

# *Post Impacts Analysis*

RFA Social Impact Assessment Project SAU 1

## **Prepared for**

West Australian Regional Forest Agreement  
Social Assessment Unit  
Forest Branch  
Department of Primary Industries and Energy

**February 1998**

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A project to review and describe social changes and related mitigation measures resulting from previous land use decisions in the RFA region and more broadly. The results from this study will help to provide an historical background against which the wider social assessment process will be conducted.

The consultant has also described several mitigation approaches which could be considered as part of the RFA process.

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# 11 Social assessment

## 11.1 INTRODUCTION

Based on 1991 ABS census data (census collector districts), the Western Australian RFA region had a population of approximately 155 000. More than 40 000 families and 70 000 (full and part-time) employees lived and worked in the region. Employment sectors and approximate employee numbers included mining (2500), manufacturing (7000), construction (3500), wholesale (10 000) and finance (5500). 1996 ABS data indicates that approximately 1900 people are directly employed in native hardwood industries in the RFA region (including forestry and logging, services to forestry, sawmilling, timber dressing and woodchipping). Approximately 2500 people are directly employed in these industries if metropolitan Perth and coastal areas including Mandurah and Bunbury are included. As yet, 1996 census data have not been extracted for other occupational groups.

Apart from outer metropolitan Perth (eg. Mundaring, Kalamunda and Armadale), there are no major cities in the region. Larger towns include Collie, Manjimup, Bridgetown and Waroona. There are numerous small towns of less than 1000 people, including Yarloop, Nannup, Greenbushes, Balingup, Pemberton, Dean Mill and Dwellingup.

### Social assessment projects

The social assessment process for the Regional Forest Agreement consisted of four projects, three of which have been completed during the RFA assessment phase and are described below. Further social assessment will continue following the publication of the Public Consultation Paper.

#### *Post impact studies analysis*

This project reviewed previous land use decisions in the region and the impacts arising from those decisions. Previous social impact assessment studies and mitigation programs were also reviewed.

#### *Regional social profile*

Surveys and personal interviews were used to develop a profile of stakeholder interests in the RFA region and a general understanding of local issues and concerns relating to forest use. Australian Bureau of Statistics (ABS) census data were used to extract socio-demographic and employment information, labour force characteristics, community infrastructure and services in regional towns. A random telephone survey of more than 1000 residents within the RFA region was conducted to gain an understanding of community attitudes and interest in the forests (preliminary analysis provided).

#### *Forest industry assessment*

This project surveyed industry groups which have an economic dependence on the forests. More than 2600 survey forms were distributed. Industry groups contacted were: timber,

tourism (including wineries), mining and other forest-based industries such as apiary, craft and speciality timber, firewood, wildflower pickers and seed collectors.

Because of the potential for immediate direct impacts resulting from any changes in forest use, timber industry employees were also surveyed. This project aims to understand the relationship between the industry, its workers and the local towns.

Details of each project are outlined below.

## 11.2 POST IMPACT STUDIES ANALYSIS

A consultant was engaged to review and describe the changes resulting from decisions that have affected land uses in the RFA area and to examine what mitigation could occur as part of the RFA process. The terms of reference were to review:

- previous land use decisions within the region and social impacts resulting from these decisions;
- previous social impact assessment studies; and
- mitigation programs undertaken within the region and more broadly.

Little social impact assessment has been conducted in the RFA region. Consequently, a range of issues that has driven social change across the region was examined. These were: government forest policy and direction statements; forest industry technology and general economic activity; planning; mining; water; agriculture; tourism; attitudinal change; demographics, and economic structure. From this, a picture was built of the current social structure across the region. Based on the social impacts resulting from previous land use decisions within the region, the consultant suggested several mitigation approaches which could be investigated if this became necessary as a result of the RFA process.

The starting point for this study was 1960. At this time, significant modernisation of the timber industry began and the issue of forest conservation for values other than timber began to be addressed.

Themes that have come from this study are: increasing complexity of the decision making processes; increasing centralisation of economic activity in fewer locations; economic competition through timber industry restructuring and development of other industries; and land use issues. These are discussed below.

### **Increasing complexity**

Over the past 35 years, every issue that has driven social change has increased in complexity. There has also been increasing intersection between these multi-sector issues. Accordingly, government policy, planning and management have become more complex.

#### ***Changes in forest product technology***

The forest products industry has changed in size and structure. Access to forests, logging operations, mills and support communities has changed from localised, product-specific operations to integrated and consolidated operations. Production is now oriented towards

producing a wide range of products including sawlogs and value-added components, roundwood products and residues such as chiplogs and industrial firewood.

In the past, the native hardwood industry has been linked to the structural timber market and has been significantly affected by fluctuations in building cycles. This has created variable employment opportunities.

Many major mill closures occurred in the 1970s and 1980s. However, adjustments are still occurring with older, less efficient mills closing and shifts closing at other mills in recent times. When closures occur, the industry has attempted to help workers by offering redundancy or alternative employment in other locations.

Production facilities are becoming larger, more efficient and more centralised. Processing and value adding of timber products occurs at large regional centres and logs are transported over larger distances. This trend has created more stable employment opportunities in fewer locations and those jobs available generally require a greater skills base. Manufacturing industries are generally located outside the RFA region .

Opportunity exists for increasing employment in the value-adding parts of the industry, particularly in manufacturing. People consulted in this industry considered that support for manufacturing by government policy or the forest products industry would be valuable.

### ***Mining***

Mining is the major economic contributor in the region. While its presence is limited in geographic extent at any point in time, its economic effects are widely distributed. Major mines and processing works act as economic magnets to other development. Mining also tends to be on a technological trend that increases capital investment in plant and equipment while employing fewer people.

Mining and mineral processing has resulted in the rejuvenation of several towns in the region.

### ***Agriculture and water management***

Agriculture has caused a great deal of clearing in parts of the region. Since its heyday in the 1960s, this industry has been meeting challenges of increasing international competition through seeking economic efficiencies, new crops and increasing the size of operations. This has meant a decline in the rural population dependent on agriculture, particularly in the eastern part of the RFA region. As a result, some services have diminished and there has been a consequent slow reduction in the size and number of rural towns.

At the same time, environmental degradation attributable to land clearing has been increasing (eg. erosion, salinity and loss of native vegetation). In response, there has been an increase in the role of Landcare and community-based integrated catchment management (ICM) groups. The Water and Rivers Commission and other agencies have supported ICM. Agriculture Western Australia has responded by developing the Sustainable Rural Development Program, an holistic approach to agriculture that aims to link ecologically sustainable farm practices with community economic development.



## ***Tourism***

While a relative newcomer to the region's industrial base, tourism is already a significant economic contributor and a significant employer with further potential for growth. The south-west, with its diversity of forest and natural attractions and other land uses, is a valuable tourism resource. The industry has an increasing focus on nature-based tourism.

## ***Attitudes to the environment***

Over the past 30 years there have been large shifts in community attitudes towards the environment. New legislation and public policy, increasing awareness of the value of forest for non-timber values and community-based action have influenced government decisions and resulted in considerable areas of the forest being allocated as conservation reserves.

In the 1990s timber industry workers and communities also began to organise into grass-roots action groups because they considered that their jobs were threatened by inadequate security of the timber resource and less of the resource being available for use.

## **Increasing centralisation**

Centralisation has two components. At a local level it describes the tendency for the economic activity and population to aggregate around the major towns in the RFA region. At a regional level it describes the weight of population and economic activity occurring on the coast in local authorities such as Augusta-Margaret River, Busselton, Mandurah and Bunbury.

## ***Forest products industry***

Economic pressures on the forest products industry have reduced the number of mills and processing centres. Operations are becoming more centralised in fewer locations.

## ***Administration***

Most areas of public and industry administration have become more centralised. Government and commercial services are increasingly concentrated in major towns or on the coast.

## **Demographics**

Over the past 30 years the population on the coast has more than doubled. Over the same period, the population in the core RFA shires (eg. Manjimup, Bridgetown-Greenbushes) has remained constant. Population has decreased slightly in the eastern RFA shires (eg. Cranbrook, Boyup Brook). It is unlikely that the forest products industry can make a significant difference to these trends in the future unless dramatic expansion of downstream manufacturing occurs in the core and eastern shires.

## **Economics and planning**

The region is dominated by several major centres that act as economic and employment engines. If communities are within easy travelling distance ie. 10 to 15 minutes drive of these

major centres, it is likely that their growth will be based on the prosperity of these centres. Towns more removed from these areas will be subject to increasing threat.

## Economic competition

The regional economy is becoming increasingly diverse and is not as dependent as it has been on the timber industry. However, some towns, particularly in the core of the RFA area, remain highly dependent on the timber industry for employment.

The RFA process is examining economic decisions and employment in the timber processing industry and other industries dependent on access to forests. Policy and economic pressures have forced changes in technology that have mechanised mills to process increasing amounts of wood at a few large processing centres. Similarly, the management of plantation wood industries is highly mechanised, mobile and not necessarily linked to small local communities.

While restructuring is driven by economic necessity in order to ensure a viable industry, the benefits largely accrue to the major centres. The value to smaller local communities is uncertain. In response to this, the consultant suggested that the following could be considered in the RFA process:

- maximising employment opportunities within the forest products industry—to maximise social benefit from the RFA it is important to consider how timber industry technology can provide maximum local community employment while still remaining economically viable; and
- supporting forest-related industries that provide local community employment—it is important that local social benefit is maximised by seeking, identifying and supporting forest-related industries that provide local community employment.

## Land use issues

Historically, government policy has been to hold forest in Crown reserves. Clearing for agriculture has reduced the area of native forest on private land. The current demand for plantation timber and the impact of salinisation has resulted in farming land now being returned to (plantation) forests. Each of these events has had its social effects.

Most of the public land across the RFA region is controlled under government policy by State government agencies. CALM is the largest land manager and CALM's controlling bodies (the National Parks and Nature Conservation Authority and Lands and Forest Commission) are responsible for preparing management plans which affect several large industries (particularly mining, timber and tourism). Land-use decisions are taken by government following public consultation on draft management plans. Other agencies responsible for land and resource planning and management in the region include the Ministry for Planning, Agriculture Western Australia and the Water and Rivers Commission. Land-use decision making by these agencies also includes consideration of the well-being of the communities that they affect.

## Regional synopsis – social impact

- From the information presented above, the consultant has drawn the following conclusions about the region:
- If a town is adjacent to a major economic magnet then it is likely to grow with that centre.
- Towns outside easy travelling distance from these economic magnets, particularly in the east of the RFA area, are under threat.
- The timber industry is unlikely to provide any significant additional employment in milling and forest management. The principal opportunities for employment growth are likely to be in downstream processing, the manufacturing sector and related industries. This growth is likely to be in the major centres or on the coast.
- Significant structural adjustment in the timber industry has already occurred. Nevertheless, there are some localised issues that may affect specific towns.

## Mitigation approaches

Mitigation is often narrowly viewed as giving money to offset change in communities. While this is one option, there are others that may be more appropriate. From the studies examined, 13 approaches to mitigation were identified. Applying these prescriptions should be decided on a case by case basis, taking account of the characteristics of the community and the nature of the changes. The mitigation approaches are summarised below:

- none—no mitigation is proposed;
- wait and see—a commitment is given to address an issue if it arises;
- review of options—options are considered and presented to be addressed in the future if required;
- off set—providing one-off payment or facilities to off set the impact of a project or decision;
- individual assistance—provide assistance to individuals impacted by a change such as help with retraining, relocation, re-employment etc.;
- conflict resolution—resolving conflict and mediation;
- community liaison—providing information and answering questions;
- using indicators—using indicators to trigger responses for mitigation;
- structural change—modifying the way in which administrative and bureaucratic systems respond to communities;
- feedback planning—involving community representatives in the planning process (eg. focused discussions and community economic development);
- support for communities—seeking to develop a working relationship between governments and a community, with the emphasis on ongoing support and involvement;
- community control—the community drives the change process.

## What mitigation is necessary?

From the review of the various impacts on land uses the question must be asked: *is any mitigation necessary?* When reviewing events in the RFA area over the past 30 years, it appears that some broad areas of mitigation could be examined as part of the RFA process.

### ***Improved individual assistance***

While structural change has already occurred in the timber industry, there are still cases where mills are closing and workers are made redundant. While this is occurring, resources are available within existing government services to provide retraining and business enterprise development opportunities. These services are available to redundant workers who meet the relevant criteria.

### ***Supporting choice of technology***

There is strong evidence, particularly in the 1987 Timber Strategy, that major changes in the timber industry can be influenced by strategic policy direction. Opportunities exist for government, industry and unions to re-examine relevant issues such as resource security, value adding technology, local manufacturing, marketing and research. Policy which improves the employment opportunities in regional towns and addresses the trend for the reduction and centralisation of employment should be considered. Similarly, economic analysis could extend to examining ways to maximise local community economic benefit from the forests that surround existing towns.

### ***Supporting local community economic development***

One avenue which could be pursued is to initiate a more open and consultative planning process for forest operations and timber industry development, involving all timber industry stakeholders. Documented case studies which have used this approach include the major timber industry restructure in Burnie, Tasmania, and the “Doing more with agriculture” project undertaken by Agriculture Western Australia (Chambers and Galloway & Associates in prep.)

# *1 Introduction*

This project, SAU 1 Post Impact Assessment, was designed to review and describe the changes that have resulted from decisions that have affected land uses in the RFA area and to examine the range of mitigation measures that are available to the RFA process. The terms of reference were to:

- Review previous land use decisions within the region and social impacts resulting from these decisions;
- Review previous SIA studies;
- Review mitigation programs undertaken within the region and more broadly.

There has been little formal work done on social impact assessment in the RFA region. This made it difficult to determine what has happened in the region from original studies. Consequently this study has examined what has driven changes in a range of land uses across the region and from these a picture has been built of what has made communities in the RFA region like they are today. The starting point chosen for this study as around 1960. This was the time when significant modernisation of the timber industry began and the issue of forest conservation for values other than timber began to be addressed in a significant way.

While there have been many things that have driven social change in the region, this study has focused on those on which Government policy and the forest product industry have had a significant effect. Through the study it became apparent that much of the socially related structural change had already occurred in the industry. Other developments in the region mean that today the Government timber related policy and forest product industry are only one (albeit highly significant) among a number of agents of social change. However it must be emphasised that this project has taken a regional perspective and there are localised variations that occur, particularly in towns that have a high proportion of their economic activity supported by the forest product industry. This is being addressed in other SAU projects examining the sensitivity of local communities to economic changes.

Very little social impact assessment has been done in the forest industries in the RFA area, or in the State. There is considerable variability in what has been done. The social impact assessment of thirteen projects were reviewed and assessed to establish which techniques were used in the assessment and what mitigation measures were employed. The projects were predominantly Western Australian although two forest related projects from other parts of Australia were also assessed.

Mitigation frequently is viewed very narrowly, as giving money to offset change in communities. While this is one option there are many others that are far more appropriate for the circumstances that prevail in the RFA area. From the studies examined a number of approaches to mitigation were identified. These prescriptions should be used on a case by case basis, taking account of the characteristics of the community and the nature of the changes. Later in the report two case studies, one from Burnie in Tasmania and the other from Agriculture Western Australia are described. These demonstrate how mitigation can be done in widely differing circumstances using a variety of techniques.

Some suggestions about mitigation that may be suitable for the RFA process to consider have been presented.

The area that this project refers to is that defined as within the RFA, but outside the direct influence of the Perth metropolitan region. The RFA region was divided into three broad areas, the **Coast**, consisting of the Shires that are in the RFA area but have a geographic connection with the coast eg. Augusta-Margaret River and Murray; the **Core**, those shires that are wholly within the RFA area eg. Manjimup and Boyup Brook; and **Eastern**, those shires that are overlapped by the eastern boundary of the RFA area.

The document is divided into a number of sections.

Section 2, 'Drivers of Change' looks at a range of things that have driven change in the RFA area. These are:

- Forest Policy and Direction Statements;
- Forest industry technology and general economic activity;
- Planning;
- Mining;
- Water;
- Agriculture;
- Tourism;
- Attitudinal change;
- Demographics;
- Economic structure of the region.

Section 3, 'Social Impact Assessments - Native Forests' is a summary of statements that have been made about the social effects of changes to forestry practice.

Section 4, 'Regional Synopsis - From the Top Down' takes the information from Sections 3 and 4 and builds a picture of the region today based on the changes that have occurred in the RFA area since the 1960's. This synopsis is predominantly based on an assessment of policy that has affected the whole region.

Section 5, 'Regional Synopsis - From the Bottom Up' provides a similar picture but from a different direction. The reports from a number of community search workshops and related activities that have been conducted outside the RFA process were reviewed. From these a picture of how things are now was built. This also gave an opportunity to test the accuracy of the assessment developed in Section 4.

Section 6 'Social Impact Assessments and Mitigation' examines the work that has been done on social impact assessment and mitigation in Western Australia and elsewhere. A number of SIA studies were assessed to see the assessment techniques, and the range of mitigation options, that were used. From these some ideas are suggested about the direction that mitigation could proceed as part of the RFA process.

This project has relied heavily on providing extensive quotes from original sources. This has increased the length of the document but should enable the reader to understand how the

current situation has evolved to where it is today. To make the document easier to read a summary is included at the start of each section.

There are many industries associated with the forest and timber products. Throughout the research literature there is no one consistent way of describing these groups of industries. For the purpose of this document, a set of names has been chosen that reflects what appears to be most commonly occurring in the literature. These are described in Table 1 below. Occasionally, when discussing the relationship between local communities and the forest that surrounds towns and settlements, references are made to **local forests**.

**Table 1 Descriptions of different parts of the Forest Product Industry**

Generic Description	FOREST	PRODUCT	INDUSTRY
Names that appear to be used in some parts of the RFA process	Timber Industry	Forest Based Product Industry	Forest Based Product Industry
<b>Names used in this document</b>	<b>Milling and Forest Management</b>	<b>Value Adding</b>	<b>Manufacturing</b>
Typical Activities	forest management logging sawmilling chipping	timber drying, planing and mouldings; extraction and processing of honey; drying and preserving of wild flowers; collection and treatment of seeds;	furniture manufacture crafts



## 2 *Drivers of Change*

### **This chapter at a glance**

*Change in communities in the RFA area is driven by a number of factors. This section examines the instruments and events that have driven change in the region since the 1960's. These are forest policy and direction statements, forest industry technology and general economic activity, planning, mining, water, agriculture, tourism, attitudinal change, demographics and the economic structure of the region.*

Europeans have been active in the forests since they arrived in Western Australia. Early settlement was sustained on forest products, agriculture proceeded following forest clearing. The time frame for this study was taken from 1960. This has been identified as a major turning point in the management of the forests. In the historical thematic review for the RFA process Bosworth and Brady state:

In some ways the year 1961 can be seen as a turning point for forest and land management. It was in that year that two large water reservoirs, the Serpentine Dam and Wellington Dam were completed (the latter, built during the Depression, had its weir wall raised) and both were eventually largely protected by forest and became centres of recreation. But more significant for the future of the northern jarrah forests was the government decision to allow bauxite mining to take place at Jarrahdale and its granting of a mining lease over one million acres of jarrah forest. The Forests Department had clearly lost an important battle. Yet the war was not over, at least not in the 1960's (Bosworth & Brady, 1997).

1961 was also the year of the Dwellingup bushfire and other major fires in the forests. The Royal Commission that followed these fires recommended broadscale controlled burning as a means of reducing bushfire intensity.

From this point onward major changes occurred in forest management and forest industry technology. There were also major community changes in attitudes towards the forest and the environment resulting in shifts in government policy on conservation.

There are very few social impact studies of changes in the Western Australian RFA forest region. Those that have occurred are discussed in Section 3. Because of this, this project has identified a number of factors that have driven social change in the RFA region. These are discussed below, then synthesised into a picture that describes what has made the region like it is today and attempts to project where it may go in the near future.

The main drivers of social change considered were:

- Forest policy and direction statements;
- Forest industry technology and general economic activity;
- Planning;
- Mining;

- Water;
- Agriculture;
- Tourism;
- Attitudinal change;
- Demographics;
- Economic structure of the region.

This Section traces the major episodes and events in each of these since the 1960's. This information is also presented in summary form in Table 2 in Appendix 1. The synthesis of this information is presented in Section 4 - Regional Synopsis from the Top Down.

## ***2.1 Forest Policy and Direction Statements***

### **This chapter at a glance**

*This section presents important forest related policy milestones in the history of the RFA area since 1960. The information presented here reflects what has happened with respect to forest and timber related industry in the region due to State or Federal Government policy, Cabinet minutes, guidelines, investigations or statements of direction. In some cases the social impacts have been noted if they were apparent but are presented in greater detail in Section 3.*

### **1961**

#### *Prescribed Burning*

The occurrence of disastrous wildfires which resulted in part of Dwellingup being burnt and the destruction of a number of smaller sawmill settlements accelerated the “... gradual switch from total protection of regenerated areas to widespread prescribed (controlled) burning under milder conditions” (Havel, 1989: 294). Prescribed burning was a systematic fire control strategy designed to reduce fuel loads by intentionally burning sections of the forest during spring and autumn when the possibility of fire spreading was lowest. By creating a patchwork of areas in the forest with different amounts of fuel the risk of wildfires was greatly reduced. The Dwellingup event appeared to create the public impression that small forest towns were unsafe from fire.

#### *Reduction of timber resources*

In the northern jarrah region, by the mid-1960s:

Although some areas of virgin forest remained within it, the bulk of the forest had been cut over at least once, and in the case of the most productive western half, several times. There was therefore little scope for keeping up with the boom and the relative importance of the timber industry in the economy declined. The contraction of the timber industry, in terms of numbers of sawmills, continued, though it still supplied very large quantities of sleepers used in the construction of railway lines for the iron ore industry in the north west (Havel, 1989: 297).

### **Mid-1960s**

#### *Public softwood plantations*

In 1965 Western Australia had 18,000 hectares of publicly owned softwood (pine) plantations and an annual planting target of 1,200 hectares. The plantation planting program was specifically followed to provide a long term source of wood for the State, to meet the future short fall between Western Australian demand and the ability of the native forests to supply timber so that it would become self-sufficient in timber. Most of the plantations were established on purchased farm land. Commonwealth funding assistance increased the planting rate to 2,400 hectares per annum by the end of the 1960's. Planting of public

softwood plantations has continued to the present, at an annual rate generally varying between 1,500 and 2,500 hectares (CALM, 1997). Privately funded softwood planting had been low and first reached above the 400 hectares per year in 1970.

The community recognised that plantations may supersede native hardwood forests, however there was scepticism in the building industry about the strength and durability of structural pine when compared with native hardwood (Walker, pers comm).

## **1968**

### *Clearfelling*

Clearfelling logging prescriptions were reintroduced to karri forest logging operations. This replaced the group selection cut prescription that had previously been dominant for many years up until that point (Christensen, 1992).

Clearfelling in the karri forest focused community concern about the use of the forest. Unlike the jarrah forest that had been cut over many times and did not have a European feel, karri was seen as having a majesty and beauty that gave it sentimental appeal. The images of clearfelling provoked highly emotive responses in Perth. In the southern region clearfelling, represented better use and regeneration of the forest resources.

## **1969**

### *Woodchipping*

The Government passed the Woodchipping Industry Agreement Act (1969) which ratified an agreement between the Government and the Western Australian Chip and Pulp Company Pty Ltd, WACAP (a subsidiary of Wesfarmers Bunnings), to establish a Woodchip industry. The agreement included a commitment from the Government to supply 500,000 tons of logs per annum for 15 years from the commencement date (the quantity was increased by an amendment of the Act in 1973).

Woodchipping operations did not commence in the forest until 1976 and were preceded by an Environmental Impact Statement (the first of its kind in Western Australia).

## **Early 1970's**

### *Forest conservation*

At this time logging operations began to move into the last major areas of the virgin northern jarrah forest region. The protection of a wandoo and jarrah woodland which was one of these areas in the Helena catchment in the north east of the region "... led to eventual closure of a sawmill and the weakening of the viability of the charcoal-iron industry" (Havel, 1989: 302).

