

**ECONOMIC VALUE
OF
RECREATION AND TOURISM
IN
FORESTS OF THE EDEN
RFA**

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**Prepared for
NSW National Parks and Wildlife Service
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Executive Summary

This study examined the tourism and recreation values associated with the forested areas of the Eden CRA/RFA region.

A conceptual framework is provided which identifies and distinguishes the expenditure and consumers' surplus concepts of value and the peculiarities associated with estimation of recreation and tourism values of forested areas.

Both consumers' surplus values and expenditure values associated with recreation and tourism visits to forested lands in the Eden CRA/RFA region were then estimated. It should be noted that these estimates include visits to coastal national parks which may be focused on the ocean, river and lake environments and visits to State forests which may be focused on specific river and creek environments.

Consumers' surplus values for recreation and tourism visits to forested areas in the region are calculated on the basis of:

- estimates of visitation to different national parks and State forests; and
- studies of consumers' surplus per visit to forested areas.

These values may be of relevance to the threshold value study that is being undertaken as a separate input into the Eden CRA/RFA process.

Expenditure by visitors to the forested lands was estimated in two ways.

- a 'micro approach' whereby data obtained from site specific studies on expenditure per visit were applied to estimates of visit numbers to forested lands provided by NPWS and SFNSW. This approach does not distinguish between recreation and tourism visits.
- a 'macro approach' whereby Bureau of Tourism Research estimates of total expenditure in the region was apportioned to forested lands. This approach provides information on domestic and international tourism only. Recreation expenditure by residents is omitted.

Estimates of Government expenditures in the region relating to forest associated recreation and tourism were obtained from surveys of the NPWS and the SFNSW. This visitor and Government expenditure data is of relevance to the regional economic impact study that is being undertaken.

The tourism and recreation visitation and values associated with the forests of the Eden CRA/RFA region were found to be quite considerable.

NPWS estimate that there are in the order of 506,600 visitors per year to national parks in the CRA/RFA region. SFNSW conservatively estimate 16,100 visitors per year to State forests.

The recreation and tourism facilities/opportunities currently provided by NPWS and SFNSW are not dissimilar and include picnic, lookouts, fishing, swimming, bushwalking and camping. SFNSW also permits some activities that may be restricted in some areas of national parks, such as four wheel driving, hunting, mountain bike riding, horse riding and pets. A “quiet and restful atmosphere” and the “scenery” are sought by visitors to national parks as well as State forests.

Tourism and recreation expenditure in the region associated with forested lands is estimated to be in the order of \$10 m to \$13 m per year based on a “micro approach” to calculation, and \$10 m to \$15 m per year per year based on a “macro approach”. Disaggregation of this expenditure between different purchases is also provided. This expenditure is estimated to be associated with between 208 and 364 local jobs.

The NPWS was estimated to spend in the order of \$2.6m in the last financial year in the region primarily for the benefit of conservation, recreation and tourism. The Service directly employs 40 full time and 6 part time people in the region. At least 52% of this expenditure and employment has been estimated to be primarily associated with tourism and recreation. Expenditure in the region by SFNSW that is associated with recreation and tourism is estimated to be approximately \$72,500 per annum.

Considerable expenditure is proposed by NPWS in the near future for the provision of additional recreation and tourism infrastructure, in particular in relation to the Brown Mountain Visitor Centre. SFNSW proposes to initiate a Nature Tourism and Recreation strategy for the region and is committed to ongoing investment of funds to improve existing recreation facilities and develop new opportunities. This expenditure by both NPWS and SFNSW, together with the expenditure of tourist visitors who are attracted to visit the region or stay longer within the region, will directly and indirectly contribute to the regional economy.

Consumers’ surplus values associated with visitors to forested lands are estimated to be in the order of \$2.5 m to \$10 m per year. These values may increase over time with increased visitation levels, higher levels of household income and a continuing shift of community preferences towards the environment.

Visitation levels associated on forested lands are likely to increase over time by over 2% per annum. Factors contributing to this growth include:

- general population growth;
- a concentration of population growth around the east coast of NSW;
- a substantial growth in international visitation to NSW;
- the increasing importance of nature-based tourism;
- the provision of new tourism and recreation investments; and
- scale effects associated with providing a range of complementary attractions and support services.

The impact of a change in land tenure on visitor numbers and expenditure and consumer surplus values requires consideration of what would happen to visitation and economic values “with” and “without” a change in land tenure, which in turn depends on attributes of different areas such as:

- the current usage;
- likely changes in the access regime;
- the availability of substitute sites;
- the contribution of different forested areas to the amenity of current or future visitor destinations; and
- the uniqueness of the natural attributes of forested areas for visitor amenity.

On the basis of this, three separate categories of deferred forest areas can be distinguished:

- those containing existing low key facilities/opportunities;
- those that do not directly contribute to the amenity of existing or proposed visitor destinations and/or are of limited scenic or recreational value; and
- those that are considered to have unique aesthetic qualities and are expected to contribute to the appeal of planned tourism and recreation developments.

