).

Private forest owners

There are a diverse range of people who own native forests on private land. These people have a diverse range of attitudes and beliefs about forest management and varied intent and management objectives for their forests. They also vary widely in their knowledge and skills in forest management and their personalities. This diversity adds to the complexities involved in delivering effective communication activities in PNF (see section 2.4).

3.3 NRM stakeholders

There are a diverse range of natural resource management planning stakeholders in each state.

Regional NRM Bodies

There are 56 NRM regions in Australia and each has a regional body. These are funded through State-Federal arrangements and are the primary organisations for regional native vegetation planning issues. The states have differing approaches to the establishment of regional NRM bodies e.g. in NSW and Victoria they have statutory bodies known as Catchment Management Authorities (CMAs). In Queensland and Tasmania they have incorporated community groups, known as Regional NRM bodies in Qld and as NRM groups in Tasmania.

Regulatory bodies

PNF is regulated through different State Government departments in Queensland, NSW, Tasmania and by local government in Victoria. Regulatory bodies involvement in compliance, policy, planning, extension and training processes vary between States and indeed within States.

Regional Landcare Networks and groups

There are approximately 4,500 volunteer landcare groups in Queensland, NSW and Victoria (www.landcareaustralia.com.au). Many of these groups have joined together within regions to form larger groups referred to as Landcare Networks. These networks can have significant influence over NRM planning activities in their region.

4. Efficacy of current communication and adoption pathways

4.1 One-on-one extension work

Direct information flow to individual landholders through one-on-one extension work is a very effective tool for raising awareness and knowledge amongst individuals involved with PNF. Landholders receive one-on-one, site-specific advice which is important given the complexities involved in private native forest management and the need for site-specific silvicultural solutions. Such extension work provides project staff with direct access to landholders and can at least alert landholders to the possible long-term consequences of continued poor management. From here, landholders can choose to seek out further knowledge, hire consultants or, at least, ensure better supervision of harvesting activities on their land.

Extension can be time-consuming and costly where landholders have little prior knowledge. Given the complexities of private forest management, it is also difficult to impart even a proportion of the information necessary for the sustainable management of a forest in one site visit, and repeated inputs are required to create a site-specific forest management plan and harvest plan for an individual landholder.

In addition, there are currently very limited numbers of extension staff compared with the demand for advice in most states. Many of these staff cover large, diverse regions and only have a proportion of their time allocated to PNF issues. These staff are also housed in a range of different organisations (see stakeholders section above) and access to these people can be confusing and difficult. Outside the industry, there is little knowledge about support services and as a result landholders trying to access support are often passed from organisation to organisation. In many cases, landholders fear links to government consent authorities, and shy away from extension services.

In recent years, there has been a steady decline in the number of organisations involved in a hands-on information dissemination role in NSW. This is largely due to changes in natural resource management funding arrangements for delivery of the NHT program in this state (see example below). This contrasts with the South East Queensland example in Section 3.2.

Example – Decreasing number of staff involved with private native forestry extension in NSW

Between 1998-2002 there were around 25 staff involved with PNF extension in NSW including:

- over 10 full-time staff within Greening Australia providing support to landholders in PNF as a component of delivering regional NHT farm forestry projects. These were often three year projects with one or more full time project officers. The projects had education and awareness-raising components for PNF in addition to planted farm forestry. PNF activities included trials and demonstrations, training and the production of printed material.
- approximately 7 executive officers for RPCs (now PFDCs). These were funded by state government (Department of State and Regional Development) and the former Federal Department of Agriculture, Forestry, Fisheries Australia (DAFF) however they were largely involved with plantation forestry rather than PNF.
- around 5 Greening Australia project officers dispersed around NSW under its 'Farm Forestry Support' project, with funding received directly from DAFF. These were focused on extension and education and included a PNF extension component.
- a number of externally funded extension officers in state government agencies focused on private forest management eg. Department of Infrastructure Planning and Natural Resources (DIPNR) in Grafton.