In the headwaters of the Harvey and Collie Rivers another area of virgin forest was protected. Havel suggests this weakened the viability of two sawmills and the townships in which they were located. "There was considerable reaction against this by the timber industry and the local communities" (1989: 302).

By this time most of the publicly owned karri forest was classified as State forest, with only a small percentage designated as conservation or nature reserves (Christensen, 1992).

**1972**

### *Multiple Use Management*

The General Working Plan No. 85 was adopted by the Forests Department and introduced the concept of management of the forest for multiple use which remains, in a more refined form, the underlying principle of public forest management in Western Australia today. This concept acknowledges that the forests are used for many different purposes and they should be divided up into areas with different designated purposes and managed accordingly. Some purposes are mutually compatible while others are incompatible. It contained the plans for forest management for the next 5 years (Forests Department, 1972). Multiple use was described as timber production, catchment protection, water production, recreation, mining, scientific and education purposes and flora, fauna and landscape.

As multiple use management was gradually developed and implemented throughout the 1970's the Forests Department started to take a more active role in recreation management.

“Mill and Forestry settlements which closed down were retained and leased to recreational interests, eg. Pimelea, Donnelly River, and Tone River” (Christensen, 1992: 89).

### *CTRC Green Book for System 2*

The Conservation Through Reserves Committee released its Green Book<sup>1</sup> of draft recommendations for reservation of Crown land including forest reserves along the south coast. This drew the community's attention to the need for conservation reserves in the karri forest.

### *Dieback Quarantine Measures*

In response to the identification of the fungus *Phytophthora cinnamomi* which was causing dieback as it spread through the forest, a Forest Diseases Amendment Act (1974) was passed which enabled, with Ministerial approval, the imposition of quarantine measures. It had been identified that logging and road building contributed to the spread of the dieback through the distribution of infected soil. The Forest Department, the timber industry and all other forest users had to make major adjustments as a result. Silvicultural operations in the northern jarrah forest were modified accordingly (Havel, 1989).

The community tended to view dieback with mixed feelings. There was some resentment that much of the forest was declared out of bounds to the public, it also caused concern that the forests would die because at that time there was no affordable cure.

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<sup>1</sup> This book was called the Green Book because it had a green cover. Subsequently when the recommendations were adopted by the EPA the new recommendations were published in the Red Book, with a corresponding red cover.

## **1975**

### *Logging in the Eastern Karri Forest*

Up until this time logging operations in the karri forest had been predominantly concentrated in the western half of its extent, leaving over half of the karri forest still virgin (Christensen, 1992). The forest area designated to become the Mt Frankland National Park was earmarked for reservation in the Wattle-Soho Management Priority Area.

The WACAP woodchip mill at Diamond near Manjimup was constructed and woodchipping began. The first export of woodchips from WA occurred the following year. Opposition by some members of the community to the establishment of the woodchip mill was intense, reflecting the increasing priority that the community placed upon the conservation of forest areas.

Up until this time the logging of mixed karri and marri tree stands of forest had not been particularly efficient. The marri was mostly not as suitable for saw milling as karri or jarrah and so was left standing. Marri was quite suitable as a source of woodchips. Thus when the woodchip operation started the new market for marri logs made clearfelling of mixed karri and marri stands viable (Christensen, 1992). Similarly, in the jarrah forest which had marri as a secondary species, more intensive logging operations which cut the marri and the jarrah together became more viable.

Whereas karri logs of inferior sawlog quality could be woodchipped and exported, poor quality jarrah logs could not be, as jarrah wood was not suitable for pulp production.

The creation of the wood chip industry produced additional jobs in the regional areas. At the same time there was a stronger and more focused opposition to the wood chip industry from the conservation groups and the wider community.

### *Agreement Acts*

The Wesply (Dardanup) Agreement Act provides the legislative framework for the establishment of a medium density fibre (MDF) board factory at Dardanup.

## **1976**

### *CTRC Red Book System 2*

The EPA adopted the recommendations of the CTRC Green Book for the south coast forest conservation areas. This strengthened the community focus on conservation values in the forest.

### *Statement of Forest Policy*

This policy, released by the State Government endorsed and expanded the philosophy of multiple use management of the forest.

## **1977**

### *General Working Plan No 86*

The Forest Department's General Working Plan No. 86 was adopted. This Plan continued and strengthened the multiple use philosophy into a working approach to forest management.

## **1978**

### *Bauxite Mining*

The Wagerup Agreement Act 1978 was passed, in relation to Alcoa of Australia's bauxite mining. The Worsley Alumina (1978) company produced an Environmental Review and Management Program for its Worsley Alumina project. Worsley became the second of the two companies to mine and refine bauxite in the south west of Western Australia.

This represented the second major economic magnet in the jarrah forest area with the attendant economic and employment benefits to the region.

## **1981**

### *CTRC System 6 Green Book*

The CTRC's recommendations for Crown reserves in the jarrah forest are released. Drawing the community's attention to conservation in the northern jarrah forest.

## **1982**

### *General Working Plan N° 87*

The Forests Department General Working Plan No. 87 was adopted. In addition to continuing the multiple use approach, this plan discussed a 'reasonable level of local self sufficiency' and set plantation objectives. It also recognised the need for increased private forestry.

Potential conflicts between different land uses in the northern jarrah forest region, ie. water supply, logging operations, bauxite mining and conservation were the subject of a number of studies, and a high-profile public debate. The Forests Department and Alcoa engaged in negotiations to resolve their conflicting goals (Havel, 1989). Multiple use became important not only as a concept but as a working reality.

Public concern about bauxite mining activity generated wide community support for the forests and increased lobbying of government for a more integrated approach to forest management that recognised non-economic uses of the forest.

## **1983**

### *Forest Reserves*

The State Government negotiated with Alcoa and designated a 49,000 hectare reserve (the Lane Poole reserve) in October 1983. They also established the Shannon National Park in the karri forested Shannon basin. This proposal had been a controversial and much debated issue for over a decade (Havel, 1989; Rundle, 1996).

### *CTRC Red Book System 6 Released*

The EPA releases its recommendations for reserves in System 6.

## **1984**

### *Reserves in the Jarrah Forest*

Further negotiations with Alcoa led to two more reserves being declared in late 1984. Lane Poole Reserve and Monadnock Reserve brought the total area of negotiated reserves in the northern jarrah region to 96,000 hectares (Havel, 1989).

## **1985**

### *CALM*

The former State agencies: the Forests Department, National Parks Authority, and the Wildlife section of the Fisheries and Wildlife Department were amalgamated to form a new agency - the Department of Conservation and Land Management (CALM), as set out in the Conservation and Land Management Act (1984). The lands which had previously been managed by the 3 agencies were vested in either the National Parks and Nature Conservation Authority or the Lands and Forest Commission and all were to be managed by CALM. CALM was also responsible for administering the Wildlife Conservation Act (1950).

### *The Softwood Industry*

Wesfi develop a particle board industry at Dardanup presenting a major initiative in the pine industry. The softwood industry became a new facet of employment and economic activity however it is highly mechanised and tends to use contractors on an "as-needed" basis. Activities in the soft wood industry do not follow the traditional model of a small mill with a dedicated workforce in the forest. The use of large processing centres also created employment opportunities in the localities that were within driving distance of the centre.

## **1986**

### *Environmental Protection Act*

The Environmental Protection Act (1986) was enacted. It established the current environmental impact assessment processes for the consideration of development proposals



referred to the Environmental Protection Authority. The Environmental Protection Act enabled the EPA to independently evaluate the activities of CALM .

## 1987

### *Regional Management Plans*

The General Working Plan No. 87 was replaced by the adoption of three Regional Management Plans (CALM, 1987 a, b, c) for each of the three forest regions: Northern (now Swan), Central and Southern, and a Timber Strategy for the State (CALM, 1987 d). For the first time the management plans for all State forests, national parks and nature reserves within the forest regions were brought together. The plans established a program of transferring over 500,000 hectares of forest from state forest to conservation reserves, boundary changes and tenure changes. This program of transfer proposals are still being progressively implemented and are not yet complete. To increase the level of security the timber industry had with respect to access to native forest wood resource, State forest managed on a multiple use basis was to be reserved as A Class reserves (as were the conservation reserves). In addition, CALM would enter into legally binding contracts with sawmilling companies to supply the log resource.

The timber strategy also signalled the move towards value adding to the timber resource with the ensuing employment opportunities.

### *Plantations*

In 1987 CALM established a softwood sharefarming scheme which offered farmers an annuity in exchange for the trees CALM planted on their land. This meant CALM no longer had to purchase land where plantations were established. In the years since, the sharefarming arrangement has become the dominant method used to establish publicly owned softwood plantations.

A *Eucalyptus globulus* (blue gum) sharefarming scheme was also established with the intent of encouraging a future resource of woodchips for paper production. By 1994, this program had averaged an annual planting rate of 1,000 hectares and 12,000 hectares of blue gum plantation were managed or had been established by CALM. Since then, average annual planting has increased dramatically. In 1996, more than 6,300 hectares were planted (CALM, 1997).

### *CALM Timber Production Strategy and Social Impacts*

CALM's Timber Production in Western Australia: *A Strategy to take Western Australia's south-west forests into the 21st Century* outlined the changes and new direction for the forest industry strategy for Western Australia in terms of CALM's role of managing the forests and being the dominant supplier of native forest wood resource. It was published in parallel with the Forest Management Plans of 1987. The Strategy contained a minor reference to 'Social and Economic Implications'. These are discussed later in the document in Section 3.

## **1988**

### *WACAP Woodchipping*

The State agreement with WACAP was extended to 1998, allowing the continuation of the WACAP's woodchip operation. Southern Plantations Chip Co. Pty Ltd (SPCC), a subsidiary of WA's second largest hardwood timber company Whittakers, was first granted a woodchip export licence from the Commonwealth Government in 1988. The licence is for the export of 110,000 tons per year of native forest woodchips. Woodchipping is highly mechanised and presented CALM and the forest industries with further management options in the forest such as regrowth thinning. It also created some increases in regional employment.

The WACAP agreements also further increased the conservation groups and community opposition to the forest product industry and government forest policy.

## **1989**

Since the mid 1970's the government had been attempting to find markets for the poor quality jarrah logs known as 'residue logs'. Success came with the establishment of the silicon smelter plant at Kemerton, which used the jarrah to produce charcoal which in turn was used in the smelting process. The first pour was in 1989.

## **1991**

### *Ecologically Sustainable Development Working Groups*

The Commonwealth Government developed an initiative to facilitate the national debate on Ecological Sustainable Development (ESD). As part of the ESD process, a working group was established to examine forest use. The group comprised scientists and representatives from the forestry industry, the ACTU, Commonwealth and State Governments. The Groups' brief was to "... formulate strategies for sustainable development in Australia's major industry sectors .... to provide advice to Government on future policy directions, and to develop a practical proposal for implementing them" (Hawke, 1991, Appendix A).

The Report suggests definitions, major goals and objectives for ecologically sustainable forest use in Australia, along with a series of recommendations. For example, one major goal is: "Optimising benefits to the community from all uses" (ESD, 1991: xix). The associated principle is: land use allocation "...to achieve the highest community value." The range of forest values, and their contributions to society are identified, but only briefly. The report endorses the current multiple use forest management approach. In general, social impact assessment issues are not discussed. Four of the recommendations of the ESD Working Group Report are relevant to social impact assessment. These are discussed later in the in Section 3.

## 1992

### *Continuing forest assessment and use.*

The “Proposals to Amend the 1987 Forest Management Plans and Timber Strategy” and the “Proposals to Meet Ministerial Conditions on the Regional Plans and WACAP ERMP” were released for public review through a CALM review process and through a parallel EPA Assessment process. This process included an assessment of National Estate Values in the Southern Forest Region.

### *Resource Assessment Commission*

The Resource Assessment Commission (RAC) was established by the Commonwealth Government in 1989 with the role of attempting to resolve several resource use issues through a process of public inquiry and report. It was disbanded in 1993.

The RAC was commissioned to perform a Forest and Timber Inquiry which in essence involved an inquiry into the options for the use of Australia's forest and timber resources and the making of recommendations to the Government. The two year inquiry was the most wide-ranging inquiry into forestry in Australia ever conducted. The Inquiry had its own research program with over 30 consultancies and research papers produced, and hundreds of oral and written submissions. The Inquiry produced the largest collection of data and analyses of Australian forest related issues ever collated.

Of the 511 pages of the main body of the Final Report, 6 pages specifically address social impact assessment: Chapter 11, Section 11.7 Managing the Social Impacts of Changes (RAC, 1992). This information is presented in Section 3.

### *National Forest Policy Statement*

The National Forest Policy Statement is the policy statement that has shaped forest policy in Australia for the last five years, and from which the current Regional Forest Agreement process was initiated (Commonwealth Government of Australia, 1992). It was signed by the Commonwealth Government and the State Governments of all forested states. It was designed to provide the overall policy frame work for forest policy in Australia.

### *Agreement Acts*

The Dardanup Pine Log Sawmill Agreement Act provided the legislative framework for the establishment of a pine log sawmill industry.

## 1993

### *Native Forest Management Scientific and Administrative Committee*

The State Environment Minister announced the Government's position on “Native Forest Management and the Future of the Native Forest Hardwood Industry” in response to a Report of the Scientific and Administrative Committee that examined *inter alia* what the new allowable cuts for different forest species should be (Minson, 1993).

## *Value Adding - Industry Commission*

The Industry Commission is a Commonwealth Government agency which performs analyses of different industries and provides recommendations on future policy to the Government. The Commission had terms of reference which required it to explore the potential for adding further value to Australia's forest products in the woodchip, sawn timber, plywood and panel, pulp, paper and paper packaging industries. The inquiry did not consider or question current forest management plans, but rather focussed on downstream processing activities. The focus was on identifying local and global trends, competitiveness and how impediments and constraints on industry efficiency and growth could be eliminated. Social Impact Assessment and Mitigation issues were not discussed (Industry Commission, 1993).

### **1994**

#### *Forest Management Plan*

After a two year review process the Forest Management Plan 1994-2003 was adopted.

The plan included new conservation reserves, revised road, river and stream zones, interim listing of 44 National Estate areas, and changes to forest silviculture including reduced coupe sizes and level of timber harvested.

The conservation campaigns across Australia opposing the intensive logging of native forests, and in particular native forest woodchip operations, became more nationally coordinated and pushed the issue to a higher level of public profile.

By focussing on the Commonwealth Government's role in the process, which related to granting annual Woodchip Export Licences, the campaign persuaded the Federal Government to implement initiatives outlined in the 1992 National Forest Policy Statement, which had been adopted by the Federal Government and all the forested states. Part of the short term response by governments was to establish the Deferred Forest Agreement Process which identified areas of forest which would be exempt from timber harvest until a Regional Forest Agreement Process was completed.

### **1995**

#### *Farm Forestry Task Force*

This taskforce was established with a set of terms of reference and reported to the WA State Ministers for Primary Industry, Environment and Regional Development. In the report there is a short chapter on "Social Issues". The topics broached were population change, changes in the landscape, employment, education and training, safety, regional planning, and a separate chapter on planning and local government.

#### *Wood and Paper Industries Strategy*

This strategy is a four year Commonwealth initiative "to encourage investment, value adding and jobs growth" (p. iv) This strategy falls within the framework of the National Forest

Policy Statement. It had significant sections on labour adjustment packages and an analysis of changes at a regional level (Commonwealth Government of Australia, 1995).

#### *Agreement Acts*

Collie Hardwood and Bunbury Treefarm Agreements Acts provide the legislative framework for hardwood plantations.

#### **1996**

#### *Regional Forest Agreement*

The Regional Forest Agreement process is initiated by the signing of a Scoping Agreement by the Premier and the Prime Minister with the completion date set as December, 1997.

## 2.2 *Timber Industry Technology and General Economic Activity*

### **This chapter at a glance**

*Over the past thirty five years the forest products industry has gone from a number of companies with localised access to forest, individual logging operations and mills with surrounding support communities, to one dominant company controlling about 75 percent of the market and a number of smaller players. Production is now orientated towards taking a wide range of log products from the forest and integrating the production of poles, chip logs, sawlogs and other logs.*

*In the past the native hardwood industry has been linked to the structural timber industry and has suffered from building cycle fluctuations. This has created variable employment opportunities. The companies' responses in these situations has been to either offer redundancy or employment in other locations.*

*Most of the major mill closures occurred in the 1970's and 1980's. However there are still adjustments occurring in some of the smaller mills and closure of the shifts at other mills.*

*All aspects of forest product technology are rapidly increasing in sophistication and diversity. The production facilities are becoming larger and more centralised, necessitating longer log transport distances.*

*This trend has created more stable employment opportunities in fewer locations and these jobs generally require a greater skills base. There is some opportunity for increasing employment in the value adding parts of the industry. However it appears that the most potential for employment growth is in manufacturing. Currently most manufacturing occurs in locations outside the region. There is a perception that the manufacturing industry is not well supported by government policy or the forest product industry.*

This section looks at the changes in the forest industry particularly the impact of economic and technology decisions made by companies that operate in the forest product industry.

Historically the forest product industry has been devoted to sawlogs for the structural timber industry. Consequently employment has been linked to economic decisions by the companies, market cycles and the availability of the resource. This has created variable employment opportunities. The companies responses to downturns in these situations has been to either offer redundancy or other employment in other locations.

At a regional level much of the structural adjustment in the industry occurred in the 1970's and 1980's. There are however still some local impacts, such as the recent closure of one shift at the Bunnings mill at Nannup and the temporary closure of the Whittakers Greenbushes pine mill.

The industry is currently placing significant investment upgrading technology to value add to forest products. The industry is described as being in its most exciting phase ever, provided resource security can be ensured (Valom, 1997). Pine is replacing native hardwood as structural timber, and there is a significant hardwood plantation industry developing which is creating export markets in chip wood and will potentially precipitate the development of a local paper mill at some stage in the future (Fry, pers comm).

Investment in the industry is orientated towards capital intensive plant and equipment. While these investments are creating a world class timber products industry there are few new jobs in the forest management and milling parts of the industry and only modest employment increases in the value adding sections. Downstream manufacturing is seen as having great opportunities for creation of employment however there is a perception that there is insufficient government support for such initiatives. A significant impediment to the development of a wood manufacturing industry appears to be perception ie. Australian industry is more attuned to upgrading raw materials rather than manufacturing, due to the absence of good design and innovation, and marketing the product.<sup>2</sup>

## **Early 1960's**

### *Increased mill efficiencies and closures*

Until the early 1960's there were many mills spread throughout the RFA area employing 50-100 people linked to forest permit areas. Mills were orientated to structural timber and the export market, although many mills also undertook timber drying and processing on site. Most of these mills were serviced by small settlements, each with its own Forest Department officer who supervised the management of the forest and logging teams associated with the mills. Most mills were steam driven and often supplied electrical power for their surrounding settlements. The forest management practice tended to rely on short haul routes using trucks or steam driven rail from the permit area.

The mid 1960's minerals boom in the north of the state created a large demand for sleepers for railways and structural timber.

## **Late 1960's**

### *Rationalisation of Mills*

The sawmilling industry looked for greater efficiency and rationalised some small mills. The process of electrification of mills continued and steam was phased out. The industry was still orientated towards structural timber. As the industry rationalised, small towns were shut down and milling moved toward major processing centres. Consequently haul routes become longer.

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<sup>2</sup> The information about the technological change in the forest product industry has not been extensively documented. Because of this the information about forestry and wood processing technology in this section was gathered from a number of sources including interviews with Mr David Fry and Mr Ed Valom (Bunnings Pty Ltd), Mr Trevor Richardson (Bushmills Pty Ltd), Ms Marg Pearce (Forest Protection Society), Mr Nick Oaks (AWU), Mr Tim Daly (CFMEU) and Mr John Clarke (CALM).

## **Early 1970's**

### *The structural timber market*

The industry was still involved in the production of structural timber and subject to recessions and changes in the building industry. This produced uncertainty in employment and staffing levels in the industry as the building market fluctuated.

## **Mid 1970's**

### *Woodchipping*

WACAP woodchip mill at Diamond commenced operations, initiating a significant change in karri forest management practices and new markets for forest products. Major restructuring prompted the industry to move to a multiple product industry. In addition new technology and wood chipping meant that there was improved recovery of sawlogs and other log products from the available forest. Logging up to this time has been on single product basis with multiple entries to the forest for different products. Takeovers and amalgamation of timber companies continued; some small mills were closed.

Diminishing resources required the industry to improve recoveries. "After a temporary small rise in 1976 the industry entered an irreversible decline in allowable hardwood cut." (Havel, 1989: 307). The allowable cut in terms of higher grade logs in larger sizes was in decline. However, in the future, logging for charcoal and woodchip production (from lower quality logs) and improvements in the sawmilling of smaller sized logs led to an increase in the actual total volume of logs extracted from the forests.

## **Late 1970's**

### *Centralisation of activities*

Bunnings southern operations were centralised and electrified at Dean Mill. Other major timber producers undertook similar rationalisations.

A major pine industry began to develop with the construction of the Wesfi particle board factory at Dardanup. The key theme behind the pine industry was integration of logging operations. At a later stage, when this integration was seen to be feasible in softwood plantations, it became the basis of integrated logging in the native hardwood forests.

## **Early 1980's**

### *Integrated logging*

The process of rationalisation of small mills continued. Twenty two small mills were shut between mid 1970' and mid 1980's (Evans, 1982). Most of the industry was now electrified and haul routes were lengthening. Processing activities were increasingly centred on major production facilities in central locations.



There was strong investigation of integrated logging activities being discussed in the industry and government.

#### *Shake out in the industry*

By this time two companies - Millars and Bunnings owned a large proportion of the hardwood production industry and began to integrate the use of forest products from dispersed permit areas. This method of accessing a mix of forest products from a range of permit areas owned by one company then trucking the product to a remote milling centre changed, in practice, the permit based allocation of the forest resource. It introduced a rudimentary form of integrated logging.

As the major companies expanded and centralised, small operators that worked in the salvage timber market began to call for greater access to the timber resource.

### **Mid 1980's**

#### *Takeovers in the Industry*

Bunnings bought Millars and controlled about 75 percent of the hardwood production industry. As further rationalisation of industry occurred, older mills designed for large logs were shut due to reduction in the allowable cut. Most of the small mills belonging to the major companies were closed by this time. However there were still many small private mills dotted throughout the region (Havel, 1989).

A slump in the building industry cut demand for timber and the creation of management priority areas for flora, fauna and landscape removed some of the available timber resource. This depressed the industry resulting in retrenchments. The industry was characterised by uncertainty of employment and insecurity about the future.

### **Late 1980's**

#### *Timber Strategy*

The 1987 release of the State's Timber Strategy together with new Regional Management Plans brought some major innovations including long term timber supply contracts, abandoning the permit system and CALM taking over logging and haulage operations, integrated logging of each forest coup, auctioning parcels of logs, and a larger number of classifications of logs. The major reasons for this change in government policy were the desire for greater efficiency for CALM's administration, reducing the risk of dieback infection and to seek equity and impartiality in the allocation and sale of logs.

Major investment in upgrading of sawmilling and processing facilities occurred as a consequence of the Timber Strategy, especially the longer term security of resource supply.

The industry increased its sophistication in technology and also began to address the insecurity and variability of the structural timber market by way of value adding opportunities. Small operators also gained more certainty of access to the timber resource.

Hardwood plantations began to become significant in size with CALM, Bunnings and investment projects owning approximately equal proportions of hardwood plantations. The idea of a pulp mill was seriously investigated however it was shelved because of unfavourable economic circumstances.

## **Early 1990's**

### *Softwood milling*

A joint venture between the former Bunnings Ltd (now Wesfarmers Bunnings) and Westralian Forest Industries Ltd. (known as Wespine) led to the opening of a softwood sawmill in Dardanup. The capacity of this mill has been expanded to 200,000 m<sup>3</sup> per annum of log input and is planned to eventually reach 400,000 m<sup>3</sup>. Whittakers had the second largest softwood sawmill at Greenbushes. There were three other smaller sawmills, which took the 1994 State total capacity for log input to 303,000 m<sup>3</sup> per annum and sawn timber production to 124,000 m<sup>3</sup> per annum (Clark, 1995). The softwood industry is a new facet of employment and economic activity, however it is highly mechanised and tends to use contractors on an "as-needed" basis. Activities in the soft wood industry do not follow the traditional model of a small mill with a dedicated workforce in the forest. The use of large processing centres also created employment opportunities in the localities that were closest to those centres.