For deferred forest areas that currently contain low key facilities/opportunities, the impact of a change in land tenure would depend on whether the access regime remained unaltered and the presence or absence of substitute sites. However, even if access were restricted to these areas and no substitute sites were available for visitors, it is considered that the impact on visitation levels and economic and expenditure values are likely to be minimal. This is because of the relatively small visitation levels to State forests and the small proportion of these visits that are likely to be associated with a restricted activity.

For deferred forest areas that do not directly contribute to the amenity of existing or proposed visitor destinations, and are of limited scenic or recreational value, there is likely to be no impact on visitation levels and recreation and tourism values of change in land tenure.

In contrast, future recreation and tourism visitation levels and values may be sensitive to the land tenure or management of deferred forest areas if they have unique aesthetic qualities and are expected to contribute to the appeal of planned tourism and recreation developments. Four specific areas are considered to fall within this category i.e:

- deferred forest areas to the north of the proposed Brown Mountain Visitor Centre
- deferred forest areas along Swamp Road and New Line Road along which walking tracks from the Brown Mountain Visitor Centre are proposed;

- deferred forest areas along the access road to Myamba Creek Falls; and
- deferred forest areas along the access road to Pheasants Peak

Whether or not future visitation levels and values would be affected by logging of these deferred forest areas and the magnitude of any effects would depend on projections about the difference in visitation levels and values “with” and “without” logging. In the absence of empirical data, such projections are a matter of judgement. However, suffice to say that future visitation levels and economic and recreation values may be sensitive to the land tenure/management of all or part of the abovementioned deferred forest areas. Therefore specific regard should be had to these areas during the development and assessment of options for the CRA/RFA process.

At a broader level, the establishment of comprehensive, adequate and representative reserve system could change the image of the region from an area that has long been associated with forest conflict to one recognised as a centre of nature protection and progressive land management. This change of image and its associated marketing possibilities could positively affect visitation levels to the region as a whole.

1.0 Introduction

1.1 CRA/RFA Process

The NSW and Commonwealth Governments are undertaking a comprehensive regional assessment (CRA) of the forested lands of the south east of NSW with the aim of establishing a Regional Forest Agreement (RFA) for the area.

Part of the CRA process involves the collection and analysis of social and economic data to enable consideration of social and economic values of forested lands and how these values may be affected by different land allocations.

Studies are being undertaken to determine the economic values associated with different uses of forested lands in the Eden region, such as grazing, apiary, timber production etc. Other studies are being undertaken to measure the economic and social impacts of different land allocations.

This study aims to provide information on the uses and economic values of forests in the Eden CRA/RFA region for tourism and recreation, and the sensitivity of these uses and values to changes in land tenure. Information provided will help guide the development of options and provide an important input to studies of the opportunity cost (threshold value study) and regional economic impact of different land allocations.

1.2 Study Area

The Eden CRA/RFA region has been defined by the Joint Steering Committee and coincides with the Eden Forest Management Area. It comprises the following local government areas:

- the majority of Bega Valley;
- the eastern part of Bombala, including the town of Bombala; and
- the south eastern corner of Cooma-Monaro.

In terms of statistical regions for the purposes of tourism information:

- Bega Valley local government area (together with Eurobodalla) make up the South Coast Sub-Region; and
- Bombala and Cooma-Monaro local government areas (together with Snowy River) make up the Snowy Mountains Sub-Region.

1.3 Distinction between Recreation and Tourism and the Approach Taken in this Study

The focus of this study is recreation and tourism. Tourism is generally considered to be related to activities involving an overnight stay by visitors travelling a certain distance e.g. 40 or 50km. Recreation is generally considered to relate to all activities, both passive and active, undertaken by residents or locals. It is analogous to day tripping for the purposes of data collection.

For the purposes of this study recreation is defined as being undertaken by residents of the region whilst tourism activities are associated with overnight stays by visitors from outside the Region.

Nevertheless, in practice it is not always possible to distinguish between recreation and tourism and in many cases the distinction is unnecessary.

1.4 Conceptual Economic Framework of Value

1.4.1 Introduction

One of the focuses of this study is on the economic values of forests in the Eden CRA/RFA region for tourism and recreation and how these values may change with changes in land tenure. It is therefore important to develop a clear understanding of the concepts of value that relate to tourism and recreation and which of these concepts is used in this report.

The conceptual base for providing an understanding of value is the supply and demand or market model shown in Figure 1.

The supply curve indicates the quantity of a good or service supplied at varying prices and the marginal cost of producing more of the good or service. Generally, the higher the price the more produce that will be supplied as more producers find it profitable to sell (RACAC 1996).