Today there are around 10 staff involved in PNF training/education in NSW:

- There are 7 PFDC executive officers in NSW (however these may soon be reduced in number). Only a proportion of their time is allocated to PNF and only in the regions with viable PNF resources.
- Mid North Coast Farm Foresters (MNCFF) have a project officer and have recently secured NHT funding in conjunction with landcare to run training in PNF (www.mncff.org.au).
- In 2005 the Northern Rivers CMA tendered for a NHT funded project with a significant PNF training component.
- DPI has one state representative engaged in policy, planning, research and training.
- Greening Australia NSW no longer has any full time staff dealing with private native forestry.

4.2 Field days and workshops

Field days and workshops are effective tools for awareness raising, information exchange and gaining basic knowledge of private native forestry. If well organised, they are usually popular with landholders as they provide a practical but casual and social learning environment. They do not pose too much of a time commitment and have typically been run free of charge.

Field days typically attract and deliver information to the keen and motivated landholders rather than reaching those who have the least knowledge. However, it is useful to target these 'leaders' as they have the highest probability of success and can act as mentors for others.

For PNF, field days and workshops are a useful tool to raise general awareness about the complexities of managing a forest in a sustainable way or to demonstrate a specific practical element such as forest mensuration. However, they will only reach a selected number of people and will not be effective in implementing broad-scale changes towards sustainable management.

4.3 Training courses

Training courses generally go into a greater depth than can be provided at a field day or workshop. Short courses provide good basic training to give keen landholders an appreciation of what is involved in PNF and raise awareness of the issues affecting the industry. Courses can provide basic training on a range of issues (eg: forest assessment and mensuration, forest management planning, harvest planning, forest ecology and native forest silviculture). However, landholders may still need further help on a site-specific basis to properly manage their forests.

There are relatively few training courses on PNF available to landholders in eastern Australia. Examples include:

- In Queensland, the only native forest management courses currently available are delivered by PFSQ and AgForests (delivered by PFSQ). PFSQ has applied for further funding to extend the delivery of these courses to cover a greater area of SEQ.
- In NSW courses are either available through the Coombell Farm Forestry School (see www.mncff.org.au) on a demand basis, or on an ad hoc basis where groups apply for funding. Landcare groups in both the Hunter Region and Mid-North Coast, for example, have recently secured funding to run training courses specifically on the sustainable management of native forests on private land.
- In Victoria, a Forestcare program has been developed in Gippsland and Southwest Victoria. This program was developed to ensure sustainable management of PNF by providing technical advice to landholders, and by providing training to local and state government planning representatives. Other training in Victoria has been on an ad hoc or as needs basis.

Short training courses can be particularly effective in raising awareness of PNF issues amongst regulatory staff or stakeholders involved in NRM although it is often difficult to get them to attend.

4.4 Regulatory activities

In NSW and QLD, State government departments are involved in regulating the harvesting and management activities in privately owned forests according to existing legislation. While these departments are predominantly focused on regulation and compliance, they do have a significant role in education and awareness as well as policy development. These policy, regulatory and operational roles have not always been well separated within these departments, often leading to inadequate resourcing of positive education and extension support roles (Jay, pers. comm.).

There have traditionally been few staff with forestry training in these organisations, resulting in a general lack of awareness and knowledge of forestry issues amongst regulatory officers and often a poor understanding of the complexities of management that extend beyond compliance issues. The role of these organisations as advisors is also seriously limited by their role as the regulator. In NSW, for instance, many private forest owners perceive the legislation to be complicated and inflexible and are wary of alerting authorities to their harvesting activities (Piercy, Thompson, pers. comm.).

In Victoria, PNF is regulated by Local Government (see Section 2.5). Depending on the level of forestry in a region, the local government environmental officer may or may not have forestry experience (Vaughan, pers. comm.). This can lead to major inconsistencies between areas which is often not the fault of the local government representatives (Vaughan, pers. comm.). Local government representatives are required to know about a lot of different complex environmental issues, of which forestry is just one.