The forest product industry began to restructure in response to government policy for value adding, instability of structural timber industry, competition from structural pine, and economic opportunities for value adding to native hardwoods.

## **Mid 1990's**

### *Value adding*

Significant investment by industry in value adding technology occurred particularly in response to the 1994 log contracts that required commitment to value adding to native hardwood and moving the structural timber market to pine. Industry continued and speeded up investment in value adding technology and processing equipment eg. kilns and processing works.

In response to the Timber Strategy and changing economics in the forest product industry the small producers were tending to form strategic alliances and cooperative arrangements to enable them to value add native hardwoods. There was some growth of craft industry that provided good examples of the potential for manufacturing and export of wood furniture.

There was also large expansion of the hardwood plantation industries however, as for softwood plantations, this was highly mechanised and contractor based. There are comments from rural residents that hardwood plantations are changing the character of rural communities however conversion of agricultural land to plantations is attractive to farmers wanting to retire with a guaranteed income (Martin, 1997).

## 2.3 Planning

### This chapter at a glance

*Historically town planning had very little to do with the forest products industry. Over the past ten years planning has broadened out from being concerned with the allocation of land in towns to regional and strategic planning that includes both social and economic objectives.*

*Some towns will benefit from the economic growth in the RFA region. These will tend to be the larger centres attached to a major economic magnet. Planning in these areas is largely linked to suburb type development.*

Planning is the range of activities that oversee the allocation and development of land. Traditionally under the 1927 Town Planning Act the planning process is driven by market demand and the development industry, with the Act being used to ensure the orderly development of land. This has changed in recent years with the Ministry for Planning taking on a much broader role in strategic, regional and rural planning. The key milestones are listed below.

#### *The Role of Local Authorities*

Local authority planning schemes form an important part of local land use decisions and policies but are so locally specific they have to be considered on an individual basis. A local authority can prepare a town planning scheme for any part of its district for a broad range of purposes, as the authority determines. Such schemes may be called 'district schemes' or 'rural strategies'. All have the force of law when approved and adopted. Initially, planning schemes were usually focussed on the significant townsites in the locality. Local authorities share the responsibility for their planning issues within their boundaries with the State Government through the WA State Planning Commission. The State's Town Planning and Development Act 1927 provides the legal framework, and delineates the state and local authority responsibilities.

#### *Crown Reserves*

The land reserves system used in Western Australia has, at its heart, the concept that a parcel of Crown land (which covers most forests) is vested in some authority for a particular purpose. In the case of the National Parks, Nature Reserves and State forests this means that CALM is effectively the largest land manager in the region. Under the CALM Act, land is vested in the National Parks and Nature Conservation Authority and the Lands and Forest Commission. These controlling bodies approve the Management Plans for the lands managed by CALM.

As the land uses and human activity in the RFA area has become more diverse and complex, the planning system has become more proactive in its approach to strategic and regional planning.

## **1960's**

### *Local Government Authority Planning*

During this time planning of towns became common in local authorities in rural areas. The loss of mill towns affected the composition and population of towns in forest areas. Towns that become centres for increased milling activity began to develop town planning schemes.

## **Late 1970's early 1980's**

### *Rural Migration*

Migration to favoured rural areas such as Margaret River by urban people increased the demand for small affordable rural lots. The development and occupation of Special Rural Zones altered the composition of traditional farming and timber communities.

### *Development Commissions*

The South West Development Authority was established as a statutory body which planned, coordinated and encouraged the social and economic development of Bunbury and the south west of WA. This represented a significant shift towards regionally based planning of development. The Authority had the mandate to oversee the economic and social development of the region and its communities. Development Authorities were subsequently established in Peel and the Great Southern Region.

## **Late 1980's early 1990's**

### *Land use policies*

The State Planning Commission developed a number of land use policies that affected the RFA area. These included the *Rural Land Use Policy* which set objectives for how rural land should be planned; the *Bunbury Wellington Regional Planning Study* that set the planning context for the south of the northern jarrah forest.

## **1989**

### *Rural Strategies*

The State Planning Commission (now the WA Planning Commission) developed the *Rural Land Use Policy* (SPC, 1989, Policy DC 3.4). The emphasis was on regional and local rural strategies. The latter was to be developed by local authorities as a mechanism for decision making for the future zoning, subdivision, and development of rural land.

## **Mid 1990's**

### *Strategic Planning of Rural Areas*

The State Planning Strategy was released and set, among a range of other planning matters, the social agenda for the regions in Western Australia. Within the RFA area the Warren

Blackwood Regional Planning Strategy and the Leeuwin Naturaliste Statement of Planning Policy give very detailed prescriptions over the direction of development in the regions.

Social issues were now considered in the planning process and included opportunities for and employment creation, social infrastructure and community well being. The planing process was moving into a void that had existed in regional areas and was attempting to address issues such as what happens when towns grow or close, or when economic activity changes (Martin, 1997).

Following the 1993 election, the new government redefined the role of regional development and the Development Authorities became Commissions with the narrower role of regional economic development facilitation. The Commissions still addressed social matters including the survival of small towns in the forest region (South West Development Commission, 1994). The Commissions represent the Government's response to increasing complexity of regional development.

As economic growth occurred in the region, larger towns that are attached to major industries continue to grow. The increased population in these centres is accommodated in suburb type developments around these major centres. Mostly this development has been on an as needs basis, however there are examples, such as the Leeuwin Naturaliste Statement of Planning Policy, where the Ministry for Planning has set town size and a hierarchy of settlement in the region. This approach may be extended into other areas in the future.

## 2.4 Mining

### This chapter at a glance

*Mining is the major economic contributor in the RFA region and while its physical influence is limited in geographic extent its effects are widely distributed. Major mines and mineral processing works act as economic magnets to other development.*

*The most thorough social impact assessments in the region have been done by the mining industry.*

Mining is the major economic contributor in the northern forest (Peel Region), and the central forest (South West Region) (Peel Development Commission, 1996; South West Development Commission, 1996). The development of the mining industry, particularly in the north of the RFA has created major alternative sources of economic activity and employment to the forest product industry. Milestone Agreement Acts and other mining ventures are listed below.

Most of the social impact assessment in the region has been undertaken by the mining industry with two good examples in the Kemerton Industrial Park and the BHP Beenup heavy mineral sands mine.

### 1960's

#### *Early days*

Prior to 1960 coal mining at Collie and tin mining at Greenbushes had been significant mining ventures in the region. These have continued, with various modifications since that time.

### 1961

#### *Alumina Refinery Agreement Act (1961)*

This act was passed and Western Aluminium N.L. (a predecessor of Alcoa) was granted a “ ... mining lease for over 1 million ha, which covered the bulk of the northern jarrah forest region. The lease was for 84 years, and under the terms of the agreement the company obtained far-reaching rights, which could not be over-ridden by earlier Acts of Parliament” (Havel, 1989: 295). The first mining site was near Jarrahdale, operations quickly expanded in scale from 14 hectares per year in area initially to 121 hectares per year within a decade.

The introduction of the alumina industry had a number of social consequences. It firstly provided a major alternative economic use of the forest. Secondly it was a major economic magnet creating jobs in centres that previously had no employment certainty, thirdly it drew attention to forest conservation and the idea that the jarrah forest could be mined saw the start of a community based concern for the conservation of the forests.

## **Late 1960's 1970's**

*Alumina Refinery (Pinjarra) Agreement Act 1969*

*Alumina Refinery (Worsley) Agreement Act 1973*

*Alumina Refinery (Wagerup) Agreement Act 1978*

These acts extended bauxite mining further south in the jarrah forest and with it, as with the earlier agreement act, created a significant new source of employment and economic activity. The environmental impact assessment that occurred as part of the Worsley and Wagerup projects mentions social effects in terms of employment created and estimated down stream multiplier effects. However there is no detailed assessment of social impacts.

### *Wundowie Iron and Steel*

The Wundowie Iron and Steel works had for many years taken jarrah from the northern jarrah forest for charcoal to be used in iron smelting. In 1974 the State entered into an agreement to sell this operation (Wundowie Charcoal Iron Industry Sale Agreement Act, 1994). This meant the effective closure of the town of Wundowie.

*Collie Coal (Griffin) Agreement Act 1979*

*Collie Coal (Western Collieries) Agreement Act 1979*

These Acts set the future direction for the development of the coal industry at Collie and while restructuring of the industry occurred during the 1980's and 1990's coal mining was still a very significant employer in the region.

## **1985**

### *Boddington Gold Mine*

The Worsley Alumina Joint Venture Boddington gold mine was established. The only statement on social impacts was an observation that Boddington's location "should represent a positive influence on recruitment and workforce stability." The Joint Venturers would also provide a housing assistance scheme (EPA, 1985).

It has transpired that the town of Boddington has been rejuvenated as a consequence of bauxite and gold mining activity in the area.

## **1987**

### *Collie*

The town of Collie is surrounded by coal mining. As mining expanded into potential residential areas and other effects such as salination of the Collie River and the potential loss of recreation areas became more pressing the Cabinet set up a working group to examine land use around Collie. This included some social assessment but it was limited to examining effects on town planning and recreation (Collie Land Use Working Group, 1987).

## **Late 1980's Early 1990's**

### *Kemerton*

In the mid 1980's there was a need for new heavy industrial areas in the state as alternatives to Kwinana. In the south west Kemerton, north of Bunbury was identified as the location. There was a proposal to locate an aluminium smelter there and this prompted a major review of the social effects that this would have on Bunbury and the surrounding regions. While the smelter did not proceed the social impact assessment process continued into the early 1990's using a monitoring process that looked at a wide range of parameters with a report to a community committee (Syme, 1989; Campbell-Hicks, 1992).

### *Mineral Sands on the South Coast*

Along the south coast there are considerable mineral sand deposits. In the 1990's two of these (Beenup and Jangardup) reached commercial operation providing alternative employment in the Shires of Nannup and Augusta-Margaret River. The BHP Minerals Beenup mineral sands mine, its power supply and Sues Rd, the road constructed between the Bunbury Port and the mine on the south coast, was one of the most extensive community consultation and mitigation processes done to date in the State.

The environmental impact assessment of the project included extensive review of community attitudes and options and contained specific mitigation strategies, particularly assessing what effect the mine would have on the Shire of Augusta Margaret River and particularly the town of Augusta during both construction and operational phases (MRD, 1991; BHP Utah, 1992; SECWA, 1993).

The Cable Sands Jangardup mine had some references to social impacts noting that there would be a positive effect on the employment in the Nannup Shire because "Nannup's exclusive economic reliance on the timber industry is of concern ... because the industry is tenuous, and wholly dependent on CALM activities"; and that impact on recreation in the D'Entrecasteaux National Park will be very low (Martinick, 1989).



## 2.5 Agriculture

### This chapter at a glance

*Agricultural production has contributed to a great deal of clearing in parts of the region and timber was harvested as a by-product. The 1960's were the heyday for agriculture. Since then the industry has been meeting challenges of increasing international competition through seeking economic efficiencies and increasing the size of operations. This has meant a decline in the population of rural communities, particularly in the east of the RFA area.. The reduction of rural populations has been associated with a loss of services and a slow reduction in the size and number of rural towns.*

*At the same time, environmental degradation has been increasing with loss of topsoil, soil acidification, salinisation of soil and waterways, and loss of areas of native vegetation. In response to this, there has been an increase in the role of Landcare activities and a focus on Integrated Catchment Management. Agriculture WA has developed the Sustainable Rural Development Program, an holistic approach to agriculture that, among other things, links ecologically sustainable farm practices with community economic development.*

Forest and agricultural industries have similar historic roots, however the directions of the industries have taken are different. Agricultural lands are under multiple ownership and the government does not have strong legislative ability to dictate what land uses should occur, except, in the relatively recent cases, of controls over clearing and vegetation. In the past agricultural activity was largely determined by the land owners under advice from the Agricultural Department on how to maximise production.

Over the past thirty years the agricultural industry has increased in diversity and moved towards increasing sophistication and use of technology. It has become more capital and less labour intensive. It is also being squeezed by international competition and environmental factors such as drought, salinisation, acidification and loss of soil fertility. This has prompted some major changes in the affected rural communities.

Economic necessity is causing farms to be amalgamated and people are moving off the land. Consequently a loss of community structure and services is occurring. This is particularly apparent moving east from the coast into the wheatbelt.

In response to this in the early 1990's Agriculture Western Australia (AgWA) developed the Sustainable Rural Development Program. This program takes an holistic approach to rural development and seeks to combine environmentally sustainable development with community and economic development.

In the central RFA area, agriculture is characterised by diversification with strong viticultural and horticultural industries beginning to develop. The farm forestry industry is also beginning to have significant effects on rural communities. While plantations are useful for controlling salinity and provide a guaranteed income for farmers wishing to retire, some people have commented that they may change the character of regions from traditional

farming communities of land owners working their own properties, to a more mobile population that move into an area looking for contract work and absentee landowners. This concern may warrant further investigation. If the farm forestry and plantation industry continues to grow at its current rate, there may be secondary impacts upon transport routes through the region, the social structure of communities, and land uses (Martin, pers. comm.).

Major milestones in agriculture are listed below.

## **1960's**

### *The heyday*

This period represented a heyday for the agricultural industry. The post-war soldier settlement era continued to influence the expansion of land clearance under successive governments. The policy was to develop 'one million acres a year' and this was assisted by policies of land release - 'new land farms', and conditional purchase agreements.

## **Late 1960's**

### *Structural problems*

During this period the market collapsed for grain and wool, a situation which was exacerbated by a drought in 1969. During these years and the early 70's widespread difficulties were experienced by farmers, particularly those who had entered the industry through new land blocks. It became apparent through the hard financial times that the ease with which people had acquired the new land farms, meant that little business planning and/or capital was initially required. People 'got by' for the first few years but then a crunch came when they needed to invest more capital into their farms to continue a profit. Many people were simply unable to raise capital, especially during a downturn in the industry. The hardships associated with a lack of experience of farming practice, unfamiliar environmental conditions, isolation, physically demanding work etc. saw many leave their farms.

### *Wellington Dam Catchment Clearing Controls*

This era saw the imposition of a ban on any further release of Crown land for clearing in the Wellington Dam Catchment as an initial measure to prevent further increases in the salinity level of the Dam's water. Thirty five percent of the catchment was already alienated by that time (Havel, 1989). Over time this has led to the Water Agency<sup>3</sup> acquiring land and reforestation significant parts of the catchment. This has reduced the numbers of farmers in the catchment area.

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<sup>3</sup> The term **Water Agency** is used here as there has been a range of government departments that have managed the water resource since 1960. These include the Public Works Department, the Water Authority of WA, and now the Water Corporation, and Water and Rivers Commission

## **Early - Mid 1970's**

### *Rural Restructuring*

As a result of farm collapses the government entered into a period of 'rural reconstruction programs'. The Industry Assistance Commission held an Inquiry into New Land Farms. Rural Adjustment was developed during this period which was characterised by the need to provide development budgets and farm plans. The need for rural adjustment activities was the greatest in those areas which had been more recently settled and those associated with new land farms. Prior to this time, the Lands Department had been in control of land release and the process was considered a highly political one (Australia Industries Assistance Commission, 1975; Western Australia Land Release Policy Review Committee, 1979; Journal of Agriculture WA, 1980; Department of Agriculture, 1983).

## **Late 70's**

### *Integrated land use planning*

At the end of the 1970's there was recognition by a range of government departmental staff that good land use planning should incorporate a variety of land uses, not just agriculture. This phenomenon was not widely accepted by government as a whole, yet studies such the Murray River Catchment Study and the Darling Range Study Group, did have an indirect effect on interdepartmental cooperation as they involved a range of government departments.

### *Catchment Clearing Restrictions*

Forest clearance restrictions were imposed in the Wellington Dam Catchment. The level of restrictions varied within the Catchment depending on the associated salinity risk, but they were restrictions that were upheld regardless of land ownership. Compensation was paid to affected farmers, but they still protested vigorously at the measures (Havel, 1989).

Legislation in 1976-1978 enabled the imposition of a complete ban on the clearing of privately owned forests in the high salinity risk catchments. Again the affected farmers were compensated by the Public Works Department buying a proportion of the cleared land and later planting it with trees. This measure halted farm clearing in the Collie (Wellington Dam) catchment at 23 percent of the total area or 64,000 hectares (Havel, 1989).

## **Early 80's**

### *Salinity and Land Conservation Districts*

The increasing problem of salinity and the recognition that significant salinisation of waterways was occurring, prompted the declaration of Land Conservation Districts (LCD). The presence of LCD's was initially greater in the wheatbelt regions than in the forested regions primarily because in the latter regions land degradation problems are generally less severe. During this period the Department of Agriculture also began to recruit more staff with community development skills (Halse, 1989; Barrett-Lennard, 1987).

### *Small Rural Holdings*

During the past decade there has been a movement of people away from city centres and back into the bush, taking up small rural holdings and looking for the country lifestyle. This has meant a significant injection of capital and skills into these regions and the rise of part time farming. It has also resulted in the need to secure prime agricultural land from continued subdivision into smaller than viable production sizes. This concern to protect the viability of existing rural land from urban and lifestyle pressures is still relevant today (Western Australia Rural Small Holding Policy Study Joint Steering Committee, 1980; WA Grower, 1996; Martin, 1997).

### *Catchment Clearing Licences*

The Country Areas Water Supply Act (1947) was augmented with the (Clearing Licence) Regulation (1981) to control the clearing of indigenous vegetation in six south west river catchments to protect water quality. The Regulation introduced restrictions on clearing in designated catchment areas within which land owners would need to apply for a licence to clear native vegetation. The Government paid out millions of dollars in compensation (Commissioner for Soil and Land Conservation et al., 1997).

## **Mid 80's**

### *End of large scale agricultural land releases*

Pressure was extended from farmers to encourage a land release north of Lake Jasper. An inquiry resulted in a rejection of this idea. This was an important event as it reflects a greater understanding of the impact of land use decisions and perhaps the recognition of valuing 'bush' as 'bush' (ACF, 1984; Land Resource Policy, 1986).

### *Soil and Land Conservation Regulations*

The Soil and Land Conservation Regulations (1985), under the Soil and Land Conservation Act (1945), were introduced. This act requires all owners or occupiers of land to provide 90 days notification (*Notice of Intent*) to the Commissioner for Soil and Land Conservation if they intend to clear more than 1 hectare of their land and it will result in a change of land use.

If it is the Commissioner's view, that clearing could lead to soil or land degradation problems, then an objection to the clearing may be lodged and a *Soil Conservation Notice* served, to prohibit the proposed clearing. If owners are willing they can enter into an *Agreement to Reserve* the land for which clearing is not permissible (or a *Conservation Covenant*). Soil Conservation Notices affected farmers in the RFA area, particularly in locations where there was potential for salinisation.

### *Viticulture and Horticulture*

Viticulture represented the emergence of a new high value land use which was not particularly aimed at utilising valuable pasture land. The best soils for this industry were typically associated with forested, or previously forested areas (especially jarrah/marri), gravelly soils being particularly suitable. The emergence of the industry occurred on existing, privately

owned land. This industry, as well as horticulture, offered a greater financial return for agricultural activity (Grape Growing, Legislative Assembly Inquiry, 1985).

Horticulture represented another competing land use for the private forested areas due to its critical requirement for fresh water. The requirement for higher rainfall and water for irrigation, saw remnant forests and wetlands targeted for clearing. Deep well drained soils were preferred (especially the karri loams). The fruit growing industry also targeted the forested areas away from the coast because of the requirement for chilling (which was attained in the inland forested areas) (Fruit and Vegetable, Legislative Council Select Committee Inquiry, 1984; Fruit and Vegetable, Department of Agriculture and Legislative Assembly Select Committee Inquiry, 1984).

## **Early to Mid 90's**

### *Vegetation Clearing and Soil Conservation Regulations*

In recognition of the continued environmental impacts associated with clearing of native vegetation, a government policy decision resulted in new land clearing restrictions being imposed through the authority of the Commissioner for Soil and Land Conservation under the Soil and Land Conservation Act (1945). In general, clearing proposals would be objected to, and hence prohibited, if either the farm involved, the catchment it was in, or the Shire it was located in, had total native vegetation cover of less than 20 percent. In many Shires where native vegetation was already below 20 percent this represented an effective if not absolute clearing ban, in others it may be considered as the limit to which clearing can occur.

### *Landcare and Integrated Catchment Management*

While soil conservation had been in existence for many years, in the later 1980's and early 1990's there was an increasing recognition of the place and effect of agricultural activity within ecological cycles. Essentially a paradigm shift has been occurring in the agricultural community, with ecological awareness progressing from a limited focus of protecting the soil in which crops grow, into protecting waterways and landscapes and ultimately achieving sustainable natural resource management (Gorrie, 1995). This gave rise to the Landcare movement and Integrated Catchment Management (ICM).

Landcare and ICM are related and the terms are sometimes used interchangeably. Both concern ecologically sustainable, cross boundary, community based management of catchments and the landscape. Landcare however tends to be associated with farm and district level activity, while ICM tends to be associated with large catchments and management systems. ICM aims to integrate agency programs and community aspirations on a water catchment basis (Syme et al., 1994).

ICM has been promoted around Australia as a:

- philosophy - stressing cooperation and collaboration which shifts organisational culture and peoples attitudes;
- process - emphasising involvement of the public and key agencies in a participatory process of problem identification and resolution;

- product - strategies aimed at linking land and water management and ultimately incorporating environmental, social and economic considerations (Mitchell & Hollick, 1993).

Catchment coordinating groups are the major focus of delivery of ICM and are made up of private land owners, non government organisations and government agencies. Their role is to coordinate catchment management activities across major catchments. Within these catchments, Landcare or smaller (sub)catchment groups carry out on ground activities.

### *Salinity Action Plan*

The State Salinity Action Plan was announced in November 1996. This plan was designed to form a framework for efforts within the State to address land degradation problems with a focus on salinity, one of WA's biggest environmental problems. The plan will help coordinate and prioritise State agency efforts and outlines how agencies will assist land owners to tackle these problems. Rising ground water levels due to reduced water usage, a result of the clearing of native vegetation, is one of the major problems. As such, a major theme of the plan is to encourage the establishment of commercially viable perennial vegetation on cleared farm land. The philosophy underlying this approach is that a clear financial benefit will need to be demonstrated in order to encourage increased perennial plantings for the amelioration of land degradation. Hence farm forestry and the conversion of farm land into hardwood plantation is a major component of this plan (Government of Western Australia, 1996).

### *Sustainable Rural Development Program*

The need for a more holistic approach to natural resource management was reflected in the restructuring of the Department of Agriculture - AgWA. The Department is divided into three sections. The Industry Resource Protection Program which oversees control of invasive species, the Sustainable Rural Development Program (SRD) which takes a very broad approach to supporting rural development including social development; and the Industry Program which supports the production orientation of the department (Sustainable Rural

Development Program and the Regional Partnership Group, 1997; Task Force for the Review of Natural Resource Management and Viability of Agriculture in Western Australia, 1997).

The SRD program is presented as a case study in Section 6.

### *Streamlining of Clearing Assessments*

A Memorandum of Understanding (MOU) between relevant government agencies including AgWA, Environmental Protection Authority (EPA), CALM, Water and Rivers Commission (WRC), and the Commissioner for Soil and Land Conservation was announced in 1997. This MOU streamlines and modifies the assessment process that a Notice of Intent to Clear will go through. It applies to all rural zoned, privately owned land in the south west of the State. The MOU has included the consideration of biodiversity conservation and other environmental issues into the examination of clearing proposals.