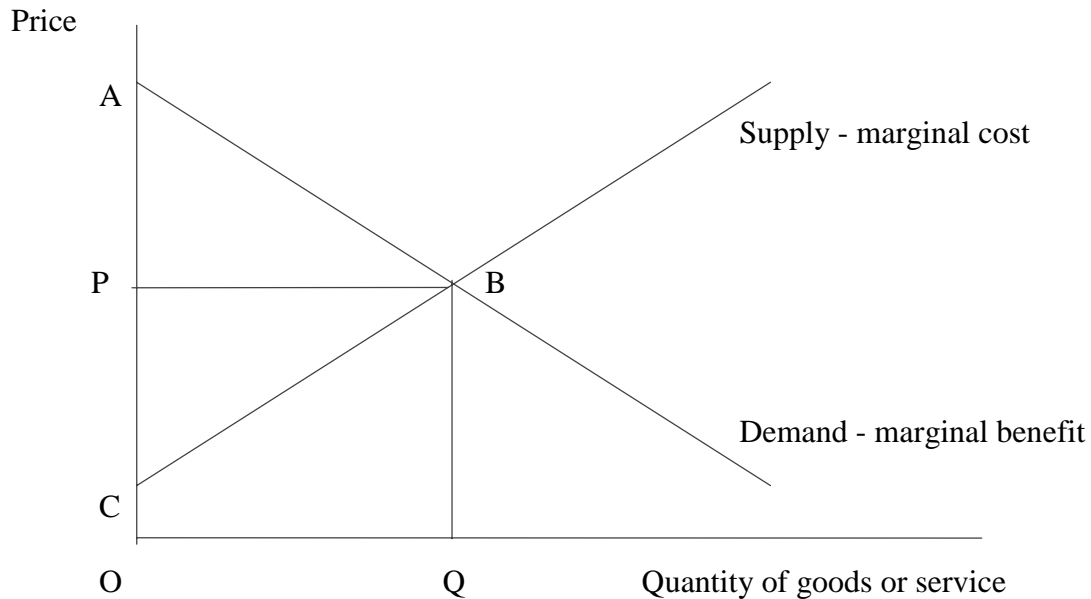
The demand curve indicates the maximum amount that consumers are willing to pay for incremental increases in quantity of the good or services (Edwards 1990). Generally, the higher the price the less that will be demanded since consumers only purchase a good or service when the value they receive from purchasing more is greater than the price that must be paid (RACAC 1996).

1.4.2 Consumers' and Producers' Surplus

In economics, the net economic benefit or value of a good or service is measured by the summation of producer and consumer surpluses. The

producers' surplus is the "total revenue to producers minus all the opportunity costs of production, including the opportunity costs of the entrepreneurs skill, labour, capital and ownership of natural resources" (Edwards 1990, p.24). In the market model, the producers' surplus is given by the area between the supply curve (marginal opportunity cost curve) and the price (revenue earned by the producer) i.e. CPB in Figure 1.

Figure 1 – General Supply and Demand Model



Source: RACAC (1996), p. 2.

The consumers' surplus is the equivalent measure of value for consumers i.e. "the difference between the maximum that a person is willing to pay for the good or service rather than do without it (marginal benefit) and what he/she actually spends (price)" (Edwards 1990, p.24). In the market model, the consumers' surplus is given by the area under the demand curve and above the price line i.e. ABP in Figure 1.

For non-market goods, such as recreation and tourism use of forested land, the concept of a demand curve exists as if it were a market good (Driml 1994). The only difference is that the demand curve is not readily identifiable from market transactions and therefore needs to be derived from revealed preferences.

One of the main techniques that can be applied to derive a demand curve for recreation and tourism to forested areas is the travel cost method. This method uses the relationship between the rate of visitation to a site and the return costs of travelling to the site to develop a demand curve for the recreational use of the park (Bennett 1996 *et al*). The value of a visit or consumers' surplus is the area under the demand curve, i.e. the willingness to pay for the park, net of what consumers actually pay for entry.

The supply curve associated with the non-market component of tourism and recreation can also be derived. It comprises the management costs associated with the provision of recreation opportunities and facilities by SFNSW and NPWS. There may also be social costs associated with environmental impacts of visitors and congestion particularly as the carrying capacity of the site is approached.

However, for tourism and recreation opportunities supplied by managers of forested areas there is no producers' surplus (for reasons explained in Section 1.4.3) and so the relevant measure of value is consumers' surplus.

This measure of value is directly relevant to the threshold value study that has been commissioned as the threshold value study is concerned with how total economic value of forested lands (defined in terms of producers' and consumers' surplus) change with different land allocations.

1.4.3 Expenditure/Revenue Approach

An alternative measure of value is that of the expenditure/revenue approach, so called because the expenditure of a consumer for a good or service is the revenue obtained by the producer for providing a product. The revenue/expenditure approach should not, however, be confused with the consumers' surplus concept of economic value, outlined in section 1.4.2. The revenue expenditure approach is based on the value of output, not consumer and producer surpluses (RACAC 1996). It is generally equivalent to considering the area OPBQ in Figure 1.

For recreation and tourism visits to a region or a specific site, it is possible to observe expenditure on goods and services used by people when they visit. In respect to these direct expenditures, some qualification is required to the general expenditure/revenue approach described above.

The expenditure by visitors to the forested areas is more akin to the production costs of the supplier of the visit i.e. OCBQ in Figure 1, rather than to the output concept i.e. OPBQ in Figure 1. This is because the good that people derive enjoyment from is an experience that involves a combination of many factors such as the site, the travel, time, accommodation, meals etc. In putting together this experience or good the visitor acts as a producer. But rather than simply selling this product to a consumer the visitor also consumes the product they produce. As such there is no producers' surplus (RACAC 1996).