4.5 Written information

Much of forestry research and information on native forest management has traditionally been focussed on public land and held in state forest organisations. As a result in the past there has been a general paucity of practical, regionally specific and accessible information regarding sustainable forest management for private landowners.

The smaller scale of private forestry operations, the specific legislative requirements, and the diversity of different management objectives necessitate alternative forest management information for private forest owners. Further research is required to determine and demonstrate sustainable forest management and harvesting practices suitable for private property (eg: regeneration, post-harvest stand and habitat development, species and structural diversity) and to test these regimes with regard to the effects on forest condition, economics of operations and biodiversity conservation. (JVAP projects USC-8A and DAV-221A addressed two forest types in sites in NSW and Victoria).

The database 'Farm Forestry and Agroforestry Reference Library' (Shirmer, 2004) shows approximately thirty documents relating to PNF. On closer examination, the majority of these are from journals, conference papers or magazines (eg: Australian Forest Growers) and/or reports to government concerning broad issues surrounding PNF. Much of this information is difficult to access.

Despite this, there are a growing number of very good references for private forest owners and managers. Some of these which could be used as the basis for new material in any region include:

- **Management guidelines for private native forestry.** (Clinnick et al., in press). This report aims to provide small scale farm forestry managers the information to sustainably manage their forests for production and conservation.
- **Managing your dry forests** – a guide to management of privately owned dry eucalypt forests in Tasmania (Private Forestry Council, 1991). This is a practical, simple and concise manual guiding the silvicultural management of the dry forests on private land in Tasmania. This booklet is specifically for forest owners and extension advisors.

- **Forest Management** (SE NSW Private Forestry). This is a compilation of fact sheets into a PNF information booklet. Topics include Managing Your Private Native Forest, Small-scale Timber Milling and Timber Handling Husbandry.
- **Sustainable management of private native forests CD including:**
 - o *Investigating techniques to restore productivity in a high graded dry eucalypt forest SEQ.*
Written by Sean Ryan. This case study is written for those who are dealing with dry sclerophyll forest.
 - o *Case study in an even aged regrowth forest in south eastern Queensland*
Written by Sean Ryan, David Taylor and Peter Lazzarini. This case study is written for those who are dealing with wetter sclerophyll forest.
- **A landowners guide to managing private native forests in Gippsland** (Greening Aust. Victoria, 2002). This is a comprehensive booklet on forest management planning for private land.
- **Interim Guidelines: A guide to managing Private Native Forests in North-East NSW.** (Department of Land and Water Conservation (DLWC) Grafton).

There are also a wide range of fact sheets, booklets, articles and other information developed by staff working on farm forestry projects not included in the 'Farm Forestry and Agroforestry Reference Library' as this material is generally regionally specific and difficult to source. In Queensland, for instance, there has been an ongoing development of handout material, reference material and publications by the Department of Primary Industries and Fisheries' Horticulture and Forestry Science Unit. These have been developed, stored and utilised at a regional level to help landholders to sustainably manage their private native forest.

5. Successful communication of project results: what is needed?

In light of the unique characteristics of the private native forestry industry and complexities and impediments described in this report, a well-organised, proactive and targeted approach, supported by practical, regionally-specific reference material, will be required to effectively communicate the results of the projects including those of JVAP, to a range of forestry and NRM stakeholders.

Apart from four workshops delivered as part of three projects, there is not funded communication activity in year two of the NHT suite of PNF projects. What is needed to follow, then, is to deliver widespread education activities on sustainable PNF to landholders. This needs to be at the scale necessary to effect significant on-ground change in eastern Australia. As a result it is recommended that communication activities focus on delivering the project results to NRM bodies and policy makers. The delivery mechanisms are described below.

5.1 Accessing Natural Resource Management (NRM) bodies

Targeted workshops aimed at the decision makers and staff of the major NRM planning organisations in each state (eg: CMAs in NSW) are recommended, to 1) deliver the results of the JVAP PNF projects, 2) raise awareness and concern within these bodies regarding the sustainable management of private native forests, and 3) to facilitate investment in PNF projects on a regional basis. The mechanisms for delivery of these activities are outlined below.