## 2.6 Tourism

### This chapter at a glance

*Tourism is a relative newcomer to the region's industrial base however it is already a major economic contributor and a significant employer with a great potential for growth in some towns.*

*The industry has a major focus on nature based tourism. The south west with its matrix of forest, farmland and other land uses is a valuable resource for the tourist industry.*

Tourism in the State is described as having had three major phases. The first phase, up until the 1980's was a status and trophy orientation ie. 'I've been there'. The 1980's was a time of activity ie. 'I've done that' the 1990's has been a time of knowledge ie. 'I've experienced this' (Stankevicius, 1997).

With a 10-15 percent annual growth rate, tourism is a major growth industry with potential for significant employment across a wide range of service industries (WATC, 1994; ERM Mitchell McCotter, 1995). The South West Regional Tourism Association reports that "Although the direct economic value of the forests to the town of Pemberton is 50 percent of the value of the forest to the timber industry, the economic benefits of forests to tourism to Pemberton needs to be viewed through the broader framework of the employment generated. The timber industry does not generate the *equivalent* economic benefits eg. a 610 percent increase in employment in the town of Pemberton over the five years" (South West Regional Tourism Association, 1996).

Tourism policy is orientated towards the development of nature based opportunities, consequently the south west with its matrix of forest and other land uses is a valuable resource for the tourist industry. Issues that are being currently addressed include developing the nature based products, improved access and transport and marketing. The industry considers that it has far from reached a plateau in achievement.

The Tourism Commission is examining the potential for a study involving the University of Notre Dame and CALM, which would examine the value of a forest and trees. This would include preparing an economic estimate of various values held by divergent interests.

The popularity of non-coastal areas is still in the development phase. The development of quality tourist facilities (eg. Karri Valley Resort) has had a big impact on drawing people to these areas.

Major milestones are listed below.

### 1983

The Western Australian Tourism Commission came into being.

*Western Australian Tourism Commission Amendment Act 1984*

## **1984/85**

A series of nine Regional Strategies were developed, including the:

*South West Regional Tourism Strategy;*  
*Great Southern Regional Tourism Strategy;*  
*Central South Regional Tourism Strategy.*

This marked the first time the State government made a formal regional examination of tourism. At this time the regional boundaries were somewhat different to those which exist today, the main difference being the recent development of the Peel region. There was some perception that these documents were inadequate for various reasons and a supplementary examination was undertaken (see below).

## **1989**

*Tourism Development Implementation Strategy*

A Tourism Development Implementation Strategy for each of the above regions was developed. Two series of these strategies were produced for the periods 1989-1992 and 1992-1994. These strategies incorporated a greater degree of regional and local input. They have been well received by local government authorities and have allowed forward planning (particularly for budgets) for development of infrastructure.

*Eco-Ethics of Tourism Development*

A code of ethics was developed which outlined the issues of developing tourist activity of a 'wilderness experience' type. This represented a contemporary recognition of the need to manage vulnerable natural assets. This code of ethics has been republished in the current Nature Based Tourism Strategy.

## **1995**

*Draft Western Australian Tourism Strategy.*

This document was in response to the need to produce an overarching strategy which pulled together all of the regions and allow for coordinated development and prioritising. This document examines issues including access, attractions, accommodation and services. It is still in draft format and currently before the Minister.

## **1996**

*State Cultural Strategy*

An initiative of Arts Western Australia, this strategy combined the interests of tourism and the arts. There was initial reticence towards such cooperation, however it appears to have proven itself as a deserved combination. These industries were shown to be complimentary and a program aimed at mutual benefit was developed.



**1997**

*State Nature Based Tourism Strategy*

A response to increasing market demands for this type of activity and a recognition that natural resource protection requires planning and management. This document incorporates a broad understanding of nature based tourism (as opposed to eco tourism - scientific, wilderness style, intimate interaction with nature) including industry activities such as mining and timber production.

## 2.7 Water

### This chapter at a glance

*Water supply and quality has affected the RFA area. Raising salinity in various river systems has precluded clearing of some areas of forest.*

*CALM's multiple use strategy recognises water supply as one of a number of uses of the forest.*

### 1961

#### *Wellington Dam Catchment clearing constraint*

This year a ban was imposed prohibiting further alienation of Crown land in the Wellington Dam Catchment to prevent further increases in salinity (Havel, 1989).

### 1972

#### *Multiple Use Management*

The General Working Plan No. 85 was adopted by the Forests Department and introduced the concept of management of the forest for multiple use which remains, through the provisions of the Conservation and Land Management Act (1984), the underlying principle of public forest management in Western Australia today. This concept acknowledges that the forests are used for many different purposes and they should be divided up into areas with different designated purposes and managed accordingly. Some purposes are mutually compatible while others may not be. It contained the plans for forest management for the next 5 years (Forests Department, 1972). Catchment management of the forest for water production for the numerous dams on the Darling Scarp became part of the multiple use strategy.

### 1976

#### *Further clearing restrictions*

As stated previously, legislation in 1976-1978 imposed a complete ban on clearing privately owned forests in high salinity risk catchments (Havel, 1989).

### 1981

#### *Country Water Supply Act*

The Country Areas Water Supply Act (1947) was augmented with the (Clearing Licence) Regulation (1981) to control the clearing of indigenous vegetation in six south west river catchments to protect water quality. The Regulation introduced restrictions on clearing in designated catchment areas within which land owners would need to apply for a licence to clear native vegetation. The Government paid out millions of dollars in compensation (Commissioner for Soil and Land Conservation et al., 1997).

## **1985**

### *Soil and Land Conservation Regulations*

As stated previously, Soil and Land Conservation Regulations (1985), under the Soil and Land Conservation Act (1945), were introduced.

## **Late 1980's mid 1990's**

### *Catchment Coordinating Groups and Integrated Catchment Management*

As noted previously, concern about decreasing quality of waterways and land care practices led to the introduction of Integrated Catchment Management. ICM views a catchment as an integrated unit consisting of biophysical, economic and social components. It recognises that all components have to be integrated if waterways and catchment health are to be rehabilitated (Mitchell & Hollick, 1993; Syme et al., 1994). The RFA region contains areas of prominent catchments such as the Blackwood, Geographe Bay and Avon.

### *Reform in the Water Industry*

Major reform in the water industry was begun during this time. Initiatives included the splitting of the Western Australian Water Authority's water resource and water delivery functions into the Water and Rivers Commission (water resource management) and the privatisation of the water delivery part of the agency as the Water Corporation.

With these changes also came the moves towards privatisation of irrigation schemes, the review of the Rights in Water and Irrigation Act to include, among other things, a recognition of environmental values in the allocation of water and management of waterways. This process is still occurring and will continue into the future.

## **1996**

### *Salinity Action Plan*

As stated previously, the State Government's Salinity Action Plan was announced (Government of Western Australia, 1996).

## **1997**

### *More clearing controls*

A Memorandum of Understanding (MOU) between relevant government agencies including AgWA, EPA, CALM, WRC, and the Commissioner for Soil and Land Conservation was announced. This MOU streamlined and modified the assessment process that a Notice of Intent to Clear had to go through. It applies to all rural zoned, privately owned land in the south west of the State. The MOU included the consideration of biodiversity conservation and other environmental issues into the consideration of clearing proposals.

## 2.8 Attitudinal Shifts

### This chapter at a glance

*Over the past 30 years there have been large shifts in the community's understanding of the environment. Attitudes have changed from viewing the environment as only having primary economic value to recognising other values such as intrinsic ecological worth. Combined with this change, strong community based action has influenced government policy and has resulted in forest management allocating considerable areas as conservation related reserves.*

*Up until the 1990's the conservation orientated public had largely driven community attitudinal change. In the 1990's the timber industry workers began to organise into grass roots action groups because they considered that their jobs were threatened by inadequate security of the timber resource and generally less of the resource being available for use.*

Over the past 30 years there has been a steadily increasing awareness of the impact of humans on the environment. Community attitudes have changed from values based on using the environment for purely economic gain towards an ethic of care and respect. This change in community attitudes has had profound impact on all levels of government. Community agitation has influenced the policy agenda of all political parties and this has driven changes in reserve areas and forest management policy.

The 1970's was a decade of awakening public involvement in environmental issues in Australia. Public opinion polls in Australia first started featuring the environment as an issue of concern to the community in the early 1970's. Polls in *The Age* newspaper rated the environment as ninth as an issue of national concern in 1971, by 1974 it rated as the second most important national issue (Lothian, 1994).

In Western Australia this rise in community concern for the environment was evidenced by vigorous public campaigns against activities including whaling, bauxite mining and the introduction of the woodchip industry. The public environmental concern was largely an urban phenomena with people reflecting on international thought about the environment within the local context.

While there was a community based expression of environmental concern, public policy also drove change in community attitudes. The 1970's and early 1980's CTRC Green and Red Book reviews of reserves for allocation to the conservation estate was highly instrumental in focusing public attention on the forests.

Public interest and concern about the environment remained high during the 1980s, reflected in such events as the opposition to damming of the Franklin River in Tasmania in 1983, the release of *Our Common Future* in 1987, and the creation of the Shannon National Park in 1988. Issues such as deforestation, global warming, biodiversity loss, ozone depletion and land degradation were high on the public agenda.

The 1980's was also a time when many urban people with a strong conservation ethic relocated to rural centres in the south west. This changed the composition of many rural communities in the RFA area and moved concerns about the environment from a predominantly an urban based phenomenon to a broader rural and regional support base.

The nineties has seen continued international action on the environment, with the Rio Earth Summit in 1992, the creation of Agenda 21 which aims to foster development while caring for the environment, and the signing of international treaties to protect the ozone layer and combat global warming.

In a study of attitudes to the environment between 1975 and 1994, Lothian found that concern for the environment climbed steadily to a peak in the early 1990s, where it was placed ahead of concern about the economy. Although levels of concern have declined slightly in recent years, concern for the environment has remained strong in opinion polls, and over the last 20 years has fluctuated much less than other indicators of national concern. Lothian concluded that this stability of opinion reflects a considerable depth of public concern about the environment (Lothian, 1994).

Given the close attention paid to public opinion polls by decision makers and policy analysts, it is hardly surprising that the strong rise in concern for the environment over the past 20 years has influenced land use decisions. Particularly in the late 1980s and early 1990s, politicians, realising the importance of the environment vote, made promises which have resulted in considerable changes in land use in some parts of Australia. In some cases these changes have had immediate positive economic benefits. The World Heritage Listings of the Queensland Wet Tropics and Shark Bay are examples which have been of benefit to the environment and the tourism industry, although at the cost of some dislocation of activities which were based on previous land uses.

There is a strong correlation between the rise of public concern for the environment and the awareness of business towards the environment. There is little doubt that community concern over bauxite mining on the Darling Scarp spurred Alcoa into becoming an industry leader in minesite rehabilitation and energy efficiency. Prior to 1988 few Australian companies had developed environment policies, but by 1994 nearly 70 percent had an environment policy in place. There is also strong evidence that business is integrating environmental objectives into their operations (State of the Environment Advisory Council, 1996).

In Western Australia there are several examples of community concern and action leading to changes in land use in the south west of the State:

- The Campaign to Save Native Forests (CSNF) during the 1970 and early 1980s which resulted in significant areas of the northern jarrah forest being removed from bauxite mining leases, with the consent of the leaseholders, and turned into conservation reserves;
- Public concern about agricultural land clearing and associated degradation forcing changes to clearing regulations in the mid 1990s; and
- Concern about the eutrophication of the Peel Harvey Estuary in the early 1990s resulting in the construction of the Dawesville Channel and restrictions on land clearing and the excessive use of fertilisers in the surrounding catchments.

From the 1970's to the early 1990's the public debate about the protection of the forests and criticism of management practices was largely instigated and controlled by those with a conservation orientation. However, in the early 1990's the timber industry workers, who were concerned by the employment effects of removal of the timber resource in reserves, began to organise national campaigns and form organisations such as the Forest Protection Society. The blockade of Parliament House in Canberra and other direct action by forest workers sent a strong message to the politicians that forest workers needed security of resources and long term employment.

The Forest Protection Society seeks to “promote the balanced use of forests ... through scientifically based forest policies and practices”. The Society has seven broad objectives, and these are :

- ensure the balanced multiple use of the forests;
- raise the public's understanding of forest issues;
- provide a grass roots voice for people in the forest based industries;
- ensure government is aware of facts relating to forest issues;
- ensure ecologically unique areas are properly managed;
- provide information of forest environment and management;
- support hardwood and softwood plantations (Forest Protection Society, 1996).

In discussions with representatives of both the Forest Protection Society and the conservation orientated public it was found that there was considerable common ground between the two groups. While some members of the conservation orientated public consider that there should be no forest industry in the native hardwood forests, the majority opinion is that some of the native hardwood forest should be used for timber production.

In essence Forest Protection Society's and the voluntary conservation movement's opinions about the forests are cameos of the dilemma about sustainable development. While all parties are committed to sustainable development there is uncertainty about how it will be achieved and there are implicit shared concerns about relying on government and large business to work for the benefit of local communities.

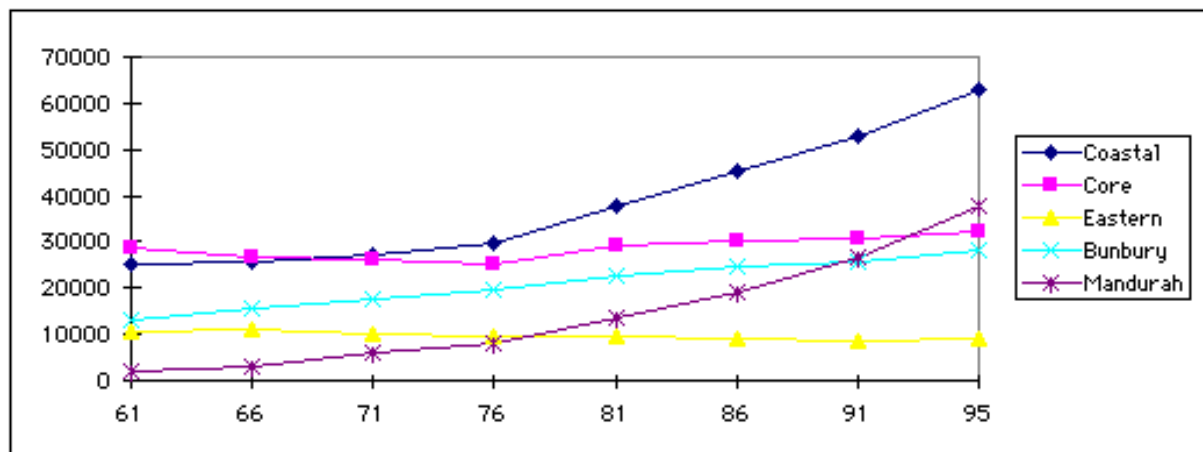
## 2.9 Demographics

### This chapter at a glance

*Over the past thirty years the population on the coast has more than doubled. The Core RFA Shires have remained constant in population and the Eastern RFA Shires have decreased slightly. Given its investment in high technology it is unlikely that the forest products industry can make a significant difference to these trends unless there is a dramatic expansion of downstream manufacturing in the Core and Eastern Shires.*

Over the past thirty years there have been dramatic changes in the distribution of the population in the RFA area. Figure 1 shows the population of Shires that are in, or are part of, the RFA area. The groupings of the Shires are shown below and do not include the Shires that are within the Perth metropolitan area such as Armadale or Mundaring

Coastal RFA	Core RFA	Eastern RFA	Major Towns
Capel	Collie	Cranbrook	Bunbury
Dardanup	Donnybrook	Plantagenet	Mandurah
Harvey	Boyup Brook	Brookton	
Augusta-Margaret River	Bridgetown-Greenbushes	West Arthur	
Busselton	Manjimup	Williams	
Murray	Nannup	Wandering	
Waroona	Boddington		
Denmark			



**Figure 1 Population of Shires and major towns over time (ABS)**

Figure 1 clearly shows that the coastal towns have over doubled their size since 1961 while the Core RFA Shires populations are basically static. The Eastern Shires have undergone a slight drop in population. Over this same period Mandurah's population has grown at about the same rate as the Coastal Shires. Bunbury has also grown, but less quickly.

Based on anecdotal evidence gathered from this study, and from Figure 1, the future of people living in the Core and (particularly) the Eastern RFA Shires is considered to encompass a centralising of the population into a few major centres and a steady or declining population.

The social impacts of these demographic shifts are significant. It has been estimated that if a town in the Core or Eastern RFA area has a population of less than two to three thousand people in it then it is likely, unless strong direct action is taken, that those towns will decline and may eventually die (Middleton, 1997). There are several causes of this including less people working in agriculture, young people moving to major centres for employment opportunities, loss of services, and rationalisation of schools and medical services.

There are a number of reasons for this change in population distribution. Firstly the coast is seen as a desirable place to live and particularly to retire. Hence as more farmers and others move off the land to the coast, less live inland in country towns. Secondly, both agriculture and forest related industry are becoming more reliant on capital rather than labour to maintain economic efficiency. Unless significant employment generating industries are created in the Core or Eastern RFA areas it is likely that the population in these areas will remain static or continue to decline.

In their current form the forest related industries are unlikely to contribute to employment growth except at moderate levels in the major wood processing centres such as Manjimup or Pemberton. It is anticipated that employment in forest management and milling will decrease slightly, but this may be offset by downstream manufacturing. Most of this increased activity is expected to occur in Perth or coastal towns. The cost of transport makes it easier to move raw products to the coast for processing where there is a large and skilled labour force and infrastructure.

While hardwood and softwood plantations are an employment creation opportunity (National Plantations Advisory Committee, 1991) the establishment phase tends to be highly mechanised and relies on seasonal contractors that can move in and out of a region enabling them to live in a major centre or on the coast. Consequently these are unlikely to be significant employment creators outside of the major centres in the Core or Eastern RFA areas in the initial (establishment) phase.



## 2.10 Economic Structure of the Region

### **This chapter at a glance**

*Historically the forest product industry was the major source of economic wealth and employment, particularly in the Core RFA area. This has now changed and the forest product industry is now one of a number of industries (eg. mining, tourism) in the region. However there are some towns such as Nannup, Manjimup and Yarloop that are still highly dependent on localised changes in the forest product industry.*

*The region is dominated by a number of major centres that act as economic and employment engines. If communities are within easy travelling distance of these major centres it is likely that their growth will be based on the prosperity of these centres. Towns removed from these areas are under threat.*

*The increasing sophistication in the forest products industry has meant that the workforce has to be more skilled.*

The assessment of the employment and economic opportunities in the forest products industry is being done in other parts of the RFA process, so they are not considered here. However some general observations can be made about economic activity in the region.

### *Economic Engines*

The overall trend in the region is towards a centralising of economic activity around a number of key centres each with its own characteristic economic engine. These towns are located on the coast or in a few major centres in the Core RFA Shires. Examples are:

- the coast eg. Perth, Mandurah, Busselton, Bunbury, Walpole, Denmark and Margaret River;
- forest production and agriculture centres eg. Manjimup, Pemberton, Donnybrook;
- mining eg. the Alcoa mines and refineries, Collie;
- tourism eg. Margaret River, Pemberton, Bridgetown;

These economic engines tend to pull in people and services from other locations. If communities are within relatively easy drive of these centres (10-15 minutes) and the services they provide, people will tend to remain in their communities. Communities outside these travelling distances are under threat of losing their service and support base.

### *Industry spread*

Historically the forest product industry was the major employer and economic power in the RFA area. This is no longer the case on a regional basis, with other industries such as mining becoming of equal or greater importance. However there are some centres (eg. Manjimup and Nannup) in the RFA region where the forest product industry remains highly important to the local economy both in production and employment (ABS, 1996). In these cases localised changes in the operational practice eg. opening a new processing plant or closing a shift can

have a significant effect on local employment. The economic support base of towns throughout the region is being examined in other SAU projects.

### *Employment Structure*

As the forest product and other industries become more sophisticated they need people with greater skills bases and training. This may create employment difficulties for those traditionally employed in the forest product industry. A Department of Primary Industries and Energy (DPIE) study commented, "A recent survey found literacy levels among thirty percent of award workers in the forest industries were insufficient to manage their present jobs or jobs for which they might apply, or most training courses." (DPIE, 1995 a).

### 3 *Social Impact Assessments - Native Forests*

#### **This chapter at a glance**

*There has been very little social impact assessment work done in the native forest of Western Australia. To give some context to the way social effects of changes in the native forest industry have been addressed, the findings of the major inquiries into the forests have been presented below.*

*Most of the recent inquiries, particularly those done by the Federal Government do have some observations about social impacts and state that some mitigation is required. Nationally, in a few cases, mitigation has reached the implementation phase, however mostly it sits at the level of recognition of the necessity but uncertainty of how to proceed.*

The previous section identified factors that have driven social change in the RFA area and placed these in an historical context. This section examines the social impact assessments or comments that have been made about the social affects of changes in the forest product industries. There has been very little formal assessment of social impacts conducted in the RFA area. A selection of social assessments is presented below in chronological order.

#### **1980**

##### *Forest Products Industries Advisory Council*

This Council was established by the Commonwealth Government to “... ensure continuous dialogue on matters concerning the development of ... [the] industry sector between the Government and parties with a direct interest in the industry...” (p. iii). Section 6.7 of the report addressed social impact related issues and are reproduced below:

“It is unavoidable that progress in the FPI - as in other industries - must involve changes in patterns of employment, as it has done already, especially in the past few years.

Rationalisation and restructuring of the industries must proceed at a pace which will result in the least disruption to the community through increased unemployment and/or relocation of plants, particularly in areas where they have provided substantial employment in the past.

The Council supports the recommendation that Governments should formulate regional adjustment policies along the lines proposed in the Crawford Report, to cushion the effects of economic change, particularly in areas dependent on a narrow industrial base for employment opportunities and general prosperity (see also Recommendation R.7 in this Report).

Where possible, retraining programs should be developed by the industries in cooperation with Trade Unions, to reduce or avoid redundancies of workers. Governments should create additional retraining schemes, to minimise the time that

workers affected by restructuring remain unemployed and to fit them for new occupations. Appropriate adjustment assistance should be available to those disadvantaged by loss of employment, retraining and/or relocation” (Forest Products Industries Advisory Council, 1980: 28).

## 1982

### *Hon David Evans*

In response to the 1982 General Working Plan Number 87, the member for the Warren electorate Hon David Evans MLA made some general observations about the loss of jobs and closure of sawmills in the south west. These changes followed reductions in sawlog quotas and the move away from the historical over-cutting of the forests. Some of the observations made by Evans in this speech include:

“General working Plan No. 86 was the one that concluded in 1982; and it was operative for the five years prior to that. It provided for a reduced overall GP sawlog intake from 1,080,000 cubic metres in 1975 to 823,000 cubic metres in 1981 - a decrease of 24 per cent and as a result some 16 sawmills ceased to operate.” (p. 2) This involved several hundred people losing their jobs. The mills closed included Quinninup, Jarrahwood, the Nannup sleeper mill, and Boyup Brook.

“General working plan No. 87 of 1982 will reduce general purpose sawlogs, excluding salvage logs, to 762,000 cubic metres. On page 30 of the general working plan, the following appears - 'During the next five years the reduction in the allowable cut will result in six small sawmills ceasing operation ...'.” (p. 2)

“The effect on the region through the loss of jobs as a result of a decrease in the over-cut in the Manjimup region will be loss in wages. In 1981 a total of \$18.9 million in wages was paid in the timber industry. In 1988, that amount will fall to \$14.7 million, a decrease of \$4.2 million. It follows that in the wood products industry, the amount will likewise diminish from \$57.8 million to \$45.1 million in the same period, a drop of \$12.7 million.” (p. 2)

It was also apparent that Evans was not arguing for or against the reductions in wood quotas, but was arguing for the impacts to be addressed.

He argued for:

“ ... alternative job opportunities to absorb those workers in the timber industry who will be made redundant as a consequence of the decrease in the permissible intake of sawlogs to timber mills under the Forests Department working plan No. 87.” (p. 8)

“It is true that we will see an increase in jobs in the softwood industry as the hardwood industry declines, but it certainly will not offset the job losses as the softwood industry is far less labour intensive. Furthermore, the jobs will be in different localities, with consequential dislocation to the industry.” (p. 2)

“That means that in the period 1977-1988, the reduction will be from 28,000 to 13,000 cubic metres per annum, or 53 per cent. So there will be a decrease of over 50 per cent of sawlogs in the karri forest in this decade. The impact of that will not be insignificant.” (Evans, 1982: 2).