A similar situation arises with expenditure by the NPWS and SFNSW in providing infrastructure and management of the recreation and tourism resources. The government agencies are essentially acting as a supplier of a resource which has associated with it certain production costs. Generally only a nominal entry fee is imposed and therefore only some of the marginal costs of supply are offset. As such no producers' surplus accrues.

In terms of linkages to other studies, expenditure by visitors to forested lands and by Government agencies is the relevant concept of value for analysis of the significance of different sectors to the regional economy and the regional economic impact of land allocation options.

Some care must be taken in comparing recreation and tourism expenditure to expenditure associated with other forest uses. As identified above expenditure by visitors is akin to the costs of supply of recreation experience which the visitor then consumes. Consequently, it does not include producers' surplus. In contrast, expenditures/revenue associated with other forest uses such as grazing, apiary etc. are likely to follow the general revenue/expenditure model outlined above where the producer sells the product to an outside buyer and so includes producers' surpluses. Because producers' surplus estimates are not included in the recreation and tourism expenditure estimate, there could be some downward bias involved when comparisons are sought between values of recreation and tourism and the values of other commercial products of the regions forested lands (RACAC 1996).

1.4.4 Employment

Employment information is also reported in this study. In terms of the above market model, employment is a cost of production and generally is included as a marginal cost of supply. Nevertheless, in an analysis of the reallocation of resources, an allocation which utilises otherwise unemployed resources confers a greater benefit on society.

1.5 Approach Taken in this Study

This study measures both consumers' surplus values, expenditure values and employment associated with recreation and tourism visits to forested lands in the Eden CRA/RFA region.

It should be noted that these estimates include visits to coastal national parks which may be focused on the ocean, river and lake environments and visits to State forests which may be focused on specific river and creek environments.

1.5.1 Consumers' surplus values

Consumers' surplus values for recreation and tourism visits associated with forested areas in the region are calculated on the basis of:

- estimates of visitation to different national parks and State forests; and
- studies of consumers' surplus per visit to forested areas.

Multiplication of these two estimates provides an indication of the economic value of recreation and tourism to the forested lands of the Eden CRA/RFA region.

1.5.2 Expenditure values

The study estimates expenditure values associated with visitors to forested lands and that by State government agencies in providing recreation opportunities in forested areas.

Estimates of State government expenditures on recreation and tourism were obtained from surveys of the NPWS and the SFNSW. These organisations provide the majority of recreation and tourism experiences and opportunities on forested lands in the region.

Expenditure by visitors to the forested lands was estimated in two ways.

- A 'micro approach' whereby data from site specific studies on expenditure per visit was applied to estimates of visit numbers to forested lands provided by NPWS and SFNSW. This approach does not distinguish between recreation and tourism visits.
- A 'macro approach' whereby Bureau of Tourism Research estimates of total expenditure in the region were apportioned to forested lands. This approach provides information on domestic and international tourism only. Recreation expenditure by residents is omitted.

1.5.3 Employment levels

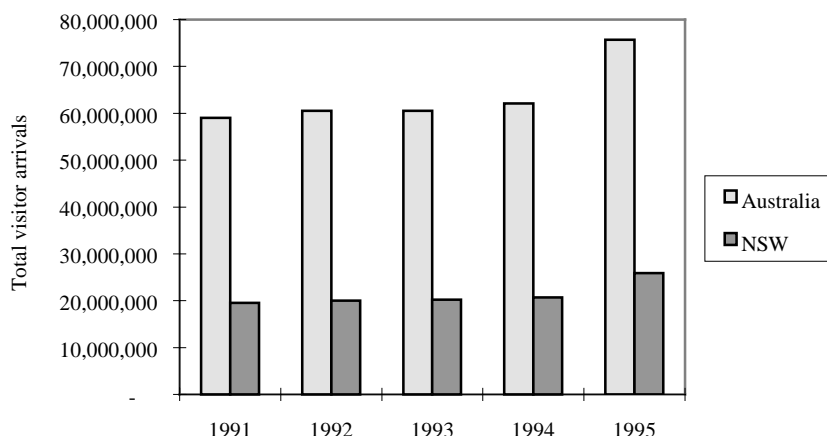
The study also provides some estimates of employment associated with visitor expenditure and employment associated with management of forests by Government agencies. These estimates are based on studies of other areas and more specific estimates will be able to be generated from the regional economic impact modelling being undertaken by the Centre for Agricultural and Regional Economics.

Before applying these approaches, an overview of tourism in NSW and the relevant regions is provided to give a context to the more specific consideration of the Eden CRA/RFA region. This overview draws heavily on a draft Nature Tourism and Recreation Strategy prepared by the NPWS (Worboys 1997).