Forming a core delivery team

For ease of management, communication activities should be coordinated by a single organisation (such as a research organisation or forestry stakeholder listed in Section 3.1 & 3.2). It is recommended that this organisation be in charge of securing funding for the communication activities and determining the possible scale of activities given budget constraints.

Given a reasonable budget, it is recommended that this organisation facilitate the formation of a small collaborative team of people to deliver the results of the suite of JVAP projects plus other forest management information to NRM stakeholders through a series of regional workshops.

This core delivery team may include:

- one or more representatives from each of JVAP PNF projects to deliver the research findings;
- one or more representatives from the steering committee for the projects;
- a coordinator to organise events
- regional experts relevant to management of PNF.

It will be particularly important to use the researchers involved in the project to deliver the information to the NRM stakeholder and extension staff, as much of the information being produced by the sub-projects is quite technical and could perhaps only be effectively communicated by the people involved.

Regional workshops with NRM bodies

A series of regionally specific workshops is recommended. Ideally, one workshop would be held in every NRM region where PNF is an issue (eg: CMA regions in NSW), however the number may be reduced depending on funding availability. If a joint workshop is held for two or more NRM bodies, these bodies should have similar PNF issues.

It is recommended that the workshops aim to:

- convince NRM staff of the potential positive outcomes from a sustainable PNF industry;
- raise awareness amongst NRM staff of the issues involved in PNF management and highlight the links to NRM planning,
- deliver relevant results from the JVAP projects to provide evidence for ‘sustainability’ in PNF and point out their relevance to NRM planning,
- facilitate investment by regional NRM bodies in PNF projects (particularly training),
- demonstrate successful PNF projects (eg: extension staff, trials, training) from other catchments which can easily be adopted,
- provide comment and recommendations on current and proposed legislative structures.

The workshops would target:

- NRM Board members/committee members (eg: CMA Board members in NSW, Vic),
- staff members working in NRM (eg: Catchment Management Authority staff),
- landcare staff,
- state government staff involved with PNF,
- management/decision makers in regulatory bodies,
- on-ground regulatory staff involved in PNF,
- regional forestry stakeholders (see section 3.2).

A partnership approach is desirable for these workshops, where the core delivery team works with key existing forestry stakeholders in each region to design, promote and deliver the workshops. Collaboration and partnership agreements should also be sought early on with NRM bodies and State Government departments to ensure participation and support from these groups. It may be useful to lobby state level bureaucrats for acceptance and support of the workshops.

NRM bodies are juggling a multitude of issues and a diversity of interest groups and are typically short of time. In NSW, CMA’s are newly established and dealing with significant re-structuring and internal organisational issues. For these reasons, short, well-targeted workshops with a focus on outcomes are recommended. They should be carefully timed to avoid busy times relating to funding arrangements. Interested Catchment Management Board members or staff should be fostered and offered follow up information.

The workshops should be regionally specific and have time allocated to debating the actions/outcomes to follow. Supporting information should be provided including:

- information on PNF projects that are currently working in other catchments,
- a ‘package’ of informative handouts and relevant written material for adding to their library,
- contact information for regional forestry organisations.

Ensuring success

It is likely that the effects of the communication to regional NRM bodies will be far more widespread than if the group attempts to reach individual landholders. The risk with this approach, however, is that regional bodies will accept the information being delivered but not take the necessary next step to endorse funding of PNF projects.

Therefore NRM bodies should be encouraged to promote PNF, and investment in PNF projects should be made as ‘easy’ as possible. It is also recommended that the core delivery team should offer specific ‘ready made’ designs for PNF training and other projects that have proven successful in other regions. These project proposals would be best if they had already secured partnership support from another organisation (eg: in kind support from a government organisation). In this way the training will have a logical next step which leads the NRM bodies to get this information out to their landholders and makes it easy for them to do so.

Proposing training courses for extension staff within NRM bodies

Short courses could focus on giving NRM extension staff a basic understanding of PNF issues including:

- the value and significance of private forests;
- the basics of native forest silviculture;
- the problems often associated with traditional management regimes;
- awareness of the constraints facing private forest owners; and
- how private forests can be managed sustainably for production and conservation.