## **1987**

### *CALM Timber Production Strategy*

This Strategy outlined the changes and new direction for the forest industry strategy for Western Australia in terms of CALM's role of managing the forests and being the dominant supplier of the native forest wood resource. It came out concurrently with the Regional Management Plans of 1987. The Strategy contained minor references to address 'Social and Economic Implications' as follows:

#### “Social and Economic Implications

The proposals contained in this strategy, as implemented, will result in structural change to the existing industry. This will inevitably result in some social and economic disruption in some regional centres. However, one of the principal objectives of this strategy is to minimise the impact of these changes on local communities.

In previous Forest Department working plans, it was proposed that the reduction in the hardwood cut would be compensated by the increased availability of pine sawlogs. These plans also envisaged that the softwood sawmills would all be located in the Bunbury region. Consequently, while employment would have been generated in the Bunbury region, employees displaced from mills located outside this region would have had to transfer to Bunbury.

This strategy avoids this type of social disruption by the provision of four major pine sawmilling centres in the Northern, Central, Southern and Albany regions. This, together with the proposals to make available regrowth hardwood logs and to promote value added hardwood products will, if implemented, increase rather than decrease timber industry employment opportunities throughout the south-west.” (CALM, 1987d).

## **1991**

### *ESD Working Groups*

As part of the Commonwealth Government's initiative to facilitate the national debate on Ecological Sustainable Development (ESD). A Working Group was established to examine Forest Use.

The Report suggests definitions, major goals and objectives for ecological sustainable forest use in Australia, along with a series of recommendations. For example, one major goal is: “Optimising benefits to the community from all uses” (p. xix). The associated principle is: land use allocation “..to achieve the highest community value.” The range of forest values,

and their contributions to society are identified, but only briefly. The report endorses the current multiple use forest management approach.

In general, social impact assessment issues are not discussed. Only four of the recommendations of the ESD Working Group Report are relevant to social impact assessment, but they are presented in the report with virtually no background discussion or follow up.

Recommendation 13 - "Land use decision-making processes should ...[inter alia]... identify and consider all tangible and intangible forest values and potential uses and benefits."

"The Working Group recognises that, in the context of ecologically sustainable forest use, which incorporates economic efficiency, rationalisation and restructuring will occur" (p. xxxi).

Recommendation 23 - "That Governments continue to facilitate a dynamic and internationally competitive wood processing industry, based on value added forest processing ....[by considering inter alia]... encourage industry restructuring, award restructuring, skills development and training."

Recommendation 24 - "That the adoption of ecologically sustainable principles involve a phased and controlled implementation to minimise industry and community disruption and displacement and allow market adjustment, where this does not risk irreversible and unacceptable impacts on ecological processes and conservation values."

Recommendation 25 - "If industry and community displacement does occur, appropriate programs should be established to assist in relocation, redeployment, retraining and social adjustment based on a community approach to assessing appropriate adjustment programs including: community consultation; retraining and employment initiatives; and periodic monitoring of programs to ensure objectives are met."

Note that the responsibility for implementing Recommendations 24 and 25 are identified as lying with the State and Commonwealth Governments (Ecologically Sustainable Development Working Groups, 1991).

### *Resource Assessment Commission Forest and Timber Inquiry*

As part of the economic analysis study for the Resource Assessment Commission (RAC) Forest and Timber Inquiry "... is an economic analysis of the uses of the forests of South - Eastern Australia, assessing the costs and benefits of policies that might be adopted..." (RAC, 1992: v).

Four scenarios were tested: 1. status quo; 2. cessation of logging in national estate forest; 3. introducing intensive silvicultural practices to the forests; and 4. establishment of a pulp mill. For Scenario 2 the principal costs estimated were: a) the value of the sawlog and pulp log production no longer available; b) the economic and social costs of additional unemployment

in the region. The respective principal benefits estimated were: c) the preservation value of the forests not logged; d) the capital and operating expenses saved by not logging National Estate forests. A previous contingent valuation study, and a 'switching value' determined by this study were used to estimate the shadow price of the preservation value. A shadow wage rate was also estimated.

Based on the assumption that a Government compensation package similar to that adopted for Fraser Island would occur, the study concluded that the associated social costs of unemployment resulting from cessation of logging in National Estate forests would be \$43 million. When the environmental switching value (a measure of the preservation value of the forests in question) is incorporated into the calculation, the policy to end logging in the National Estate forests equates to a once - off payment of \$6.05 each for every adult resident of New South Wales and Victoria.

“The cost of a compensation package has been estimated with reference to the package announced in September 1991 for timber workers affected by the decision to discontinue logging on Fraser Island as from 31 December 1991. This decision is expected to result in the loss of about 100 jobs. The joint Commonwealth - State package for Fraser Island is worth \$38 million and included funding for worker adjustment packages and relocation allowances, together with funds for the development of tourism infrastructure” (Streeter & Hamilton, 1991: 77).

#### *National Plantations Advisory Committee*

The only mention of Social Impacts in this report is in the reports recommendation that as part of broader national research program there should be an: “ ... evaluation of social and economic impacts of, and mechanism associated with, commercial tree cropping and plantations on farms and catchments and in regions, ...” (National Plantations Advisory Committee, 1991: 22).

Appendix A3 includes a discussion of “Social Impacts (of integration)”. It refers to a consultant's report to the State Plantations Impact Study (Victoria) May 1989. This report discusses the negative perceptions that rural communities had about plantation forestry on farmland.

The report estimates the employment impact of the development of 3,500 hectares of plantations on farmland. Such an establishment would create 30.412 person-years of employment per annum. However, if the plantations displaced low productivity veal or wool production a corresponding displacement of 7-9 person-years employment per annum would occur. If the estimated volume of logs produced by the plantations displaced native forest log supply a total of 14 workers would be displaced (10 persons in falling and extraction (but not removal) and another 4 working on forest planning, tree marking and supervision).

The conclusion drawn is that although district population decline due to plantation establishment is a community fear, it is in fact likely that plantation establishment on farm land will result in an increase in population, “ ... though it is not clear if this would benefit small villages, larger towns or on farm employment. Higher employment is generated when

plantation grown wood is integrated into the supply from native forests and no reduction in native forest removals occurs.” (National Plantations Advisory Committee, 1991: 100).

Judy Clark in her 1995 study 'Australia's Plantations', discusses (quantitatively) employment implications of the plantation sector in Western Australia. One of her arguments is that plantation wood resource is likely to create far more employment than the native forest based wood products sector because a far higher proportion of plantation sourced wood is further processed within Australia than is the case for native forest based sector, where a high proportion of the wood volume is exported.

This view, however, is tempered by James et al. (1995) in their review of the role of plantations in the current and future wood supply of Australia. It was concluded that, “...in terms of quantity, the current plantation resource cannot meet the anticipated demand for wood products in Australia” (p. 4). Further, “Successful substitution of supply from native forest by hardwood plantations cannot be guaranteed as the technology of growing and utilising hardwood plantations is largely unproven” (p.4).

## **1992**

### *Resource Assessment Commission Forest and Timber Inquiry*

The Resource Assessment Commission (RAC) was established by the Commonwealth Government in 1989 with the role of attempting to resolve several resource use issues through a process of public inquiry and report. Details of the Commission were provided in Section 2.1. The Inquiry did commission an evaluation of the social and economic impacts of the cessation of logging resulting from the World Heritage listing of the Wet Tropics (Lynch-Blosse et al., 1991). This also involved an assessment of the effectiveness of the structural adjustment package in mitigating negative social impacts.

The sections of the Final Report, which specifically address social impact assessment are presented below:

#### “Mitigation of impacts

11.80 In general, Australian society does not now make special provision, beyond the social security system and charitable organisations, to compensate individuals or businesses for the impacts of structural change, such as the closure of timber mills as a result of technological change, market conditions and local loss of resource due to harvesting regimes. In contrast, the cessation of logging operations in the National Estate areas of the East Gippsland forests and the Lemonthyme and Southern Forests in Tasmania are instances of Commonwealth government provision of financial assistance when a decision to change the existing land use in response to community expectations has disrupted industries reliant on the forest resource. In both instances financial assistance was paid to the respective state governments and not directly to the affected workers.

11.81 Precedents have been set whereby the Commonwealth government provides financial assistance directly to assist workers and businesses affected by a change in forest land use from production to conservation. These include the Wet Tropics of



Queensland World Heritage listing and the proposed Fraser Island and Great Sandy Region, the Commonwealth has offered to augment the compensation provided by the Queensland government, even though the change in land tenure was enacted by the Queensland government.

11.82 The Commonwealth's decision to nominate the Wet Tropics of Queensland for World Heritage listing led to the exclusion of the timber industry from more than 900,000 hectares of crown rainforest. Although the rainforest timber industry was undergoing structural and operational changes before the nomination, the Commonwealth government's decision fundamentally altered the structure and operation of north Queensland's forest and timber industry and the associated communities.

11.83 The Commonwealth government undertook to mitigate the predicted negative impacts primarily through the implementation of structural adjustment package, which consisted of a program of job creation, business compensation and financial assistance for displaced timber workers. The Inquiry commissioned an evaluation of the social and economic impacts of the cessation of logging resulting from the World Heritage listing of the Wet Tropics. This also involved an assessment of the effectiveness of the structural adjustment package in mitigating negative social impacts (Lynch-Blosse et al., 1991).

11.84 As predicted, the consultants found that the impacts of the cessation of logging have been differentially distributed. At the North Queensland regional level the impacts were found to be overshadowed and concealed by other factors such as growth in the tourism industry, a sudden expansion and contraction of the building industry, and fluctuating prices for agricultural products. The town of Ravenshoe on the Atherton Tableland was a notable exception, where, unlike most other centres, the timber industry was a relatively large part of the local economy. However, in all affected areas, the individual accounts of what the cessation of logging meant in terms of financial security, self esteem, family life and future employment were remarkably consistent.

11.85 The effectiveness of the structural adjustment package was evaluated in terms of the extent to which each element of the package was able to mitigate successfully the negative financial and employment effects experienced by individuals (Lynche-Blosse et al., 1991). On the basis of this evaluation, the Inquiry has formed the following views:

- The structural adjustment package was an important and effective means of mitigating the short term financial and employment impacts associated with a change in government policy.
- Future assistance programs should be concerned with the long term integration of displaced workers within alternative employment structures, rather than simply providing short term economic and employment relief.
- In developing future programs, government should take into account the non-material effects of change and uncertainty on people's well being.
- Community participation in decisions that affect individuals and the community as a whole should be an integral part of developing and

implementing any structural adjustment package. Such participation can deal with issues of uncertainty and values beyond the monetary and material; it can generate options and help ensure the successful implementation of change.

- Administrative and mitigation measures need to be flexible and should be monitored and adjusted to take account of change.

11.86 It is evident from the Inquiry's investigations that, where major change in forest use is contemplated, a commitment should be made to investigate the potential impacts on the wellbeing of communities and individuals through the process of social impact assessment. The assessment of impacts and their mitigation is not a single action. It is a continuing process that needs to take into account the long term nature of the social and economic impacts of change.

11.87 The Inquiry concludes that the Commonwealth should consider providing financial compensation where a land use change resulting from a Commonwealth policy or decision causes disruption to industries reliant on the forest resource. In some circumstances, the Commonwealth may also wish to augment structural adjustment financial packages resulting from land tenure changes at state level - the Fraser Island and Great Sandy Region structural adjustment package is a recent example. The Inquiry considers it inappropriate, however, that financial compensation be provided where structural change is brought about by technological change, market conditions or reductions in wood availability not related directly to a change in land tenure." (Resource Assessment Commission (RAC), 1992)

#### *National Forest Industries Policy Statement*

The National Association of Forest Industries (NAFI), formed in 1987, is the national political lobby group for the forest industries, and a peak body for the industry. The Forest Industry Federation of WA is affiliated to NAFI. The Policy Statement for NAFI, advocated their preferred future direction for government forest policy in Australia.

The following two quotes are the only portions of this NAFI policy statement that address social impact assessment:

"Where forest communities are adversely affected by land allocation decisions, there must be a clear undertaking for compensation and adjustment assistance to be provided to the individuals and firms affected by the decision" (p. 26).

And from the Executive Summary:

#### *"Social Costs*

Cessation of logging affects communities as well as firms and these social costs must be taken into account in decision making and should be directly addressed in compensation or structural adjustment packages following major land use decisions." (National Association of Forest Industries (NAFI), 1992: vii).

## *National Forest Policy Statement*

This is the policy statement that has shaped forest policy in Australia for the last five years, and out of which the current Regional Forest Agreement process was initiated.

It was signed by the Commonwealth Government and the State Governments of all forested states and was designed to provide the overall framework for forest policy in Australia. The John Howard Coalition endorsed the National Forest Policy Statement during the 1996 Federal Election campaign.

Its intent was as follows:

“This Statement outlines agreed objectives and policies for the future of Australia's public and private forests. It is a joint response of the Commonwealth, State, and Territory Governments to three major reports on the forest issues - those of the Ecologically Sustainable Development Working Group on Forest Use, the National Plantations Advisory Committee and the Resource Assessment Commission's 'Forest and Timber Inquiry' - and it builds on the 1983 National Conservation Strategy for Australia initiated by the Commonwealth Government and the 1986 'National Forest Strategy for Australia' developed by the Australian Forestry Council.” (p. 1)

One section in the Statement is directly relevant to social impact assessment, namely:

“Structural Adjustment and Improving International Competitiveness  
Like all industries, the forest and wood products industries need to adjust constantly to changing consumer preferences, changing market conditions, and changes in the availability and quality of the wood resource. Wherever possible, market forces should determine the direction in which the adjustment takes place. Although this is essentially a matter for industry, government does have a role to play in minimising any adverse social and economic effects, particularly on regional communities, where alternative employment opportunities may not always be available.

Where the Commonwealth decides that it is appropriate for it to provide structural adjustment assistance to affected communities and industries, the type of assistance will be assessed on a case-by-case basis and be subject to needs based criteria. In general, the assistance measures could include relocation, retraining, redeployment and social adjustment components.

Changes involving increasing dependency on wood from regrowth forests and plantations will continue to require industry to invest in new technology and practices, and in some circumstances to relocate. The adjustment implications of this are significant. The objective is to ensure that adjustments necessitated by the changing nature of Australia's forest resources lead to more competitive and viable wood product industries, while at the same time minimising social dislocation and meeting environmental standards” (Commonwealth Government of Australia, 1992: 19-20).

*National Association of Forest Industries - Framework for a Regional Social and Economic Assessment*

This document "... provide(s) a framework for social and economic assessment in forestry regions" (p. iii). The section on social impact assessment provides a fairly simple prescription of basic methodology for social impact assessment and consists of four subsections. These subsections entitled: Scoping; Profiling; Assessment of Social Impacts of Forest Use Options; Mitigation, Management and Monitoring of (NAFI, 1992).

**1993**

*Industry Commission - Adding Further Value to Australia's Forest Products*

The Industry Commission is a Commonwealth Government agency which performs analyses of different industries and provides recommendations on future policy to the Government. The Commission had terms of reference which required it to explore the potential for adding further value to Australia's forest products in the woodchip, sawn timber, plywood and panel, pulp, paper and paper packaging industries. The inquiry did not consider current forest management plans, but rather focussed on downstream processing activities. The focus was on identifying local and global trends, competitiveness and how impediments and constraints on industry efficiency and growth could be eliminated.

Social impact assessment and mitigation issues were not discussed explicitly however the most (peripherally) relevant findings of the report are the following quotes:

"Further workforce rationalisation appears inevitable. Consequently, employment growth will lag behind increases in the industries' output." (p.11)

"An increase in output of higher value added products would, in most instances, imply an increase in processing operations and in employment opportunities. This would reduce the decline in employment which would otherwise be expected to accompany future initiatives to improve productivity." (p.11)

Finding No. 3: "The potential for the development of the hardwood sawmilling industry may be limited as some of its traditional markets are likely to be subject to ongoing competition from sawn softwood. Its future prospects will largely depend on further rationalisation and on producer's ability to develop higher value niche markets." (Industry Commission, 1993)

**1995**

*Western Australian Farm Forestry Task Force*

This taskforce was established with a set of terms of reference and reported to the WA State Ministers for Primary Industry, Environment and Regional Development. In the report there is a chapter on "Social Issues". The topics were population change, changes in the landscape, employment, education and training, safety, regional planning, and a separate chapter on planning and local government. Some significant quotes are:

“There is a concern that a drift of population from small to larger centres and of a changed nature to smaller communities may result from large-scale planting in specific Local Government Areas. The research commissioned by the Task Force and undertaken by the Lancefield Consultants indicates that farm forestry will create additional jobs while having little impact upon the numbers employed in traditional farming.

It is acknowledged that plantation forestry could result in absentee ownership with owner operators being replaced by tenants who may lack the local knowledge and skills for volunteer fire fighting and other aspects of rural life.....

In fact, timber sharefarming agreements incorporating integrated planting of trees on farms may enable farmers to avoid being bought out by their neighbour and thus avoid downward population trends.” (p. 25)

“A reported scenario of 74.8 extra employees per 10,000 hectares of planting, ... is forecast in the above 600 mm rainfall area. New local employment opportunities throughout the production and processing system will be generated, particularly as harvest is undertaken and plantings occur in rotation. Seasonal employment opportunities are created during the industry cycle which provide work from other seasonal industries.

As the industry grows, there will be a greater demand for technical expertise, creating employment in research. In the start up years of the farm forestry industry, ground preparation and planting are the main employment generating activities. As the annual quantity of timber being harvested increases, a greater proportion of employment will be in the areas of processing, transport, and eventually value adding.

Farmers can use farm forestry sharefarming agreements to reduce their on farm work load and take up off farm work.

As there is expected to be a net gain in rural employment opportunities, it has the potential to reverse population decline in small rural towns.” (Farm Forestry Task Force, 1995: 26).

#### *Department of Primary Industries and Energy - Closure of 399 coupes to Woodchipping*

This study used a case study approach to examine the effect of closure of forest coupes to woodchipping in New South Wales, Tasmania and Manjimup, Western Australia. The study presented employment and economic statistics to examine the effects of loss of timber resource for the chipping industry. While the document does, at times, use emotive and subjective language it provides perceptions of the emotional and social impact on the communities and the effect of economic hardship on businesses that would lose income. Among these was the effect that the uncertainty of timber supply was having on business investment, debt loads on contractors and direct effects on families’ loss of income. A significant observation was:

“Community support workers, in some areas which are predominantly “harvesting”, see the communities as dysfunctional and directionless. There has been minimal long

range planning at the business, community or local government level. The view across the industry ...[inter alia]... is that the Government decisions in December and January have significantly reduced investor confidence and increased insecurity and social dislocation in timber communities” (DPIE, 1995 a).

### *Social Impacts of Deferred Forest Agreements*

This study examined areas in NSW, Tasmania and the Mornington Forest Region in WA. It examined statistics about economic structure and employment, and a number of indicators of impacts on family structure, community services and vitality. This report found that the mills in the region had been able to adjust to the changes by moving log stocks between mills and no jobs had been lost. However the uncertainty of log supply had created uncertainty in the communities. Some of the towns that had alternative economic activity eg. Collie, Waroona and Harvey were less disturbed by the changes to log availability (DPIE, 1995 b).

This study formed part of the social impact assessment component of the Western Australian Deferred Forest Agreement (DFA) process. As noted :

“The studies found that a number of features characterised communities largely dependent on forest industry, including relatively low education and training levels, narrow employment experience and opportunities and low household income of workers, a high degree of community stability (eg limited mobility, dependent children and high home ownership) and the concentration of the communities in small rural townships. Due to their limited resources to make adjustments to their employment and lifestyle these individuals and communities would be highly vulnerable to changes in resource access and industry structure that may result from the DFAs and RFAs. There is evidence that stress was emerging in some communities as a result of past forest use decisions and uncertainty and insecurity over future employment.

Forest communities are often concentrated in small rural townships, and services are likely to come under pressure if any significant population decline occurs. Education and health services are seen as particularly vulnerable” (Deferred Forest Areas, 1995: 38).

### *Wood and Paper Strategy*

This strategy is a four year Commonwealth initiative “to encourage investment, value adding and jobs growth” (p. iv) This strategy falls within the framework of the National Forest Policy Statement.

On page 11 the strategy refers to “The Labour Adjustment Package (LAP) being implemented as part of the Government's \$107 million Forest Industry Structural Adjustment Package (FISAP), provide specific assistance for the workers who may be displaced from the native forest sector as a result of essential conservation decisions. The package will be available from 1 December 1995 to 30 June 2000. The LAP will retrain workers as a first priority so they can get jobs in a value added forest industry or failing that, in other industries. It will provide these workers with a range of program assistance including preparatory training.

This could include language and literacy skills, vocational training, wage subsidies and relocation assistance for people who have to move to take up a new job. A network of Forest Liaison Workers will ensure these workers are informed of assistance available under the LAP” (Commonwealth Government of Australia, 1992: 11).

### *NSW EIS of the Proposed Forestry Operations*

The Land and Environment Court of NSW has ruled as a result of conservation group court challenges that the State Government has to prepare Environmental Impact Statements (EIS) for Forest Management plans for certain forest areas. In NSW there are at least 21 'Management Areas' covering the forested regions, and each of these is to have an EIS produced for its Forest Management Plan.

Most of these EIS's are very large documents covering a wide range of issues, including economic and social profiles for the regions and the respective roles for the different aspects of the wood products industries in them. Some of these have a chapter that considers “Analysis of feasible alternatives to the proposal” for forestry operations. Similarly they have a Chapter, “Social Environment” which looks at the social profile, with a few pages of discussion of the social impacts of proposals. However the mitigation sections are quite brief (State Forests of New South Wales, 1995).

## 4 *Regional Synopsis - From the Top Down*

### **This section at a glance**

*This section takes the information gathered from the previous sections to develop a synopsis of the region. Some key factors are identified, namely increasing complexity of land use activity, increasing sophistication and centralisation in the forest product and other industries and greater mobility across the region. There are a number of towns, particularly on the coast and in the central RFA area that act as economic magnets to the region. These towns centralise resources and population around them. The regional economy is becoming increasingly diverse and is not as dependent as it has historically been on the forest product industry. However there are some towns particularly in the core of the RFA area that are heavily dependent on the forest product industry for employment.*

*Overarching these influences there is also a significant population shift towards the coast.*

*There are many social effects of these activities. Firstly if a town is adjacent to a major economic magnet then it is likely to grow with that centre. Secondly towns outside easy travelling distance from these economic magnets, particularly in the east of the RFA area are under threat. Thirdly the forest product industry is unlikely to provide any additional employment in milling and forest management.*

*There is some modest employment growth likely in value adding however the major opportunity for employment growth is in the manufacturing sector and other industries. This growth is likely to be in the major centres or on the coast.*

*Most of the major structural adjustments in the forest product industry occurred in the 1970's and 1980's. The major social changes from mill and town closures also occurred during this time. Some changes are still occurring in towns like Jarrahdale and Nannup. There is no policy requirement for impact assessment to be conducted by the forest product industry or relevant agencies.*

Sections 2 and 3 presented a range of issues that have driven social change in the RFA area. To present a highly detailed synthesis of these is beyond the scope of this report, however some important conclusions can be made and these are discussed below.

### *Increasing Complexity*

Historically when logging occurred, forest permit areas supplied timber to a mill serviced by its own settlement, Forest Department officers, workers and management staff. Agriculture came into areas allocated by the government for farming and cleared the remaining forest. Agricultural pursuits were mainly grazing with some orchards and haymaking. Management of the land resource was relatively simple and required attention to a comparatively few issues.



Over the past thirty five years this has changed dramatically. Throughout the forest region the complexity of land use, administration and economic activity has increased. Multiple use of the forest has provided the framework for the forest industry for the past fifteen years. This requires that the forest be managed for timber, conservation, disease control, water supply, recreation, research, mining and other uses. With the increasing opportunities provided by alternative markets for native forest products such as wood chips, fence posts, poles, saw logs, value added timber etc, the forest product industry has also become increasingly complex. Similarly the hardwood and softwood plantation industries and their associated value adding industries are providing additional dimensions to the industry.