2.0 Tourism Overview

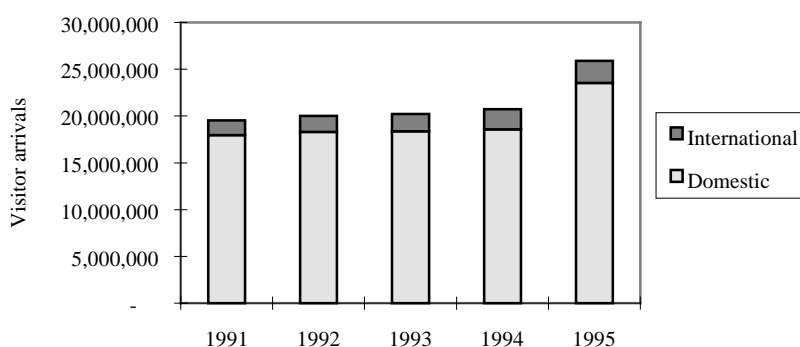
In 1995 there were 75.7 million visitor 'arrivals' within Australia. New South Wales' share of 1995 arrivals was approximately 24 million domestic and 2.3 million international. Total arrivals for both Australia and New South Wales have increased steadily since 1991 (see Figure 2).

FIGURE 2 - Total visitors to Australia and New South Wales



By far the majority of total arrivals in Australia were domestic visitor arrivals¹ i.e. 72 million compared to 3.7 million international arrivals.

FIGURE 3 - Proportion of domestic and international visitor arrivals to NSW



2.1 International Visitation

During 1996 there were 4.2 million international visitors arrivals in Australia, an increase of 440,000 on the previous year, and double the figure of 1989. The rate of growth of international visits to New South Wales since 1991 has been approximately 60%, or 12% per year, almost double that of domestic

¹ Visits to a region from people who reside outside the region.

visits.

New South Wales is the most visited State by international travellers with a market share of more than 60%. Within New South Wales, the vast majority of activity is focussed on Sydney. Sydney and Brisbane are the most popular arrival and departure points from Australia.

The Other Asia market emerged as the main source of visitors to New South Wales in 1995, surpassing Japan. Visitor arrivals from both Other Asia and Japan are more than twice that of the next nearest market, Other Europe. New Zealand, USA and Canada and UK and Ireland are other important sources of visitors.

Holiday is the main purpose of visit for international visitors and the most popular form of accommodation is the homes of friends and relatives. International visitors stay an average of 14 nights in New South Wales.

2.2 Domestic Visitation

During 1995/96 there were 75.9 million visits undertaken by domestic travellers within Australia. New South Wales remained the most popular State, with a market share of 33% of all visits. This amounted to 25 million visits in 1995/96, with an average length of stay of less than four nights.

Domestic visits to New South Wales have increased by 38% since 1991, an average annual average increase of 7%.

Approximately 70% of domestic visits to New South Wales are by residents of the State, predominantly residents of Sydney. The largest interstate markets are Victoria and Queensland.

The main purpose of visit by domestic visitors to New South Wales is pleasure/ holiday followed by visiting friends and relatives. The main form of accommodation used is the homes of friends and relatives. By far the majority of domestic tourists travel in their own car with peak domestic travel coinciding with school holiday periods.

2.3 Contribution of Tourism to the Economy

According to the Bureau of Tourism Research (BTR), economic activity generated by domestic and international visitors to Australia in 1993/94, totalled \$46.2 billion in gross expenditure or 6.6% of Australia's Gross Domestic Product. Domestic tourism expenditure contributed \$36.3 billion or 77% of the total, while international expenditure accounted for nearly \$10.6 billion or 23%.

According the Tourism Forecasting Council, national export earnings from tourism are expected to grow from \$14.1 billion in 1995/96 to \$21 billion by

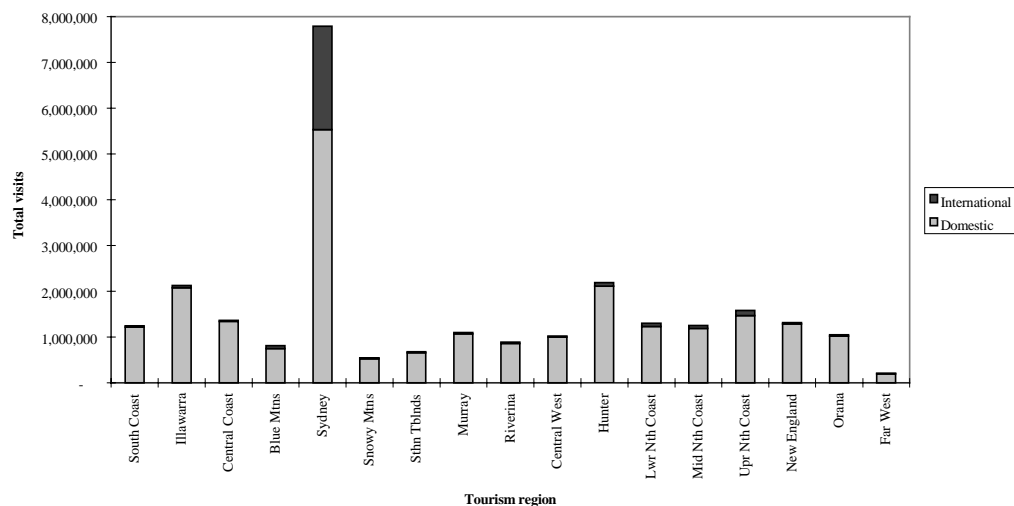
2000. Tourism is forecast to employ directly 685,000 people by 2003, up from 535,000 people or 7% of the workforce in 1993/94. Because of New South Wales' significant share of the international and domestic markets (63% and 33% respectively), a substantial proportion of these benefits will accrue to New South Wales (Worboys 1997).