Training NRM staff would build the capacity to deliver messages on sustainable management to landholders whilst also raising awareness on PNF issues within the NRM industry. In mid 2005, NSW Department of Primary Industries and Greening Australia NSW formed a partnership to deliver a series of seven two-day training workshops around NSW to Catchment Management Authority (CMA) extension staff on the use of planted farm forestry for NRM solutions. These aimed to give NRM staff a basic understanding and awareness of how planted farm forestry can be used to achieve NRM outcomes so that they can, in turn, encourage better adoption by landholders. A similar series of short courses, with state government partnerships is proposed for PNF management.

5.2 Proposing practical training courses for landholders

Where possible, funding should be sought for practical training courses to relay PNF information and the results of the suite of JVAP projects directly to landholders. The delivery agent could be engaged and regionally specific material developed (eg. silvicultural information, markets, local biodiversity and the process for planning). It is recommended that the courses be modelled on training courses that have been successfully run in other regions (eg: Master TreeGrower style or courses already run in South East Queensland). These courses should be practical and regionally focussed. They should try to attract wood processors as well in an attempt to increase awareness in this sector as well.

Practical training courses for landholders would be useful to maintain current enthusiasm within the community, build community capacity in PNF, demonstrate the complexities involved with PNF, and encourage landholders to seek help where they require it. They should teach the process for forest management planning rather than delivering the plans themselves.

5.3 Specific presentations to policy makers

There are inadequacies in the current legislation, codes of practice for private land and standards, in terms of addressing sustainability (Lindenmayer, 2007). It is important that researchers show the scientific and implementation problems with the regulations surrounding PNF, the on-ground outcomes on a broad scale, and provide credible evidence to convince policy makers of the environmental goods provided by well managed PNF.

Where information from the suite of JVAP projects relates directly to specific codes of practice or legislation, it is recommended that small workshops on the results are offered to regulatory bodies in appropriate states and regions. For example, early evidence suggests that the proposed new regulations in NSW are unlikely to remove the current impediments to good long term silvicultural management (resulting in continued high-grading, Jay pers. comm.) and by increasing the onus on the landholder to ensure contractors follow the code on their land, may ultimately reduce participation in PNF (Thompson, pers.comm).

One well planned and facilitated workshop involving regulatory staff, extension officers, landowners, scientists, policy makers and landowners would be adequate in each selected region (or one in each state depending on budget). These would involve landowners giving their opinion to legislators and legislators presenting their needs to landowners. Research results on the possible compromises and consequences of alternative management should also be presented.

For workshop presentations to policy makers, it is recommended that:

- The presentations should be carried out by the project researchers themselves, with co-ordination of the presentations being done by the organisation controlling the communication activities.
- During these presentations, regulatory bodies could be encouraged to fund their staff to attend training courses such as those described in 5.1 above.
- It would be useful to have a basic training program proposal to offer at the time with estimated budget needs.
- Presentations to regulatory bodies should be accompanied by the dissemination of a 'package' of useful PNF printed material for their library.

5.4 Continued use of traditional communication pathways

Researchers from each of the projects under Stage One of the Suite of JVAP project should as far as possible, also use the traditional channels of communication open to them. These may include:

- workshops and field days in local areas;
- talks at conferences;
- dissemination of information to industry peak bodies (eg: AFG, Forests and Wood Products Association, National Association of Forestry Industries);
- production of written and electronic material through organisations such as RIRDC;
- contribution of articles to magazines such as Australian Forest Grower and Agroforestry News;
- newsletters, scientific journals and media releases and articles to regional newspapers & radio; and
- utilisation of the sites for undergraduate teaching and post-graduate research purposes.

It is acknowledged that the communication channels readily accessible to the PNF researchers will likely be limited to forestry stakeholders rather than NRM stakeholders listed in Section 3.2. Also, the extent to which communication is undertaken will depend on budget. The communication and information dissemination to NRM stakeholders, landholders and policy (sections 5.1-5.3) above are recommended in addition.