The forest product industry is using larger equipment and longer transport routes to bring multiple products to large processing centres. This continual push towards greater efficiency and investment in larger and more sophisticated technology has meant that the industry is centralising and employing less people for the level of production that is being achieved. This process is continuing as the timber companies search for more sophisticated and less labour dependent technology that will give them the economies of scale needed to create a world class industry. As a consequence of this, as has been discussed in Section 2.2, there has been a long history of closing small mills and centralising operations.

There has been very little assessment of the social impact of these mill closures or mitigation measures. Typically when closing a mill or shutting a shift, the industry's response has been to offer redundancy or jobs in other locations.

In the 1987 Timber Strategy CALM signalled that the native hardwood industry should move towards value adding to the hardwood resource. This was enforced in the 1994 wood contracts. This policy decision has encouraged, and in some cases forced, the industry to invest significant amounts of capital in processing plant and equipment to value add to native hardwoods. Traditionally the industry saw itself as a sawn timber producer for the structural timber market. However the structural timber market has been subject to instability in the building industry. In response the industry has sought to restructure to give a wider product base and greater security of markets. Native hardwoods are being replaced with pine in the structural timber market and are being devoted to the higher return, value added market. This has meant a change in attitudes within the industry as well as processing equipment. While value adding is occurring, the manufacturing segment of the market is still in its infancy and, according to some people in the industry, limited by inadequate design and marketing.

Agriculture across the region is also becoming more complex, with increasing reliance on horticulture, viticulture and alternative crops to grazing stock. In addition, the effects of environmental stress are becoming more apparent and the rural community is being encouraged to become a significant contributor to repairing the environment. The recognition that salinity can be controlled by planting trees is greatly encouraging the development of farm forestry, particularly in the east of the RFA area.

While there are no longer any forested lands being allocated to agriculture, there are competing land uses within the forested areas. The mining industry has a relatively small geographic extent, however its economic contribution is large and its employment creation, particularly if multipliers are taken into account, is very significant. Water supply has required setting aside areas of forest to preserve the condition of the catchments.

Tourism is becoming important to the region with claims to being a major employer that, in the future, may exceed the employment provided by the forest products industry. The criteria used for assessing the economic and employment contribution of these industries and their related environmental effects is being addressed in other parts of the RFA process.

With the increasing complexity of the land uses in the region and the forest industries, the complexity of the administration of the forests and forest policy is also increasing. The multiple investigations, management plans and timber allocations are evidence that CALM has been responsive to calls on it to manage the forest and to balance the range of competing demands.

### *Increasing Sophistication*

The level of sophistication of the industry in its management and administration mirrors the increasing complexity. Planning appropriate land use requires sophisticated science and modelling of ecological and economic systems. The skills base of the workers in the forest products industry has also increased in line with the increasing technological sophistication.

### *Mobility*

The extensive road network into the forest and the economic efficiencies of transporting logs to major processing centres has centralised forest operations. In addition it has also enabled people living in communities to travel to major services centres. It has also brought tourists and the public into the forest areas, increasing awareness of forest management practices.

### *Economic Magnets*

The region is being characterised by the continuing evolution of economic magnets - towns that are associated with a large economic engine. These are typically the:

- coastal centres with their real estate, service, manufacturing and infrastructure industries, such as Denmark and Margaret River;
- the forest product centres, such as Manjimup;
- mining centres such as Waroona;
- tourism centres such as Bridgetown;
- Perth, in the case of most centres in the northern jarrah forest.

If small towns are within relatively easy travelling distance (10-15) minutes drive (Middleton, 1997) of these centres then the community is likely to survive. If they are not trends suggest that they will tend to undergo a slow decline precipitated by a loss of services eg. post offices, closure of schools and banks, young people leaving town and a generally aging population.

### *West - East Demographics*

Overlaying the effect of economic magnets is the general east west demographic shifts that are occurring. Generally the coast is seen as being a desirable place to live and attracting more people than the eastern sections of the RFA area. The agricultural industry is increasingly mechanised and farms are becoming larger, requiring fewer people for their

operation. The technological innovation in the native hardwood industry means that processing centres will increase in size but not significantly in employment opportunities. There will be a continued job loss in the forest production and milling industries however this will be offset by some increases in the value adding areas. While population in the coastal Shires is growing dramatically, elsewhere the numbers are either decreasing, as in the eastern RFA Shires, or static, as in the core RFA Shires.

### *Economic Dependence*

Other RFA projects are quantifying the economic dependence of Shires and towns on the forest products industry. Broadly it can be said that taking the RFA as a whole, the region has some, but not by any means total, dependence on the forest products industry. However at a local level there are Shires and towns that have significant dependence on the forest products industry, in particular Manjimup, Nannup and Yarloop.

### *Summary - what does all this mean for regional social change?*

As has been referred to in Sections 2.1 and 2.2, much of the major structural adjustment in the industry has already occurred, towns have closed and people relocated. The direction of development in the industry is towards increasing mechanisation, less employment and major capital investment. In specific communities that are heavily dependent on forest product industries, any changes by the companies in their technology and management practices can still have a significant effect on local employment. When closing mills or shifts, the usual management option is to offer redundancy or alternative employment.

The moves toward value adding and plantations will provide some employment opportunities and will produce more stable employment conditions in the major processing centres.

The plantation industries will also provide additional employment however this industry is highly mechanised and reliant on transport allowing workers to live in major centres or on the coast.

The forest products industry, like other industries in the region is requiring a more highly skilled workforce. This shifts the employment opportunities away from those that have no skills and places increasing emphasis on training.

There are a number of other employment options that are available in the RFA area including mining, tourism and the horticultural/viticultural industries, however as noted in Section 2.9 forest industry workers may be unsuited for these industries. In addition, employment options, for example in the mining industry, often require that people change towns which can be disruptive to families and the social fabric of towns.

There is a general westward shift in the population. Small towns away from the coast, and particularly in the core and eastern RFA shires are finding it increasingly difficult to sustain themselves unless they are within easy travelling distance of a town which is a major economic magnet. As has already been suggested it is unlikely that the forest products industry will make any significant difference to this trend.

The towns with a major economic engine will continue to grow, with the extra people usually being accommodated in suburban style development adjacent to the business centres.

The historic linkage between CALM (and its predecessors the Forests Department, the National Parks Authority and the Wildlife Section of the Fisheries and Wildlife Department) and the State's reserve system, has meant that CALM has primary responsibility for a large proportion of public lands within the RFA area. The planning processes which direct CALM's management of public lands, are determined by the Conservation and Land Management Act and are therefore government policy distinct from those which govern other land managers.

## 5 *Regional Synopsis - From the Bottom Up*

### **This section at a glance**

*Part of the literature reviewed covered community profiles and results of search / futures workshops that have been published by a range of agencies and groups. The views expressed in these publications has been summarised into a framework which includes a vision for the future, the location of towns in the region, community resilience, community cohesion, equity and economic diversity.*

*This provides a bottom up assessment of the issues and themes that are important in the region and provides the local side of the regional synopsis described in the previous section.*

The previous Sections 2, 3, and 4 focussed upon the regional and macro scale - a top down perspective. This Section examines the region from the perspective of local communities - a bottom up perspective. Section 5.1 provides an overview of what people thought about where they lived.

This section relied largely upon a review of the regionally specific social analysis literature.<sup>4</sup> The literature was reviewed to develop a framework of the issues of community concern and, more broadly, themes of regional significance. The quality of this literature was highly variable and, consequently, discussions with community members<sup>5</sup> were used to provide local examples of issues found in the literature and ground truth the overview that developed. The scope and extent of this approach was notably limited, with contact made with only a small pool of community members. This contact was not intended to serve as extensive community consultation, rather it was to provide information and direction to issues being more closely examined in the social assessment projects of the RFA. These issues and themes are discussed in Section 5.2.

For further references regarding public perceptions of native forest see Environment & Behaviour Consultants (1997 b).

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<sup>4</sup> The regional literature was from the three development Commissions (Peel, South West and Great Southern) and the results of search workshops/community profiles/community studies for the towns of Margaret River, Dardanup, Boyup Brook, Augusta, Donnybrook, Waroona, Collie, Yarloop and Boddington. Other reference material included: Leeuwin Naturaliste Ridge Statement of Planning Policy; Planning for Tourism: Maintaining the sense of place in Naturaliste-Yallingup, South West Western Australia; Warren Blackwood Regional Planning Study - Community Workshops Findings Report and Issues Opportunities and Constraints Working Paper; Beenup Mineral Sands Environmental Review and Management Plan; and draft notes on a Farm Forestry Policy (Martin:1997).

<sup>5</sup> Thirty two people were selected from the telephone white pages, on the basis that they would be knowledgeable and active in their community ie. small business proprietors, service industry workers, clerical and administrative staff, telecentre managers, community group representatives and tourism operators. This group was not intended to be a quantitative survey, rather a snapshot that ground truthed the picture that had been built up from the community literature.

The towns were spread across the RFA area and included a range of sizes. The towns were: Walpole, Jarrahdale, Nannup, Yarloop, Boddington, Collie, Manjimup, Northcliffe, Boyup Brook, Pemberton.

## *5.1 Communities and a Sense of Place*

Community members throughout the region reported that they had a strong sense of connection with the towns in which they lived. Much of the literature reported a strong sentimental attachment to the place in which they lived, regardless of how long they had lived there. Most people qualified this by saying despite their time in the town it could take a lifetime to be considered a “local”. The quality of their community life, familiarity and relationships with others, and the comfortable size of the population were repeatedly noted as positive features.

The 'lifestyle' and the 'natural environment' were most commonly identified as making their town a good place to live. People went on to list aspects of the natural environment, particularly the forests, clean air and clean water, often using 'beautiful' to describe some or all of the features of the town in which they lived.

Tourism was seen by most as being a part of their community's future. Some towns such as Walpole and Nannup had already achieved considerable success in encouraging this industry, others were yet to significantly explore this market. The benefits of developing a tourism industry were considered as expanding and diversifying employment opportunities, shifting the balance of how natural resources were utilised and encouraging a better range and standard of services to the area. However there was the concern that this industry needed good management.

Most people considered addressing the standard and availability of public services as a priority. In comparison with the cities (Perth, Albany, Bunbury) telecommunication services, schools, transport, banking and medical services were all identified as needing attention.

Improving the level and diversity of employment was a priority for all towns, particularly with respect to youth employment. Movement away from sole reliance upon timber harvesting and/or mining was seen by some as necessary to support the towns. Small business ventures were seen as very desirable for each town.

People in a number of towns discussed the gradual decline in the predominance of the timber industry to their town, in terms of economics and social aspects. This sentiment appears to have been reflected from those towns which have undergone significant structural change eg. Walpole, Jarrahdale. People referred to the change as inevitable and that it had been coming for some time. Less people were employed in the mills, shifts were shortened and then removed altogether. The decline in the volume and quality of the logs harvested and an increasing shift towards industry centralisation, was believed to be the principle reason for this decline. The changes in equipment and machinery which required less people to operate and used a greater amount of the resource in a shorter amount of time were also seen as responsible. The most important impact which a declining timber industry has had on these towns is the reduction in employment. Despite this people were looking toward the future, to developing new industries and improving their town. Some felt that the fear and uncertainty associated with industry changes were short lived and that people wanted to get on with their lives.

In the long term however, people believed that assistance was needed in four main areas:

- improved delivery of services;
- recognition of a vision for the town;
- community economic development programs;
- development of alternative employment prospects.

## ***5.2 Issues of Local Importance***

This section reports on common issues and themes that occurred in the literature. Other sections of the RFA process are reporting in detail on attitudes across the region from the results of social surveys. The information presented below is a summary of the issues found.

### *Location*

The closeness to the coast appeared to contribute to the enjoyment of a town. Similarly it was an advantage if a town was major centre and gave easier access to services, goods and employment. However being located close to a major town also had disadvantages for small communities, draining people away through cheaper shopping, and a greater variety of services and entertainment.

### *Transport routes and methods*

Most towns were reasonably satisfied with north - south transport routes however there were instances where improved east - west access routes were wanted, eg. Coronation Rd upgrade and Mowen Rd upgrade which would better link the towns of Margaret River, Nannup and Manjimup.

The extreme reliance on the private car was a serious issue for most towns. People reported that the level of public transport was restrictive to residents and visitors, particularly younger people. The use of more buses, light rail and rail was consistently advocated as a desirable transport options.

The location of a town along a major transport route was seen as beneficial. Being located off a major transport route eg. Collie and Boyup Brook was seen as a distinct disadvantage.

### *Size*

Generally people liked living in small towns and believed that their town would grow in size during the near future. However they did not want to see their town get “too big” or lose people as this would have negative social effects. It was often suggested that population size had an important effect on the prosperity of the town, particularly that a certain critical mass was needed to ensure development and economic activity. People were uncertain of the size of this critical mass.

### *Age distribution*

The general impression was that the towns in the south west are experiencing an aging population requiring an adjustment in the way community funds are spent and the volume of certain services, such as aged care facilities. It was thought that young people tended to move to bigger centres in an effort to find employment, social and recreational opportunities.



### *Economic Activity*

Generally it appeared that people wanted economic growth, however this growth needed to be controlled with the local people wanting to have a say in the type of economic development through the planning mechanisms.

A major economic engine within, or in easy travelling distance to a town, was seen to contribute not only to the economic activity of the town but also to the character and identity of the community. A diversity of industries and employment activities in a town was seen as important to lessen the severity of the adjustments in one industry.

Where people are commuting from their town to work, it is more difficult to develop strong community bonds. The opportunities for spontaneous interaction by workers outside work are diminished if they are spending a lot of time away from the town.

### *Community Cohesion*

People in the region generally considered that small towns lend themselves to close relationships. Working together on community projects was seen to demonstrate a commitment to the town and its people. Strong and community minded leaders were seen as beneficial to maintain a town's vision for the future and share this with other residents.

### *Innovation*

Creative ventures in industry, employment and other activities, demonstrate that a town is able to adapt and move forward in a productive manner. Economic creativity that supports diversity and encourages productivity was seen as helpful in stimulating a positive development cycle.

### *Services and Infrastructure*

The level of services provided within towns including schools, banks, medical facilities, CES offices and retail outlets is seen to reflect the importance of the town and influenced its attractiveness to visitors or potential residents. People believe they have little influence over whether a service is retained in a town. Residents report concern at any loss of service which often means increased travelling time to a major centre.

### *Contribution of the Forest Product Industries*

Across the region there appeared to be a perception that there was a decline in the forest logging industry associated with a long trend of declining work within the industry and a feeling that there was a decline in the quality and quantity of the forest resource. The history of the industry, particularly the mills, is seen as being scattered with closures and a reduction in the number of employees.

Local benefit from forest activities was also questioned. Harvesting of the forest around a town to be processed at a remote location was seen as giving the town the burden of the environmental effects for no perceived local economic benefit.

### *Plantations and Farming*

Eucalypt plantations were supported as a viable resource option. However the distinction was made between the conversion of farming land to 'whole farm' plantations and the use of agro forestry/timber belts. There appeared to be the desire by some to keep the farming character of their communities and not to see them become whole farm plantations.

Local ownership of the farming land and preservation of rural character was generally seen to be of great importance. Leasing of farms for plantations was seen as preferable in that ownership was retained by local people. Concern was expressed that numbers of farms were being purchased by foreign interests, following a pulp resource supply contract and that this affected the substance of local communities.

### *Tourism*

Tourism was widely considered as an industry that would become increasingly important to each town. There is the belief across the region that tourism would become an increasingly significant economic engine. However there was some concern that unmanaged tourism and development threatened to "kill the goose that laid the golden egg". People supported low key and nature based tourism that enhanced the existing character of the area. Enterprises such as craft works, farm stays, bed and breakfast, nature walks, eateries etc. were suggested as examples of desirable additions to the town's activities. The history of each town was thought to be an important feature which could be built upon as a theme for tourism. People saw the value in enhancing the existing character of the area in a style and pace which protected its assets. This view is supported in the Social and Forest Values survey conducted by Environment & Behaviour Consultants (1997 b).

### *Alternative economic activities*

Producing commodities from the land was an important issue. People were keen to encourage the introduction of new farm based enterprises which would maintain the rural character of the town, and all of the incumbent social and cultural aspects of rural living.

### *Large Industry - small communities*

Some local people considered that they did not benefit from timber industry activities within their local forests. For instance, people talked about "our" forest being harvested by an outside entity, difficulties with gaining recreational access, increased haulage traffic, and that they had no say in how their local forest was managed. The understanding that the forest was a community asset was universal.

The benefit to the town by forest logging was questioned in many instances. If there was no longer a major mill present in the town people were disturbed that their local forests were being harvested and processed elsewhere. People expressed the need for processing to occur in the town around which the harvesting was occurring perhaps, it was suggested, with the use of smaller mills.

It was evident from discussions that many wanted to have local input into matters which affected them and were critical of remote decision making. Interestingly, it appeared that

people were very aware of the presence or absence of CALM representatives based within their town. Those towns with CALM representatives present, reported more constructive relations and a greater ability to express the potential local impacts of timber industry activities.

#### *Local economic development*

It appeared that people wanted greater involvement in the management of community affairs in a way that really changed things. People want to be consulted on matters which affect their area and they would like to see better evidence of genuine consideration of their views and suggestions. Some community members consider that they were ahead of bureaucratic decisions that typically lacked the sensitivity to local conditions and state of the art knowledge. The migration of skilled people into regional areas increases this phenomenon.

#### *Community Cohesion and Vision*

There was a strong call, particularly in small towns, for the need for people to create a common direction and plan for the community. Streetscape and town entrance projects were given as examples of projects which made a significant improvement to the town. People felt a sense of place was reflected in such projects and that they announced the arrival at a destination, rather than just presenting another town to be passed through.

## 6 Social Impact Assessments and Mitigation

### **This section at a glance**

*This section reviews social impact and mitigation that has been used in a number of projects throughout the RFA area and beyond. It attempts to set a benchmark around which the wellbeing of communities can be judged. It then examines circumstances in which SIA and mitigation techniques have been used and discusses approaches to mitigation in the RFA area.*

*Mitigation is discussed at the international, regional and local level.*

*In this context mitigation in the traditional sense of off setting some affect by payment is probably unnecessary. However the RFA process presents the opportunity for the whole of the timber industry to become a world leader in their relationship with, and creation of, economic and social benefit for local communities.*

The social assessment part of the RFA process is designed to answer such questions as - “What effect are the changes brought about by the RFA process, likely to have on the people and towns of the region ?” The mitigation side of this question is, “If there are negative effects what could be done to mitigate them?”.

Much of the existing social impact assessment literature describes community impacts by measuring aspects such as employment, health, transport and facilities without describing the desired goals for communities. Other projects in the current RFA process are examining community sensitivity to disruption. It was important for this project to consider general benchmarks that describe a ‘good’ community, as this provides direction for mitigation strategies. This is discussed in Section 6.1. It is recognised that this will be defined further for individual circumstances across the region as part of the wider RFA processes.

Section 6.2 discusses a number of approaches and techniques used to examine social impacts and how these have been used in previous projects, generally in Western Australia, but including other places.

Section 6.3 discusses mitigation as a component of social impact assessment.

Section 6.4 discusses mitigation in the context of the RFA area.

## 6.1 *What is a community?*

Sarkissian and Walsh (1994) define the community in several ways, including:

- the patterns of interaction among friends;
- perceptions of commonality or common interest; or
- geographical definitions, ie., the adjoining houses, street, neighbourhood, school, etc.

The authors also point out that communities may encompass a variety of ‘publics’ whose needs and attitudes may vary greatly.

### *Can Community Wellbeing be measured?*

The concept of ‘community wellbeing’ or ‘quality of life’, or ‘community vitality’ is also difficult to define. No community is quite the same as another. Community character is influenced by many factors, including climate, physical environment, religion, ethnic background, wealth, literacy etc.

Alternate definitions of community wellbeing are being developed and it is these that are used in this project to define the characteristics of good communities. Armour (1993) produced a suite of indicators of ‘community vitality’ to determine how resilient a community may be to change brought about by events such as the siting of waste disposal facilities, the introduction or withdrawal of major resource extraction industries etc. This process used indicators such as levels of participation in community events, commitment to the community, degrees of social isolation within the community, ability to organise in response to threats to community fabric, ability to resolve conflict within the community, and levels of involvement in local government.

The city of Seattle has had a long commitment to sustainable development. Part of its planning for sustainability used community consultation to identify a range of ‘vital signs’ of community wellbeing. This approach emphasised that in the consideration of community, environmental, economic, resource use and cultural factors need to be considered in developing a picture of community well being. Indicators used included: juvenile crime rates; involvement in local government; wild salmon runs through local streams; library use; participation in the arts; water consumption; energy use; number of neighbours names known and ‘real unemployment’ (Sustainable Seattle, 1993).

Other writers including Albery (1992), Mercer (1994), Landry (1994) and Compton (1994)<sup>6</sup>, include indicators that are directly measurable and some that rely on peoples’ perceptions of their life. Mercer and the others make the distinction about what people experience and the characteristics of the place where they live. This is important in considering community well being.

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<sup>6</sup> ‘Person-Centred Quality of Life Evaluation’ in **Urban and Regional Quality of Life Indicators** (C. Mercer Ed), Griffith University, 1994

## *Characteristics of Good Communities*

Across all these references there are some common themes that describe good communities. These are listed below:

A place where people have -

- life supporting, and hope creating, inner values and beliefs;
- a sense of purpose in life;
- work and family life that is enjoyable;
- an expectation of good physical health and longevity;
- a balance between work, recreation, family, society and spirituality;
- adequate food, shelter and clothes;
- security of income and sustenance;
- opportunity to experience and enjoy nature.

A place where groups of people have -

- openness to take opportunities and resilience to change;
- community linkages and support networks in place;
- a sense of identity and pride in a group of people and a geographic location;
- work places, homes and recreation areas are in close proximity;
- opportunities for recreation and celebration of the community through activities, festivals etc;
- the group supporting the individual and the individual is committed to the community's wellbeing;
- allows opportunity for individual expression;
- maximising economic activity in the local community;
- maximising the material needs of the community from local production;
- high surrounding environmental quality, low impact on the surrounding environment;
- wide distribution and interactions between ages of people in the community.

## 6.2 Social Impact Assessment

Social Impact Assessment (SIA) is a very broad term used to cover a range of activities. The CRA for the Central Highlands uses Burdge and Vanclay's grouping of three phases - assessment and prediction, mitigation and monitoring, and audit and analysis. Wolf identifies ten stages to SIA (Taylor, Bryan & Goodrich, 1990). These are combined in Table 3 below. Most SIA projects only proceed as far as the Assessment and Prediction phases described below.

**Table 3 Combination of Approaches to SIA**

<b>Burdge and Vanclay</b>	<b>Wolf</b>
Assessment and Prediction	Scoping - defining the study and its extent Problem identification - setting goals, target audiences Formulate alternatives - define realistic alternatives Profiling - characterise the impacted system Projection - state assumptions, model the system, develop trends Analysis of alternatives - sensitivity analysis, cross impact analysis, cumulative impact Evaluation - rank and weigh preferences, perform trade offs
Mitigation and Monitoring	Mitigation - identify and test mitigation measures Monitoring - prepare and implement monitoring plan
Audit Analysis	Management - feed back into the process and modify as required.

### *Assessment of Local and Australian SIA Projects*

Twelve projects were assessed according to the classifications used by Taylor and colleagues to determine how many of his categories were used. The results of these assessments are shown in Table 4. The projects were selected because they had information readily available and were predominantly Western Australian or timber industry related. There were a range of other international projects identified in Appendix 3 that, given more time, could also be assessed and would produce a more comprehensive picture.

In general some comments can be made from the assessment of these projects.

- If there are strong emotions being expressed around a project and change is happening quickly then the SIA tends to be more thorough.
- If the Federal government is involved in a forest industries SIA process it tends to be done far more comprehensively than has occurred at the State level.