For 1993/94 BTR estimated that there were 15.2 million domestic over-night trips in NSW and 1.9 million international visits to NSW. These visits were associated with a gross total direct expenditure of approximately \$15 billion, comprising \$6.33 billion for domestic overnight trips, \$4.85 billion from day trips and \$4.85 billion from international visitors. This level of direct expenditure was associated with 185,800 jobs or in the order of 7.1% of total NSW employment in that year (Tourism NSW 1997).

2.4 Visits to Regional New South Wales

Sydney is by far the most popular destination for domestic visitors to New South Wales, followed by the Hunter, the Illawarra, most coastal areas and New England. Sydney is also the most popular region for international visitors. Outside of Sydney the most visited regional areas are Upper North Coast, Hunter, Lower and Mid North Coast, Blue Mountains/ Hawkesbury and Illawarra. International visitors go to an average of 1.3 regions during their stay in New South Wales.

FIGURE 4 - Visits to New South Wales' regions 1995



3.0 Eden Region

3.1 Overview of Tourism

As identified above, the LGAs of Bega Valley falls within the South Coast Sub-Region, while the LGAs of Bombala and Cooma-Monaro fall with the Snowy Mountains Sub-Region.

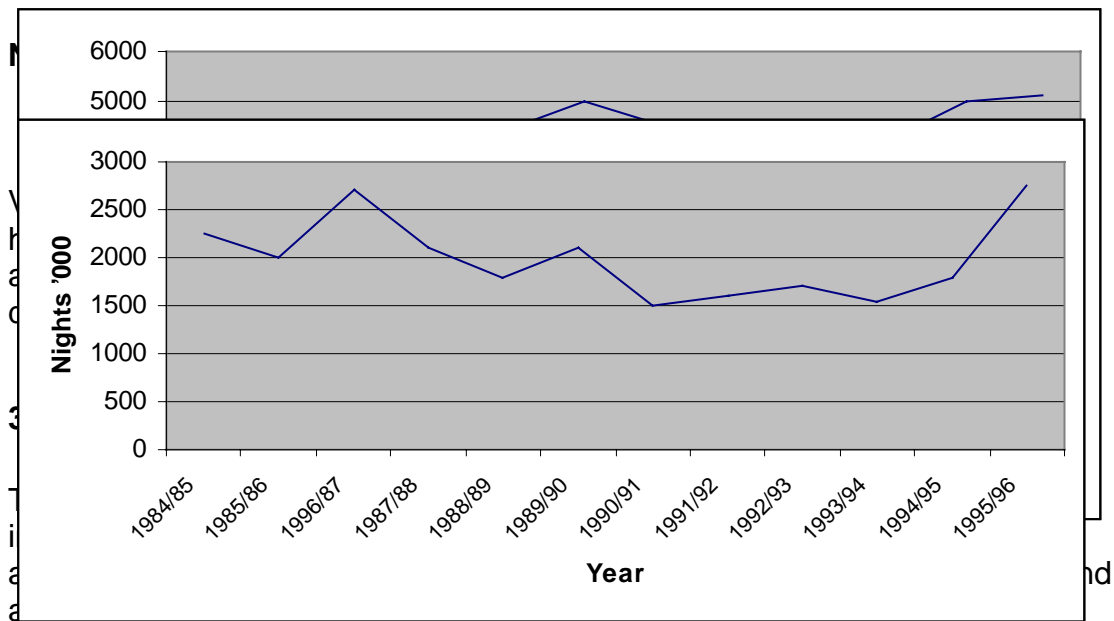
International visitors to the area make up only a very small proportion of total visitation. Of total international visitors to NSW, two percent visit the South Coast. The majority of the international tourists to the South Coast originate from western Europe and other Anglo-Celtic countries. The Asian market is significantly under-represented (ERM Mitchell McCotter 1997).

In 1995/96 the South Coast Sub-Region received 1,173,000 domestic visits. A total of 5,113,000 visitor nights were spent in the sub-region, representing 6.4% of total domestic visit nights in NSW. While the number of visits to the South Coast Sub-Region decreased by 44,000 in 1995/96, the number of nights spent in the sub-region increased by 99,000 compared to 1994/95. The average length of stay in the sub-region in 1995/96 was 4.4 nights (Tourism NSW 1997). In the order of 50% of visitors to the region are from interstate, mainly ACT and Victoria, while approximately 25% come from Sydney.

In 1995/96 the Snowy Mountains Sub-Region received 834,000 domestic visits. A total of 2,751,000 visit nights were spent in the sub-region, representing 3.4% of total domestic visit nights in NSW. Compared with 1994/95, the number of visits to the Snowy Mountains increased by 310,000 and the number of nights spent in the sub-region increase by 923,000. The average length of stay in the sub-region in 1995/96 was 3.3 nights (Tourism NSW 1997). In the order of 50% of visitors to the region are from Sydney with the next largest origin of visitors being other parts of NSW (20.2%).

Domestic trends for these two sub regions are shown below.