5.5 Need for good quality reference material

Section 4.5 listed a number of references on native forest management aimed at private landholders. These references should be used as examples to produce similar material on a regional basis.

Workshops with regional NRM players should also be accompanied by the appropriate written material. Where training courses are required for landholders, NRM staff or regulatory staff, it is essential they are accompanied by targeted written material on PNF and the results of the PNF research projects.

In particular, private forest owners urgently require information on:

- silvicultural management of private native forests (specific to broad forest types and regions);
- forest management planning, including ecologically sustainable forest management practices;
- the commercial and environmental values of private forest resources;
- equipment and harvesting methods appropriate to the scale of private forestry operations; and
- value-adding and marketing information.

Fact sheets, practical manuals and booklets with regionally specific information are very useful. Web sites or CD's are also useful for NRM staff and private forest owners. To improve adoption research projects should include production of simple guidelines that allow for easy adoption of technologies.

It is important that printed information:

- is concise and practical;
- is technically focussed but user friendly (avoiding the temptation to simplify information to the point where it appears to be ‘dumbed down’);
- is regionally specific with a list of relevant regional organisations;
- shows consideration of the target audience.

5.6 Encouraging marketing and economic drivers

The long term supply difficulties predicted for Australian native timber have the potential to enable shifts in the market place, providing decent returns both for forest products and environmental goods. It is likely that significant moves towards sustainability could be achieved through economic drivers and better market opportunities for private growers coupled with sustainable management.

Despite the inherent problems in the marketplace for private growers, small grower groups are already gaining market share and fairer prices, through the formation of marketing cooperatives offering certified timber from sustainably managed forests (eg: Sustainably Managed Australian Regional Timbers (SMARTtimbers), a grower co-operative in Victoria, and Farmwood in Tasmania; see Wettenhall and Henderson 2002; Clinnick in press). Such groups can aggregate timber to achieve the necessary scale to be commercially competitive, look to value-adding (eg: milling and drying) and marketing advantages (eg: certified timber). Through value-adding, it is likely that these groups can achieve the returns necessary to cover the costs of sustainable management without having to rely on ‘boutique’ high-end markets which may be uncertain. Initiatives such as these have the potential to shift large numbers of landholders to more sustainable forest management through economic incentives, so long as they retain strict quality control on sustainability issues.

For example, concern has been expressed in that while certification schemes such as the Australian Forestry Standard ensure a process was being followed, they do not necessarily ensure outcomes (eg: biodiversity/habitat maintenance). In the ‘Improving timber and habitat management of private native forests in north-east NSW’ (RIRDC USC-8A) project, researchers are devising a new combined biodiversity/silvicultural sustainability index to gauge how well landholders are meeting both environmental and timber production outcomes. It is recommended that the researchers communicate the results of the project to the various certification bodies involved in PNF in Australia (eg: Australian Forestry Standard, Forest Stewardship Council) and to groups wishing to apply for forest certification where opportunities arise. This is likely to provide a very effective means to encourage sustainable management on the ground.

6. Conclusion

There is good potential for the sustainable management of native forests on farms to achieve integrated economic and conservation benefits, but there are still some major constraints. Providing sound scientific research and advice on sustainable forest management for private land along with standardised systems of assessment will go a long way to addressing these.

On-ground change will be dependant on effective means of communicating the results of the projects to both forestry and NRM stakeholders. By using traditional communication pathways, researchers are likely to reach many of the forestry stakeholders outlined in Section 3.2 of this report and the keen private forest owners committed to attending field days and gathering information. Whilst it is important to continue to support these enthusiastic private forest owners who will be instrumental in driving on-ground change, these traditional pathways methods will be slow to effect broad scale changes to PNF management practices.