- In some cases, such as the mining industry or the Burnie forest industries, the companies involved have behaved with integrity and commitment to the SIA process and mitigate beyond what it is likely they would have been legally obliged to do.
- Forest related projects, particularly at the State level, have not been well considered for their social impact with even less attention given to mitigation.



## 6.3 Mitigation

Section 6.3.1 examines the need for mitigation and presents a discussion of why social impact assessment and mitigation is a standard component of doing good business.

Section 6.3.2 discuss approaches to mitigation techniques which have been used in previous projects are discussed. In Section 6.3.3 these techniques are then grouped into the categories of: short term, more localised, higher intensity change and; longer term low intensity change.

### 6.3.1 Why have mitigation?

As discussed above (Section 6.2) mitigation is a result of assessment and prediction of impacts, where the potential for negative impacts are identified. There are a number of sound practical reasons why social impact assessment and mitigation should form a standard component of the planning process including:

- **ethics** - in a modern society the need to assist in improving the position of community members is recognised. People should not knowingly cause suffering or hardship;
- **financial pragmatism** - a lack of adequate consideration of the community may result in costly delays, disruptive activities, a lack of cooperation from community members, court challenges etc;
- **resource access** - the relationship between industry and community has important implications for resource access. Access to resources is much easier where communities have confidence and understanding of industries;
- **government decisions** - the decision making of elected members is influenced to a significant degree by the opinions and mood of the community. A community which has confidence in the operation of industry will influence the prospect of favourable decisions for industry;
- **commercial and investor confidence** - the involvement of investors and purchasers will be influenced by the international, national and local reputation associated with an industry. This reputation is increasingly affected by local community action;
- **workforce attitudes and morale** - the effectiveness and commitment of employees is significantly affected by the broad perceptions which the community holds for industry. The status and reputation of the industry will affect its attractiveness to potential employees and their subsequent ability to operate;
- **excellence** - successful industries have accepted social responsibilities as a matter of course. The potential to achieve best practice incorporates an element of social accountability. (The Chamber of Mines and Energy WA, undated; Sarkissian & Perlgut, 1988).

**Table 4 - Evaluation of SIA's according to Wolf's classifications**

• = well addressed o = partially addressed

	Scoping	Problem identification	Formulate alternatives	Profiling	Projection	Analysis of alternatives	Evaluation	Mitigation	Monitoring	Management
<b>Deferred Forest Agreements</b> four case studies of regions where there are changes in forest management practices as a result of the Deferred Forest Agreement process (ERM Mitchell McCotter, 1995)	ï	ï		ï	ï					
<b>Argyle Diamond Mine</b> a review of the social assessment processes that were undertaken as part of the social assessment of the development of the Argyle Diamond Mine (Pollard, 1993)	ï	ï	ï	ï	ï	ï	ï	ï	ï	ï
<b>Kemerton Industrial Park WA</b> the social impacts of developing a large heavy industry park north of Bunbury (Campbell-Hicks, 1992; Dames and Moore, 1985)	ï	ï		ï			ï	ï	ï	
<b>Exmouth transfer of US Navy Base WA</b> (Environmental Management Services, 1992)	ï	ï	ï	ï	ï	ï	ï	ï	ï	o
<b>Windara Wind Down Process WA</b> Closure of the Mt Windara Nickel Project WA (Goldfields Development Commission, 1995)	ï	ï	ï	ï	ï	o	ï	ï	o	
<b>Closure of 399 coupes to woodchipping</b> case studies of the closure of woodchipping coupes in NSW, Manjimup (WA) and Tasmania (DPIE, 1995)	ï	ï		ï	o		o			
<b>Central Highlands CRA - Social Assessment</b> (Commonwealth Dept of Primary Industry and Energy, 1997)	ï	ï	ï	ï	ï	ï	ï			
<b>Closure of Bunnings Jarrahdale Mill WA</b> (Pearce: 1997, West Australian Newspapers, 1997)										o
<b>CALM 1987 Timber Strategy WA</b> (CALM, 1987)										o
<b>Beenup Mineral Sands Mine &amp; Infrastructure WA</b> (BHP Utah, 1990)	ï	ï	ï	ï	ï	ï	ï	ï	o	
<b>Burnie Timber Industry Restructuring Tasmania</b> Industry restructuring and upgrading of technology (Riley, 1997)	ï	ï	ï	o	ï	ï	ï	ï	ï	ï
<b>North Queensland World Heritage Listing</b> listing of rainforest areas removed logging options (Rickson, Hundloe, & Western, 1990)	ï	ï	ï	ï	ï	ï	ï	ï	ï	o

### ***6.3.2. Approaches to Mitigation***

Mitigation frequently is viewed very narrowly as giving money to offset change in communities. While this is one option there are many others that are more appropriate for the circumstances that prevail in the RFA area. From the studies examined, thirteen approaches to mitigation were identified. Applying these prescriptions should be decided on a case by case basis, taking account of the characteristics of the community and the nature of the changes. The mitigation approaches are summarised below:

- **None** - no mitigation was proposed.
- **Wait and see** - a commitment was given to address an issue if it arose.
- **Review of options** - options were considered and presented to be addressed in the future if required.
- **Individual assistance** - this is generally assistance to individuals affected by a change and includes assistance with retraining, relocation, reemployment etc.
- **Off set** - providing one off payment or provision of facilities to offset the impact of a project.
- **Conflict resolution** - resolving conflict and mediation.
- **Community liaison** - providing information and answering questions.
- **Using indicators** - using indicators to trigger responses for mitigation.
- **Structural change** - modifying how administrative and bureaucratic systems respond to communities eg. Agriculture WA's Sustainable Rural Development Program, Ministry for Planning's Leeuwin Naturaliste Statement of Planning Policy.
- **Feedback planning** - involving community representatives in the planning process eg. design charettes.
- **Support for communities** - seeking to develop a working relationship with a community. The emphasis here is on ongoing support and involvement as one member of a wider community.
- **Community control** - the community drive the change process eg. Integrated Catchment Management.

The analysis of the mitigation techniques as they applied to the projects assessed in Table 4 are presented below in Table 5.

**Table 5 Mitigation techniques used**

• = well used o = partially used

	None	Wait and see	Review of options	Off set	Conflict resolution	Community liaison	Using indicators	Structural change	Feedback planning	Support for communities	Community control
<b>Deferred Forest Agreements</b> four case studies of regions where there are changes in forest management practices as a result of the Deferred Forest Agreement process (ERM Mitchell McCotter, 1995)	i										
<b>Argyle Diamond Mine</b> a review of the social assessment processes that were undertaken as part of the social assessment of the development of the Argyle Diamond Mine (Pollard, 1993)			i	i	i	i	i	i	i	i	o
<b>Kemerton Industrial Park WA</b> the social impacts of developing a large heavy industry park north of Bunbury (Campbell-Hicks, 1992; Dames and Moore, 1985)				i	i			o		i	
<b>Exmouth transfer of US Navy Base WA</b> (Environmental Management Services, 1992)			i	i	i	i		i	i	i	o
<b>Windara Wind Down Process WA</b> Closure of the Mt Windara Nickel Project WA (Goldfields Development Commission, 1995)			i	i	i	i		i		i	
<b>Closure of 399 coupes to woodchipping</b> case studies of the closure of woodchipping coupes in NSW, Manjimup (WA) and Tasmania (DPIE, 1995)		i						o		i	
<b>Central Highlands CRA - Social Assessment</b> (Commonwealth Dept of Primary Industry and Energy, 1997)											
<b>Closure of Bunnings Jarrahdale Mill WA</b> (Pearce, 1997; West Australian Newspapers, 1997)								o			
<b>CALM 1987 Timber Strategy WA</b> (CALM, 1987)		i						o			
<b>Beenup Mineral Sands Mine &amp; Infrastructure WA</b> (BHP Utah, 1990)		i		i	i	i		o	i	i	o
<b>Burnie Timber Industry Restructuring Tasmania</b> Industry restructuring and upgrading of technology (Riley, 1997)		i	i	i	i	i	i	i	i	i	o
<b>North Queensland World Heritage Listing</b> listing of rainforest areas removed logging options (Rickson, Hundloe & Western, 1990)			i	i	i	i		i			

### ***6.3.3 Grouping Mitigation Techniques***

In the Section 6.3.2 (and Table 4 and 5) a range of approaches to mitigation have been discussed. To try and put these into an operational context, they appear to have been used in two groups. **Group 1** techniques are those that are associated with **short term, more localised, higher intensity change** eg. shutting a mill in a town . The mitigation approaches that appear to be used most in these circumstances are:

- None
- Wait and see
- Review of options
- Individual assistance
- Offset
- Conflict resolution
- Community liaison

**Group 2** techniques tend to be associated with **longer term, regional, low intensity change** eg. the effect of forest product industries centralising processing in mills, or the effect of plantation logging routes on towns in the region. The mitigation approaches that appear to be used most in these circumstances are:

- Using indicators
- Structural change
- Feedback planning
- Support for communities
- Community control

While these techniques have been grouped they are obviously all available to be used dependent on the individual circumstances. For example community control of the mitigation process may be quite appropriate under certain situations when short term, high intensity change is occurring such as allocation of relief funds after a disaster.

This Group 1- Group 2 model gives a good basis for considering mitigation in the RFA area. Because of the factors described in Section 6.4.1 the greater emphasis of mitigation in the RFA area should be placed on longer term, regional, low intensity change (Group 2), this is discussed below in Section 6.4.3 Regional Mitigation.

Because there are still localised changes occurring in the forest product industry it may be that when such an event like closing a mill or a shift occurs, Group 1 mitigation could also apply under certain circumstances. This is discussed in Section 6.4.4 Local Mitigation.

Ideally local and regional mitigation should work together. As can be seen from the suggestions in both these sections there are similarities and the local and regional approaches can work and support each other.

## ***6.4 Mitigation and the WA RFA area***

The RFA process has, as part of its scope, to investigate what mitigation may be necessary as a result of the RFA process. This process will examine the scenario of little or no change to the current operation of the industry as well as considering the scenario associated with industry changes. As such, the need for mitigation must also be considered in the light of these diverging scenarios. Some of those arguments *against* mitigation and industry change as well as those *for* mitigation and industry change, have been discussed below. Should the scenario of little or no change prevail, it is unlikely that significant mitigation will be practical or achievable, however the scenario of industry changes presents opportunities to meaningfully engage impact mitigation measures.

During this project and others which form part of the social assessment phase of the RFA, opportunities for mitigation have been explored. It is recognised that the RFA process will examine these, and other options, in much greater detail.

Three case studies are presented to illustrate some of the mitigation strategies that have been employed in other circumstances. These are:

- the experience of Southeast Asian forest communities;
- restructuring of the timber industry in Burnie in Tasmania;
- Agriculture Western Australia's Sustainable Rural Development Program.

As stated before, the RFA process presents an ideal opportunity for the whole of the forest product industry to recognise the positive benefits of mitigation described in Section 6.3.1, particularly if the notion of mitigation is moved away from the narrow definition of an off set payment for some social change and encompasses some of the more long term approaches described in Section 6.3.2 and discussed below in the case studies.

### ***6.4.1 International Mitigation***

Forest management in a number of Southeast Asian countries provides some information with regard to Western Australia's current approach to forest management. Java, Indonesia and Upland Cebu, Philippines are two countries where there has been a notable process to address the shortcomings in the structural management of the forest industry. These changes have included a significant commitment towards increasing community involvement in management. As such the information in Case Study 1 from Southeast Asian countries will benefit the current RFA assessment.

## ***Case Study 1 - Southeast Asian Forest Communities***

*The information from a number of reports (Ives & Pitt 1988; Poffenberger, 1990) has been synthesised below to present a generalised case study about the experiences of these countries. Whilst it is acknowledged that there are cultural, economic, technological and social differences between the Southeast Asian countries and Western Australia, there appears sufficient similarity also to warrant a constructive comparison. A consideration of the primary mitigation strategies employed in these countries has also been presented.*

### *Background*

*During the colonial period, Southeast Asian states engaged in a process of claiming and harvesting forest resources in a manner far more intensive than had previously occurred. The use of legislation to assist this process was a noticeable departure from existing community management structures. During the latter half of the twentieth century, the management of forests was recognised as failing due to the acceleration of deforestation. In short, it was accepted that there was a need for significant change to improve the management of existing forests and to establish plantations as alternative resource. Issues identified in South East Asian forest communities appear to be similar to those identified in the Social Assessment process in the RFA region.*

*Broadly these are:*

- the sustainable management of the forest resource had been repeatedly questioned by some;*
- people have argued that some forest policies allow insufficient involvement and consideration of the impact upon forest communities. There is scant literature regarding the impacts of forest industry changes on communities;*
- the trend towards increased centralisation of the industry is usually seen as being in conflict with the ability to increase the involvement of the local community;*
- there was a need to establish collaborative management systems which bring forest managers and communities together. The potential for community involvement may need to be further examined;*
- Collaboration with community based groups will require facilitation, staff training and new skills.*

### *Mitigation Strategies*

*A number of the mitigation strategies employed in these countries have been summarised below:*

#### *Communication channels*

*Communication channels between community based groups and government officers were recognised as needing to be improved to allow the two way flow of information. Field level situations need to be communicated effectively to decision makers and rationale behind policy and procedures need to be discussed with community representatives.*

#### *Increased involvement of women*

*An increase in the involvement of women was sought through their representation on community based groups. The world-wide environmental movement has recognised women's increased involvement in projects as a turning point for their success, the example provided by Land Conservation District Committees in WA supports this finding also (Goss, 1993). Despite the historical domination of the industry by men, both the operating technology and the changing management structures affords an opportunity to formally encourage women's roles in forest management.*

#### *Research*

*Research was strengthened to allow a more significant understanding of the social ramifications of a changing forest industry.*

- Research also examined the evolving capacities of community based groups and government bodies alike, and suggested ongoing ways in which to improve collaborative management.*
- Researchers spent more time in the field to understand the problems and opportunities facing forest communities and local and regional government officers.*

- *The most appropriate makeup of any such collaborative groups formed was examined.*

#### Advisory/Collaborative Groups

*Advisory/Collaborative groups were introduced to fine tune the management of forests so as to be responsive to local social and ecological factors. Such a capacity was considered to be diminishing as time went by and forests were harvested.*

*As forest management continued on its historical path and amidst conflict, opportunities were being lost to enlist the support and wisdom of the community.*

*Collaborative groups were effectively used to guide an existing management organisation in a new direction and to evolve its structure. The group comprised key forest management staff and an equal number of individuals from outside the agency, these included academic, social and management scientists, forest scientists and ecologists and representatives from non governmental organisations. The group's primary task was to analyse the existing forestry policies and programs, this was acknowledged as going to test the ability of members to jointly write a critical appraisal of current programs. The members of the group had to become critical but mutually supportive partners in a learning approach to some restructuring and development of a public agency.*

#### Innovation Trials

*Collaborative groups were most successful when associated with innovation trials. The groups required creative experimentation which is sometimes difficult to achieve in bureaucratic structures.*

#### Open Documentation

*Intensive documentation of the developments and procedures of the collaborative groups was made by community and social researchers. The group also received periodical documentation of the effects which their decision making had in the field, as well as with regard to the functioning and progress of the group itself.*

*The group discussions took place openly and helped to create an environment in which issues could not be ignored or suppressed, even if they created discomfort.*

#### Commitment to Change

*The group's success was due in part to the commitment by senior officials to: a process of critical appraisal and leadership; acknowledgment that structural change would be openly considered; the conviction of the group members that they were contributing to a long standing matter of significance; direct dialogue between senior officials and field staff; and open examination of issues which could not be ignored.*



## **6.4.2 Regional Mitigation**

As discussed, regional mitigation should be drawn from Group 2 mitigation techniques. Presented below is a list of ideas that can be pursued as part of the RFA process to assist with regional mitigation. Case Study 2 presents an overview of how Agriculture Western Australia has approached integrating community and local economic development into its activities.

*Government support for value adding* - Historically the Government, through CALM, has contributed massively to the timber industry. While it has received royalties for this work, there is still a large infrastructure that has been built up over the years of the Government - forest product industry relationship. However this degree of support is not mirrored in the manufacturing or other forest related industries where the greatest potential for job creation exists.

*Regional focus on community economic development* - A number of papers presented at the 1995 XI World Forestry Congress at Antalya, Turkey discussed the role of communities in forests and how local economic benefit can be maximised (FAO, 1997). One of the important factors in this process is that community economic development needs to be facilitated and draw on local economic opportunities that are accessible to a town rather than rely on regional economic strategies for local economic survival.

Case Study 2 presents a short case study of how AgWA, through its sustainable regional development program, is achieving local support for regional communities. It is acknowledged that there are unique characteristics associated with AgWA's structure and situation which prevent its operations from being directly transferable to another agency. Such characteristics include its jurisdiction, the level of contact with land owners and its focus on an advisory capacity, as opposed to direct management. This program does however offer a model of community economic development which could support initiatives from other agencies within the RFA area.

*Using economic analysis to look for opportunities for people* - Most of the social assessment associated with the forest industries in the RFA area uses economic data or calculations to show how many people will be employed or displaced by changes to logging practices. There are other positive ways of using economic analysis to drive policy development. Some examples are described below.

### *Employment based economic analysis - example 1*

Across the forest products industry there are various sized processing works employing different numbers of people. However the trend is towards employing less people and moving logs long distances towards centralised processing centres. Local communities have to bear the brunt of forests being logged around them, logging transport impacts and difficulty in accessing forests. While it will have to be ascertained by other SAU studies, it appears that the local economic benefit to these towns from industry practices, is perceived by townspeople as being marginal.

### *Employment based economic analysis - example 2*

Extrapolating from McLeod's (1995) figures it appears that over half the people employed in the south west region forest product industry are employed in production centres that employ less than fifty people. About one third are employed in production centres that employ less than twenty people (McLeod, 1995). An important calculation that should be made as part of the RFA economic analysis could be to determine which processing technology in each industry category (eg. milling, drying, manufacturing etc) maximises the employment opportunities for a unit throughput of wood processed while still remaining economically viable. One estimate is that the smaller saw mills employ between five to ten times more people for a given throughput of wood (Richardson, 1997).

The recently released report "Further development of the forest products industry in Western Australia" (Beca Simons, 1997), recommended that the government move away from its traditional role as a steward of the public resource towards "building a climate favourable to private investment" (1997: 4). The authors suggested that creating a world class forest products industry required agencies to adopt an integrated approach to resource use and initiate improved public communication strategies. The latter was identified as necessary because "Customer perceptions towards the (timber) industry are generally negative. It is also true in many cases that these perceptions are misplaced" (1997: 4). The report found that the timber industry did not conduct appropriate public education programs nor demonstrate a commitment to value adding.

It is suggested that focussing on the timber industry as part of the State's core business and developing an integrated timber development strategy, would provide "beneficial impacts on trade, employment regional development and the environment" (Beca Simons, 1997: 4).

Incorporating mitigation practices as part of the overall industry development strategies would be consistent with best practice management advocated by Beca Simons and further, would cement relationships with local communities.

## ***Case Study 2 - Sustainable Rural Development Program***

*The current structure of Agriculture Western Australia (AgWA) involves three agency programs - Sustainable Rural Development (SRD), Industry Resource Protection and Industry Development. The Sustainable Rural Development Program is focussed on applying the principles of ecologically sustainable development to agricultural activity in Western Australia. The strategic direction of the SRD programs are set by Regional Partnership Groups with members drawn from industry, business and the community.*

*The aims of the program are to:*

- *enhance the ability of farmers to improve sustainable long term profitability;*
- *ensure the natural resource base of agriculture is maintained or enhanced;*
- *improve the ability of agriculture to contribute to regional economic and social well-being;*
- *assist agriculture to minimise or reverse ecological impacts;*
- *enhance the ability of regional and local communities to manage change and take action on sustainability issues; and*
- *ensure government actions on natural resource management and rural economic and social development are coordinated.*

*The structural design of AgWA and the SRD program in particular, presents a good example of how a managing body has risen to the challenge of addressing the broader community concerns within the management of natural resources. The process aims to harness community knowledge and experience to a) identify the issues of concern and b) develop ways to ensure solutions which allow sustainability and profitability.*

*A specific program within SRD is “Doing More With Agriculture, A ministerial initiative fostering the sustainability of rural communities and the enhanced contribution of agriculture”.<sup>7</sup> The aim of the program is to provide support for holistic rural community development, especially through the contribution of agriculture. In particular, focus is on the following areas:*

- *highlighting the contribution that agriculture makes to state, regional and local economies;*
- *strengthening the interface between agriculture and rural community development;*
- *fostering enterprising attitudes and actions, including the exploration of innovative agribusiness opportunities;*
- *helping rural communities more effectively manage socio-economic change.*

*The program will seek to achieve these above aims through project components identified below:*

### *Regional Economic and Social Audit*

*This will identify the current resources, deficits, attitudes and opportunities relevant to rural development.*

### *Awareness Raising and Skill Enhancement*

*This component will focus on the dynamics of positive socio-economic change and innovation. Some of the more innovative projects of this component include:*

*Touring Road Show (multi media presentation, drama and the participation of community and industry innovators); Foundations for Leadership conferences (targeting potential leaders and assisting them with professional and personal skills to further help their communities); The Rural Development Conference (exposure to local, interstate and overseas innovative rural development strategies); Information Services.*

### *Study Tour Opportunities*

*The opportunity to examine how projects are done in other places.*

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<sup>7</sup>

This program is being piloted in the South Coast Region of Western Australia

### Practical Project Implementation

*Assistance to move ideas into practical reality.*

### Project Review

*Reviewing the effectiveness of the project initiatives.*

*The example set by AgWA in the 'Doing more with Agriculture' project, demonstrates an innovative approach to natural resource management. The community is viewed as an integral component of the agency's success, not a group to be dealt with. There appears every effort to create a genuine partnership in the identification of issues and their subsequent solutions.*

*Communities are being assisted to become dynamic and diverse, to explore new options and meet challenges. This alternative approach to natural resource management is making the assumption that an investment in community development is ultimately an even greater investment in the natural resources themselves.*

### ***6.4.3 Local Mitigation***

The previous section is about regional mitigation in the face of changing resource management policy in Western Australia. Local mitigation is more associated with managing the process of change that may occur as a result of changes specific to a particular town. For example shutting a mill or closing a shift. However as stated previously there are considerable overlaps between the regional and local mitigation strategies.

When a change negatively impacts on a town's viability, it can either undergo a slow leakage of people or pull together and establish new directions. In this region, the history of mill closure has not always fostered the belief that companies or the government will greatly assist the community in finding new directions. Compounding this problem is that it has been noted that long term mill workers may not have the capacity to find new directions (DPIE, 1995 a).

To offer insights for discovering new directions, the following case study of Burnie in Tasmania (Case Study 3), highlights how the companies, unions, community, and conservation movement worked together to develop new economic initiatives for the town (Riley, 1997).