Nights in the South Coast Sub-Region 1984/85 – 1995/96



recreation and tourism opportunities.

For instance, South Coast Accommodation Services in a recent press release identify that “Hundreds of beautiful beaches, bays, farmland, forests and mountains make it (the South Coast) scenically spectacular” (South Coast Accommodation Services 1997).

Recent research, has also found that forested areas themselves may be an increasingly important source of recreation opportunities for visitors (Peter Valerio, pers comm 18/6/97).

A recent study undertaken for Tourism NSW in relation to the Shoalhaven and Illawarra regions found that of the 73% of survey respondents who visited the Shoalhaven, Illawarra and Southern Highland Region, on the last visit:

- 5% went on an overnight bushwalk
- 31% went on a day bushwalk
- 49% went on a short walk or nature walk
- 49% visited a national park
- 27% visited a state forest
- 57% visited a beach
- 27% visited a nature reserve
- 9% went snorkelling.

(Peter Valerio, per comm 18/6/97)

The South Coast Tourism Strategy specifically identified the natural assets of the region, including the forests, flora and fauna, as offering opportunities to grow the tourism industry in the region (ERM Mitchell McCotter 1997). This is not surprising given that over 50% of the Eden CRA/RFA region is forested.

3.3 Profile of Tourism and Recreation Facilities/Opportunities on

Forested Lands

The majority of forest-based recreation sites in the RFA are managed by the NSW National Parks and Wildlife Service (NPWS) and State Forests of NSW. Appendix 1 provides a summary of the main forest based recreation sites and the opportunities and facilities available.

Recreation opportunities across the different land tenures are broadly the same, ie. picnics, lookouts, fishing, swimming, bushwalks, camping. However, there are some difference in the activities that may be permissible. Four wheel driving, hunting, mountain bike riding and horse riding (and access by pets), are generally permissible within State forests whereas these activities may be restricted in national parks to prevent both unacceptable impacts on the environment and interference with the recreation experience of others.

While the recreation opportunities across the different land tenures are broadly similar, State forests may provide greater access opportunities due to the road network provided. However, this may not translate into greater visitation since the average tourists may not be comfortable finding their own way and would seem to prefer easy, well guided, access to visitor destinations (Neil Charter, Development Promotions Officer, Bombala Council pers comms).

3.4 Visitor Information

While the recreation opportunities provided by national parks and State forests area broadly similar it would appear that some of the attributes that currently attract visitors to national parks and State forests may also be broadly similar.

National Parks offer both active recreational opportunities such as escorted or unescorted walks, guided tours, swimming, climbing, abseiling, rafting, caving and canoeing as well as passive recreational opportunities such as picnics, visiting lookouts, and interpretive centres, wildlife watching, scenic drives, camping etc. These activities may be undertaking over a part of a day, a full day or over a number of days. However, by far the greatest demand is for passive, part-day experiences (Worboys 1997). Recent studies carried out by the NPWS in Ku-ring-gai Chase National Park confirm previous survey results from across the State that the major features attracting people to national park areas are “the quiet and restful atmosphere” and “the scenery”.

These results were also reflected to some extent in a study of ecotourism in State forests where it was found that the most favoured recreational experiences are “viewing the scenic beauty” and “experiencing the tranquillity” (Chapman 1995, p.11). Being in a tranquil environment, or an environment of scenic beauty, was important for 77% and 75% of respondents respectively. Being in a forest which represented (to them) an undisturbed environment was an important to 74%, while the release of tension was important as a component of the experience for 63%. Some 74% saw their forest

recreational experience to be an opportunity to escape from crowds. The most popular activities in forests are those passive low key activities. Most visitors engage in rest and relaxation (89%) combined with short walks (71%) and nature observation (both landscape appreciation (82%) and wildlife appreciation (76%)). A large proportion of visitors like to camp (58%) and to enjoy barbeques (66%).

The survey of State forests found that the number of visitors engaging in activities that may be restricted in national parks such as off-road vehicle recreation and trail biking, constitute a very small proportion of total visitors and that 67% of visitors to State forests were opposed to off-road vehicle use (Chapman 1995). While the provision of these recreation opportunities in State forest areas may increase their appeal to a small segment of the tourist market, this also can serve to alienate the majority of visitors that are looking for "peace and quiet". Off road vehicles use, trail bikes and use of generators etc are probably not compatible with the experience sought by most visitors to natural areas, whether they be national parks or State forests. Timber production activities in State forests may also limit the opportunities for those looking for "peace and quiet" in a relatively pristine environment (Chapman 1995). However, in any particular year only a small area would be subject to timber production activities and so the impact on visitors to State forests is likely to be minimal.

While surveys of visitors to national parks and State forests indicate that they are looking for similar things, it has been argued that in terms of tourism marketing, national parks are an international concept and that this recognition has the potential to attract both domestic and international tourists (Worboys², pers comms 20/8/97).

Data on visits to national parks and State forests in the region are limited. However, an indication of visits to the main recreation areas managed by the two agencies was obtained from the NPWS and SFNSW based on traffic counters, permits numbers and estimates (SFNSW advised that it's estimates are likely to be conservative).