This report recommends a more strategic and targeted approach to communication in addition to traditional pathways. It recommends the delivery of regional workshops to NRM bodies around New South Wales, South East Queensland, Victoria and Tasmania, carried out by a small core 'team' of researchers from the JVAP PNF projects, in conjunction with key regional forestry stakeholders. These workshops aim to increase the capacity of the NRM sector to support sustainable management of private native forests in their region and foster investment in regionally specific PNF projects that provide education and tools which can drive the necessary changes in forestry practices on the ground.

These communication activities will require partnerships with NRM bodies and cooperation from a diverse range of stakeholders. Ultimately these partnerships will be an important step towards overcoming many of the constraints inherent in the industry and ensuring that the private forest resource is maintained and managed in an ecologically sustainable manner to complement the commercial and nature conservation values of public native forests (DPIE, 1992).

References

ABARE (2005). Australian Forest and Wood Products statistics. Manufacturing Production, Australia.

Agroforestry News Management Committee, various dates. *Agroforestry News*. University of Melbourne, Victoria.

Alexander, J and Hall, M. 1998. *Creating a viable farm forestry industry in Australia – what will it take?* Rural Industries Research and Development Corporation Publication Number 98/74, ACT.

Australian Forest Growers, (2006). Private Native Forestry – Australian Forest Growers Policy Statements – 2nd Edition. Unpublished Pamphlet. Canberra.

Bauhus, J. 1999. *NHT funding proposal for SENSW private forestry manual*, unpublished.

Clinnick, P. (in press) Trials and triumphs of Australian timber marketing cooperatives. A report to the Joint Venture Agroforestry Program. Rural Industries Research and Development Corporation

Clinnick, P. McCormack, B and Connell, M. (in press). Management guidelines for private native forestry. Joint Venture Agroforestry Program Project CSF -59A. Rural Industries Research and Development Corporation.

Combe, M, Unwin, GL, Dyason, R, Peacock, RJ, (1998). Resource profile of 'high-graded' dry hardwood forests: Implications for improving productivity in *Proceedings Australian Forest Growers Conference*, Lismore NSW, 1.

Commonwealth of Australia (DPIE), (1992). *National Forest Policy Statement. A new focus for Australia's forests*. Commonwealth of Australia, Canberra.

Florence, R.G. (1996). *Ecology and Silviculture of the Eucalypt Forests*. CSIRO publishing, Victoria.

Kanowski, PJ. (2001) *Australian Forest Grower Spring, 2001*

Kater, A. (2002). *Local and Regional Markets for Farm Forestry. Hunter Valley and Central Coast. A survey of wood processors*. Greening Australia NSW Inc.

Lindenmayer, D. (in press). *General Management Principles and a Checklist of Strategies for Forest and Wildlife Managers to Guide Biodiversity Conservation on Private Native Forests*. Rural Industries Research and Development Corporation Publication, ACT.

Orr, S. (1991). *Managing Your Dry Forests. A guide to the management of privately owned dry eucalypt forests in Tasmania*. Private forestry Council and Forestry Tasmania.

Reid R. and Stephen, P. (2007) The Australian Master TreeGrower Program – development, delivery and impact of a national outreach and education program (1996-2004). RIRDC Publication 06/029. Rural Industries Research and Development Corporation.

Ryan, S. *Management of Private Native Forests: Case study 2. Investigating techniques to restore productivity in a high graded dry eucalypt forest in SE Qld.* DPI, unpublished.
www.widebay.net/forest

Ryan, S. and Taylor, D, (2002). Private Native Forest productivity, is it the Key to the Future of Queensland's Timber Industry? Proceedings of the 2002 Australian Forest Growers Biennial Conference: *Private forestry - sustainable, accountable and profitable*. ACT.

Schirmer, J, (2004). *The Farm Forestry and Agroforestry Reference Library*. RIRDC Publication Number 04/063, Rural Industries Research and Development Corporation, ACT.

Spooner, Ian (2005). *Submission to Timber Industry Strategy NSW on behalf of Mid- North Coast Farm Foresters*. Unpublished.

Wettenhall, G. and Henderson, R. (2002) *Farmwood Australia - export markets for farm-grown wood*. Rural Industries Research and Development Corporation, Short report No. 127.