### ***Case Study 3 - Community Mitigation in the Burnie Forest Industry***

*The Burnie story started sixty years ago. North Broken Hill Pty Ltd owned the APPM forest, timber mill and pulp mill in and around Burnie. This association of land use, employment and company operation made Burnie a company town. It had a population of about 20 000 people in the town with about 59 000 in the hinterland. Over the years Burnie developed a more diverse industrial base but it still relied on timber product industry.*

*In the late 1980's early 1990's NBH was looking for greater efficiencies in their operations and began to look at options of using more efficient technology and changing work practices. Separate from, but at the same time as the overall restructuring of the Tasmanian timber and pulp industry the Wesley Vale Export Pulp Mill was also being assessed. While it was ultimately rejected, Wesley Vale Export represented a major watershed in community opinion. the company decided not to proceed because of environmental pressures and timing of the project. This was predominantly because the Federal Government was at this time setting environmental guidelines for pulp mills.*

*In 1992 faced with these changes timber industry workers undertook a major strike to protest the effects of changes in the industry on jobs and the uncertainties associated with redundancies. This added to an image problem for NBH.*

*In 1993 North Forest Products as a subsidiary of North Ltd (formally NBH) sold the pulp mill to Australian Paper (now AMCOR). Both companies then instituted a large restructuring and introduced new technology. North Forest built a new chipping mill cutting employment from 84 people needed to run the old mill to four. Australian Paper closed a shift on the pulp mill shedding 150 people and contracted out their maintenance division, shedding a further 300 people.*

*With the effect of the failure of the Wesley Vale project, the strike and the demoralisation of the people of the town with the restructuring; there was the feeling in Burnie that everyone in the forest products industry was hurting from the changes and no one was benefiting, including Australian Paper. There was a need for a major initiative to try and do the process of change in Burnie in a better way than had occurred.*

*In 1994 this initiative came as a community consultation and mitigation process designed to*

- *allow the community to identify the issues that were affecting it;*
- *to determine what services and facilities were needed in the local community;*
- *give a structured opportunity for opposing groups to meet, and work on common issues;*
- *develop realistic strategies for mitigation;*
- *identify performance indicators and binding responses to assess the effectiveness of the mitigation.*

*This initiative came from a number of directions (with many people now claiming the success) including North Forest (Chris Oldfield) and Greens (Christine Milne), the Forest Protection Society, the unions and the community. The project was funded by Australian Paper and North Forest. Members of the consultation team were from the groups listed above and those members in the community most affected by the changes.*

*By 1995 the consultation process was well underway and a number of strategic initiatives had resulted. These are listed below.*

#### **Enterprise Centre**

*North Forest funded (and continues to fund) an enterprise centre to help people in the forest products industry to reskill for other work or develop their own businesses. It also sought to enhance the opportunities for local workers to be re-employed in maintenance and other contracting services used by North Forest.*

*By 1997, 90 percent of all the workers that had been made redundant had found employment back with the company in contract positions or had developed other enterprises. As an example of this success, Northern Forest's five gate keepers formed their own company that now employs eleven other people providing gate keeping, security services and occupational health and safety testing to North Forest and a number of other local companies.*

### Trucking Routes

*Before the restructuring and installation of new equipment the chip mill was next door to the pulp mill. The new chip mill was built 30 km from the pulp mill requiring trucking of the chips. Initially the consultation process identified a number of indicators of the sensitivity of the community to disruption by trucks. North Forest committed itself to build a new trucking route if those indicators were exceeded.*

*The indicators were monitored for twelve months and after being assessed they triggered the need to build a new road. This route was built on private land belonging to the company and has become the basis of a new trucking route that bypasses Burnie and creates a safer road environment around local schools and residential areas.*

### Access to the Forests

*The forests and lakes were an important feature for the residents of Burnie. There was the fear, rather than the reality, that the company (that owned the forest) would refuse the community access to the forests for recreation, fishing and wood collection.*

*The company responded by approving a number of commercial wood cutters to supply firewood to the residents of Burnie. This created a number of self employed businesses. It had been calculated that the cost of wood from the wood cutters was cheaper than the cost to a resident to run their car and chainsaw out to the forest for individual wood collection. The company also delivered free wood to the elderly in Burnie if they requested it.*

*Access for fishing and recreation was also improved by converting an old mill building into a first aid post and car park from which fishermen could walk to the lakes. The mill building also serves as a project centre for school groups.*

### Community Health

*Mill workers in Burnie traditionally had a high incidence of heart disease. The reasons were identified as a lack of exercise due to shift work, environmental factors (such as stress and noise) and attitudes to nutrition.*

*In conjunction with the Tasmania University the community consultation group developed the Burnie Health program which linked study of the community health to programs introduced into the community.*

### Civic Pride and Appearance

*North Forest and the Port Authority, as part of the redevelopment of the loading facilities cleaned up the port authority lands and landscaped the area of the port. Improving the appearance heightened the community's pride and identification with their town.*

### The Future

*While the major activity of the community consultation and mitigation process is passed, the consultation group is looking to the future. It is developing a strategic plan for Burnie called Vision 2020 which includes an earth repair industry and a health (well being) industry that focuses upon the gains of the consultation process*

### Summary

*The Burnie story is one of success although there were some harrowing experiences along the way. Some of the key factors in this success appeared to be:*

- *a recognition across a number of parties that the way the development process was occurring was causing pain and missed opportunities for all involved;*
- *a number of key individuals had a vision of what Burnie could become, a desire to resolve conflicts and a passion to see these ideas in operation;*
- *a commitment by all the parties involved to enter into a community mitigation and planning process;*
- *using the change process as an opportunity for gains rather than as a threat to the existing ways of doing things;*

- *a moral commitment by North Forest and Amcor to support the community from which they had historically gained benefit;*
- *significant and ongoing funding by the companies to the consultation process and the enterprise centre;*
- *North Forest and Amcor having a long term and strategic view of the development of industry in partnership with the community.*



#### ***6.4.4 New Tools for New Tasks***

Because mitigation techniques have often grown out of situations of conflict, they carry the connotation of ‘offsetting something negative’. As best practice management continues to develop, it is being acknowledged that identification of impacts and subsequent measures to mitigate these, are more effective when employed in a proactive manner. That is, mitigation techniques are employed in advance of the occurrence of the impact they are associated with. There exists the opportunity to use the situation of change to further the prosperity and resilience of communities, such that they are less affected by impacts associated with change.

Local mitigation is often about helping people in communities find their own directions and develop their own local economic bases. Local mitigation should look at using new tools for new tasks rather than relying on the limited technique of redundancy payments.

Community perspectives were discussed in Section 5. The range of social assessment work completed as part of the RFA process has identified a number of mitigation techniques which are available to support the redevelopment of local economies, they include:

- Improving communication channels;
- Continued social research;
- Collaborative advisory groups;
- Developing an agreed vision ;
- Local determination;
- Using community resources;
- Identifying economic alternatives;
- Mentoring and facilitating innovation;
- Meeting expectations of tourism and development;
- Retraining local responsibility;
- Civic improvements.

##### *Improving communication channels*

Communities have increasingly demonstrated that they require a greater level of involvement in decision making. This is true for situations of international, national and local significance, yet it is particularly relevant for those situations which directly affect their local environment. As such there would be much benefit in improving the two way flow of information between the community and decision makers. Community perspectives and field level situations could be more effectively communicated to authorities whilst the rationale and data supporting decisions could be more effectively discussed with community representatives.

##### *Continued social research*

As there is currently limited social assessment literature for the RFA area, meaningful mitigation will therefore rely on continued research. There exists the opportunity to gain a better understanding of the social ramifications of changes in the timber industry. There is also the chance to investigate: the evolving capacity of community based groups to be involved with management decisions; ways to improve the flow of information from local officers directly to decision makers and; the appropriate makeup of any such collaborative groups.

### *Collaborative advisory groups*

There may be the opportunity to establish more effective collaborative groups to influence the management of forest areas. The capacity for such groups to be responsive to local situations, is an important possibility. These groups may be most successful when associated with practical innovation trials in local areas.

### *An Agreed Vision*

One of the strongest needs for a number of communities was for assistance and direction in mapping and achieving their desired future. It was easy to hear talk about negative aspects and to criticism of things which they didn't want to see eventuate. Hearing and defining suggestions of what people did want was more difficult. Vision/Futures Workshops are one way for communities to describe the style and type of district which they would like to be in the future.

### *Local Determination*

People in the communities want greater involvement in the decision making process. Land use planning and natural resource management are highly visible arenas and some initiatives, such as the Water and Rivers Commission's Catchment Management Groups and Agriculture WA's Regional Partnership Groups, are attempting to respond to this need. These cooperative structures have been based upon communities' contributing local knowledge about relevant issues and seeking to be part of the management decisions affecting their areas.

Community participation in forest management goals would enable their expectations regarding forest values to be understood. The goals put forward by communities could relate to harvesting or identifying other alternate uses for the forests that may have great local benefit.

### *Economic Alternatives*

Supporting local community economic development involves a mixture of economic analysis, business and personal development and community facilitation. Communities often need help to determine who in the town had a good economic idea; what developing it involved; what are the costs and benefits; where are the experiences that can be learned from; who are the contacts; where are the markets; and importantly who in the town had the skills, where are their interests, and are they motivated to proceed?. As has been found in other studies (DPIE, 1995 a), while a number of economic alternatives may exist, there is a tendency for timber town communities to think predominantly in terms of timber activities.

Ideally development strategies would assist in establishing common aims so that people are agreed in expectations and focus. The employment of some outside professionals has been suggested as necessary to provide a degree of validity and expertise in the advice given. The Business Enterprise Centres (BEC) and local Shires would be beneficial points of contact and continued support for the community. In addition, the role and capacity of BEC's might be increased to expand their operations. The process would attempt to determine and support a number of agreed economic options for the town as a whole.

### *Community Resources*

There are many resources in communities that are not recognised or used. After asking themselves what they want, the community needs to ask itself, “what do we have to work with?”. It can be thought of as 'laying the cards of the community on the table'. Local economic development is about discovering what skills and resources exist in communities and freeing them up to operate.

### *Mentoring and Facilitation*

The small communities felt the need for creative mentors and facilitators that could work with people to help them realise their ideas and develop their own businesses. The key role of a mentor is to be able to sit with people, help them get their vision clear and then link them to people who can help them get their business underway (Sirroli, 1994).

### *Retraining on Retrenchment*

While addressing community wide issues attention must be given to the individuals who have been or are likely to be, affected by the local restructuring of the industry. People made redundant need special attention to help them find new occupations. The opportunity to reskill people is an investment not only in the individual, but in the town as a whole. The directions for retraining and reskilling could ideally operate in cooperation with training agencies and Economic/Business Enterprise Centres (BEC) discussed above.

### *Civic Improvements*

The demonstration of a commitment by the town to its future has the ability to greatly increase morale in the community. This commitment may be expressed in projects such as 'townscape', 'streetscape'.<sup>8</sup> These and other projects which improve the attraction and appeal of the town encourage pride and a positive outlook. They also help in motivating people as they see others putting effort towards the town.

### *Sponsorship*

Sponsoring of groups or events is a recognised way to develop good relations and offer assistance to a town. Sponsorship may target one off projects or be designed to be ongoing. People report that sponsorship of events such as 'woodchopping competitions' or sporting events have been welcomed in the past. Sponsoring individuals in recognised achievements, works projects, awards etc. are other ways of encouraging activity within a town. Industry sponsorship of a town and/or its people is also acknowledged as a worthwhile investment.

### *Tourism Expectations and Development*

The specific needs and resources of individual towns are unique and those towns identified vulnerable due to forest policy changes, would benefit from a very local analysis. There is a

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<sup>8</sup> The Development Commissions have been involved in a number of these projects.

need for a clear and itemised strategy which examines the potential, priorities, constraints and opportunities, to develop a viable tourist industry in particular towns.<sup>9</sup>

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<sup>9</sup> A considerable portion of this work has already been done by the WATC and the respective Development Commissions.

## 7 Conclusion

This study has examined the things that have driven social change in the RFA region. At its core, a major factor identified that has impacted, and continues to impact, on the communities of the region are the major economic and technological changes occurring in the forest product industry. Similar changes can be seen in the mining and agricultural industries. This means that the big towns, and particularly the coastal centres, are getting bigger and acting as magnets to population, services and industries. Smaller towns are becoming increasingly under threat and could potentially fade away.

The forest product industry appears to be on a technological direction that supports this trend. Operations are becoming larger and more centralised and employing less people for the volume of wood processed. While value adding and plantation industries will potentially provide modest employment increases, the major employment growth in the future will be in manufacturing. However manufacturing is not seen as being well supported by government or the industry.

While much of the structural adjustment in the forest product industry has already occurred in the 1970's and 1980's, some towns may still be further affected by changes in forest product operations.

In this context, mitigation in the traditional sense of offsetting some effect by payment is unnecessary. However the RFA presents an opportunity for both government agencies and the forest product industry to become world class in the area of their relationship with, and creation of economic and social benefits for, local communities.

From the review of Social Impact Assessment literature, it is evident that there has been limited investigations within the South West region. This situation is not peculiar to the operations of the timber industry, it is associated with most industry and government activities nationally. More recently, decision makers have acknowledged the need to incorporate public participation and social analysis within planning and development to achieve best practice management. This approach is motivated by issues of: ethics; pragmatism; excellence; commercial and investor confidence; resource access; workforce attitudes and morale and; government decision making.

Mitigation measures have been discussed with reference to international, regional and local experience. Examples have been given in case studies of Southeast Asian forest communities; in Burnie, Tasmania; and in the Sustainable Rural Development Program of Agriculture WA. These projects provide a range of successful techniques which have been used to mitigate negative impacts associated with changes in industry.

A range of mitigation techniques have been discussed as a result of the findings of the social assessment projects associated with the RFA process. Those techniques which appear to be worth further investigation include:

- Improving communication channels;
- Continued social research;

- Collaborative advisory groups;
- Developing an agreed vision;
- Local determination;
- Using community resources;
- Identifying economic alternatives;
- Mentoring and facilitating innovation;
- Meeting expectations of tourism and development;
- Retraining local responsibility;
- Civic improvements.

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## *Appendix 1*

**Table 2      Summary of Major Issues Affecting the RFA Region**









## *Appendix 2*

### **Acronyms**

AgWA	Agriculture Western Australia
SRD	Sustainable Rural Development
RFA	Regional Forest Agreement
LCD	Land Conservation District
ICM	Integrated Catchment Management
MOU	Memorandum of Understanding
EPA	Environmental Protection Authority
CALM	(Department of) Conservation of Land Management
WRC	Water and Rivers Commission
WATC	Western Australian Tourism Commission
RAC	Resources Assessment Commission
LAP	Labour Adjustment Package
SIA	Social Impact Assessment

## *Appendix 3*

### **International Mitigation Studies**

The following section records a number of studies which have focussed on forest based land use. The views recorded in the briefs are those of the identified authors and not necessarily those of this project team. Where possible a brief review of the substance of the reports has been given and reference to social assessment data is identified.

The three countries which provide useful reference below are New Zealand, the United States and Canada. European countries are more difficult to compare to WA and there is little relevant, accessible literature on South America, South Africa or Russia. A case study referring to the experiences in Southeast Asian countries has been presented. New Zealand, the United States and Canada have in recent times had significant areas of temperate native forest which has been the basis for a wood products industry of a scale significant to their respective regional economies. A number of reports from Canada have been included as references, yet have not been attained for review in this study, they may contain useful information.

**New Zealand** has undergone a transition from a logging industry based on native forests to one which is now based predominantly on plantation resources. The majority of the then remaining native forest logging operations were ceased recently (within last 15 years) through negotiations between the Government, the Wood Products Industry and the Environment movement, in the context of a significant domestic plantation resource.

- The New Zealand Forest Accord: A Step Backward in Participatory Forest Management. Whyte-AGD (PO Box 12-297, Christchurch 8030, New Zealand) New-Zealand-Forestry. 1996, 41: 2, 20-26; 16 ref.

This contribution to the debate on the New Zealand Institute of Forestry's need to sign the 1991 New Zealand Forest Accord, reflects a long-held view that decisions related to forestry should be made with a clear understanding on a full range of functions any forest should serve. Furthermore, there should be an equally full participatory process in the priorities, compromises and trade-offs, that all such possible functions should be accorded, in order to decide what is best to be done in any one set of circumstances. The Forest Accord has been reported as excluding a number of rightful stakeholders in the decision-making process and focussing on operational plantation forestry concerns. Its success in examining the issue of enhancing the quantity and quality of all forests, including indigenous forests, has been criticised.

The opinion offered here is that New Zealand should rather address the wider context of all kinds of forestry in New Zealand in line with the Resource Management Act, the UNCED Principles emanating from Rio and the Montreal Process, to which the New Zealand Government is a signatory. The Institute should reject an agreement which serves the interests of only some relevant groups, which excludes relevant participatory deliberation on decisions about resources and which does not consider a holistic range of forest functions, all types of forest and the national as opposed to only the local picture. The preoccupation in New Zealand with primacy of single uses, strict zonation of resource classification and ecological precedence over social, economic and cultural well-being has hampered conservation in the past and is continuing to do so in terms of how some people interpret the Accord.

Indications are given here of earlier attempts to encourage the study of New Zealand resource problems using real multiple-objective planning, and also of how recent technological developments have made use of these techniques much more readily applicable. Unless recognition is made of the need (i) to effect compromises and trade-offs; (ii) to make decision-making participatory and transparent; and (iii) to ensure that outcomes are accountable, the conservation of resources by owners of property rights and the funding of it by these owners and the taxpayer will never be properly achieved.

- Past, present and future forest land management practices in New Zealand. Roberts-NJV South Island Operations, Tasman Forestry Limited, New Zealand. *New-Zealand-Forestry*. 1994, 39: 2, 22-26; 12 ref.

### **United States**

- Management of the spotted owl: a case history in conservation biology. Noon-BR; McKelvey-KS. *Annual-Review-of-Ecology-and-Systematics*. 1996, 27: 135-162; 99 ref.
- US Department of Agriculture, Forest Service. Redwood Sciences Laboratory, 1700 Bayview Drive, Arcata, California 95521, USA.

Official conservation efforts for the northern spotted owl (*Strix occidentalis caurina*) began in the USA in 1975 when it was declared 'threatened' in the state of Oregon; efforts continued in a sporadic and unsystematic way through the 1980s. In 1989 the Interagency Scientific Committee (ISC) was established by Congress and charged with the development of a scientifically defensible conservation strategy covering the entire range of the northern spotted owl (which includes parts of the states of Oregon, Washington, and California). The ISC collated all spotted owl research and approached questions concerning the need for a conservation strategy and the efficacy of potential reserve designs as testable hypotheses. Because the hypothesis tests were based on incomplete data and highly stylized population models, uncertainty concerning the conclusions of the ISC remained.

Subsequent research focused on answering those uncertainties. This review discusses the ISC's conclusions, asking which if any of them have been invalidated. The ISC's major conclusions have remained robust, viz. the population of spotted owls is declining due to reductions in old growth habitat. Subsequent trend-analyses confirmed the levels of population decline calculated by the ISC and in addition concluded that the rate of decline was accelerating. Limited reference to social impact is made through discussion of appropriate 'reserve' size and pattern.

- Why ecosystem management can't work without social science: an example from the California northern spotted owl controversy. Roe-E. College of Natural Resources, 112 Giannini Hall, University of Berkeley, Berkeley, CA 94720, USA. *Environmental-Management*. 1996, 20: 5, 667-674; 11 ref.

This study is also set in the North West Coast of USA (Spotted Owl Country). It is a notable example of where Government decisions have resulted in a significant reduction in access by logging operations to forest resource.

A social science typology of ecosystems is developed, applied and shown to have substantial and unexpected implications for the practice of ecosystem management. Some of the conclusions reached are likely to be unwelcome to ecologists and environmentalists in particular. The application given involves case material from the California northern spotted owl [*Strix occidentalis caurina*] controversy, a debate between logging and environmental interests which has dominated public attention in Washington, Oregon and northern California since the late 1970s.

- Timber production and ecosystem management in US National Forest - a case study of Siuslaw National Forest in Oregon.

Ota-I Grad. Sch. of Agric., Kyoto Univ., Kyoto 606-01, Japan. *Journal-of-the-Japanese-Forestry-Society*. 1996, 78: 3, 327-334; (With English figures and tables; 11 ref. Language: Japanese. Summary: English)

Siuslaw National Forest (SNF) in western Oregon is located in the middle of a highly productive Douglas fir [*Pseudotsuga menziesii*] region. The forest was developed for timber production after 1945, but production has reduced greatly in recent years owing to environmental issues such as protection of the spotted owl [*Strix occidentalis*]. A study was made of the historical changes made to timberland management in SNF, including an analysis of the process of timber production and some discussion of the social impacts associated with this process. The SNF is attempting to regulate timber production, and expand recreational and educational activities.

- Flora-DF; McGinnis-WJ An analysis of the effects of northern spotted owl conservation, harvest replanning, a log embargo, and recession on the Northwest log and lumber trade.

*Western-Journal-of-Applied-Forestry*. 1991, 6: 4, 87-90; 9 ref. USDA Forest Service, Pacific Northwest Research Station, 4043 Roosevelt Way NE, Seattle, WA 98105, USA.

The economic effects of northern spotted owl (*Strix occidentalis*) conservation measures on the economy of the Pacific Northwest, log and lumber price changes, production, and export levels were assessed, both separately, and in conjunction with, other changing factors. Some indirect reference is made to social impacts through the potential impacts on the economy. It was estimated that the joint effect of (i) owl conservation measures, (ii) a reduction in planned harvest schedules, (iii) an embargo on most exports of state-owned logs, and (iv) the economic recession, would reduce harvests by about a quarter, and log exports by one third. Log and export lumber prices could double, and domestic lumber prices may rise by about one-eighth.

- Montgomery-CA; Brown-GM Jr.; Adams-DM. 'The marginal cost of species preservation: the northern spotted owl.' *Journal-of-Environmental-Economics-and-Management*. 1994, 26: 2, 111-128; 27 ref.

School of Forestry, University of Montana, Missoula, MT 59812, USA.

A conceptual approach is developed for evaluation of species conservation programmes where the survival of the species is not certain. The approach is illustrated for the northern spotted owl [*Strix occidentalis*] by developing a marginal cost curve for survival of the owl in the wild. The importance of equity effects is shown by providing estimates of the nature and magnitude of welfare transfers within the wood products markets (softwood lumber, plywood and stumpage) associated with owl habitat protection in the Pacific Northwest. The timber assessment market model (TAMM) was used to estimate the welfare loss.

- Rubin-J; Helfand-G; Loomis-J. A benefit-cost analysis of the northern spotted owl. *Journal-of-Forestry*. 1991, 89: 12, 25-30; 19 ref. Department of Agricultural Economics, University of California, Davis, CA, USA.

The contingent valuation method was used to determine the willingness of residents of Washington state to pay for protection of the spotted owl [*Strix occidentalis*]. The calculations were statistically adjusted to provide estimates of how much people on the west coast and in the whole USA would pay. These economic benefits of protection were then compared with US Forest Service cost estimates for spotted owl protection. Results suggest that people nationwide are willing to pay enough for owl protection to compensate those who might suffer from that preservation because of lost jobs and timber supplies.

- Strong-DR; Simberloff-D; Dixon-KR; Juelson-TC; Salwasser-H. Special feature - spotted owl. *Ecology,-USA*. 1987, 68: 4, 765-779; 48 ref. Department of Biological Science, Florida State University, Tallahassee, FL 32306, USA.

Four articles discuss the biological, economic, political and social issues associated with conservation of spotted owls (*Strix occidentalis*) which occur exclusively in old-growth conifer forests of western North America. An introduction by Strong, D.R. is followed by articles putting an academic perspective (Simberloff, D.), elaborating the pressures from the timber industry (Dixon, K.R.; Juelson, T.C.) and discussing the position of the US Forest Service (Salwasser, H.).

## Canada

- Binkley C.S., Percy M., Thompson W.A., & Vertinsky I.B. (1994). 'A General Equilibrium analysis of the economic impact of a reduction in harvest levels in British Columbia'. *Forestry Chronicle*, 70: 4, 449-454.
- Fahlen J.E.J. (1985) Final Report and Recommendations of the Royal Commission on the Northern Environment, Ontario.
  - this study includes consideration of: tourist trade, forest policy, industries - social aspect.
- Baskerville G.L. (1988) 'Redevelopment of a degrading forest ecosystem'. *Ambio*, 17:5, 314-322
  - Abstract: The implications of long term resource exploitation in publicly owned forest in Canada are examined ...
- 1996 'From Rio to Reciprocity?- perspectives on sustainable logging in the Western Province', in Gladman,D., Mowbray,D. and Dugman,J. (Eds) From Rio to Rai: Environment and Development in PNG up to 2000 and beyond. Vol.3 A quarter of next to nothing. Port Moresby: University of PNG Press.
- "Logs, Long Socks and the Tree Leaf People: An analysis of a logging Project in the Western Province of PNG" *Social Analysis* 38:83-119.
- 1997 "The Makapa TRP: a study in project failure in the post Barnett era" in File,C. (Ed) *The Political Economy of Forest Management in Papua New Guinea*, Boroko National Research Institute.