The bulk of visitor demand for forest visits would appear to be met by national parks. It is estimated that national parks in the RFA region receive in the order of 506,600 visits per year compared to 16,100 for State forests. Refer to Appendix 1. However, a clear distinction between visitors to national parks and visitors to State forests is complicated by the fact that for a number of national parks such as Nadgee Nature Reserve and Ben Boyd South, visitors pass through State forests before reaching the national park land.

Key national park destinations in the Eden region include Mimosa Rocks National Park, Bournda National Park, the southern and northern section of Ben Boyd National Park and Nadgee Nature Reserve, all receiving over 50,000 visits per annum.

² Graeme Worboys is the Manager, Southern Region of the NSW National Parks and Wildlife Service. He is also the principal author of the NSW NPWS Draft Nature Tourism and Recreation Strategy.

3.5 Consumers' surplus data

Consumers' surplus estimates of economic value associated with recreation and tourism can be calculated from application of the revealed preference valuation technique known as the travel cost method, or the stated preference valuation technique known as the contingent valuation method. While both these techniques have been applied quite extensively overseas, there are more limited application of these in Australia and even more limited application to visits to forested lands in the Eden CRA/RFA region.

The consumers' surplus estimates from a range of studies of forested lands in NSW and Victoria, including one in the Eden CRA/RFA region, are summarised in Table 1:

Table 1 - Summary of Results of Travel Cost Studies

Study	Author and Reference	Consumers' Surplus
Eurobodalla National Park	Lockwood and Lindberg (1996)	\$4.80 to \$19 per visit (1996)
South East Forests	RAC (1992)	\$8.90 per visitor (\$1992)
Warrumbungles National Park	Ulph and Reynolds (1981) as reported in NSW EPA (1995)	\$200 per visitor day (\$1990)
Gibraltar Range National Park (average stay is almost 2 days)	Bennett (1995)	\$19 per visit (\$1995)
Dorrigo National Park (average stay is 1/2 a day)	Bennett (1995)	\$34 per visit (\$1995)
Minnamurra Rainforest Centre, Budderoo National Park	Gillespie (1997)	\$28 to \$48 per visit (\$1996)
Grampians State Forest	Greig (1977) as reported in NSW EPA (1995)	\$3 per visitor day (\$1990)
Grampians National Park	Read and Sturgess (1994)	\$75 per visit or \$18 per visitor day (\$33 per visit or \$7.86 per visitor day if on-site time costs excluded (\$1994)

NSW and Victorian studies provide a range of consumers' surplus estimates for visits to forested lands. It would be expected that the consumers' surplus associated with sites that have different facilities and recreation opportunities and/or differing socio-economic characteristics of visitors would vary. However, it is difficult to make direct comparisons of estimates between areas.

The difficulty arises because there are a number of issues that arise out of the

basic travel cost methodology which can result in variations in the application of the technique and consequent variations in the consumers' surplus estimated. These relate to:

- whether the zonal or individual travel cost method is used;
- the specification of the recreation quantity variable;
- the specification and quantification of travel costs including the treatment of the value of time;
- how the TCM deals with intervening recreation opportunities; and
- the selection of the functional form of regression equations.

For the purpose of this study it is therefore recommended that a range of consumers' surplus estimates be used. Having regard to:

- the methodological approaches taken in each the studies referred to in Table 1;
- the nature of the visit information that is available for the Eden region (visit data only); and
- the nature of the recreation experience currently available i.e. low key facilities;

it is considered that a range of consumers' surplus estimates from Lockwood and Lindberg's \$4.80 per visit to Bennett's \$19 per visit is reasonable.

For future forest recreation developments of a more capital intensive nature, higher estimates of consumer surplus such as those found at Dorrigo National Park and Minnamurra Rainforest Centre may be appropriate.

On the basis of:

- Lockwood and Lindberg's, and Bennett's, estimates of consumers' surplus associated with visits to forested areas; and
- the estimate of forest visits provided above;

the consumers' surplus associated with visits to national parks within the Eden CRA/RFA region is between \$2.4 m and \$9.6 m per year. The consumers' surplus associated with visits to State forests is between \$77,000 and \$306,000 per year.

Table 2 – Estimates of Consumers' Surplus Associated with Visits to Forested Lands

	Visit Numbers	Consumers' Surplus/Visit		Total Consumers' Surplus	
National Parks	506,600	\$4.80	\$19.00	\$2,431,680	\$9,625,400
State Forests	16,100	\$4.80	\$19.00	\$77,280	\$305,900
Total				\$2,508,960	\$9,931,300

3.6 Expenditure Data

3.6.1 Visitors

'Micro Approach'

There appears to be limited site specific information relating to the expenditure patterns of visitors to forested lands in the Eden CRA/RFA region. No specific studies for the region were found.

A second best solution is to extrapolate site specific data from other regions. Three studies of the expenditure patterns of visitors to forested lands were able to be located. These were all studies undertaken for visitors to various national parks i.e. Dorrigo National Park (Powell and Chalmers 1995), Gibraltar Range National Park (Powell and Chalmers 1995) and Minnamurra Rainforest Centre, Budderoo National Park (Gillespie 1997).

Table 3 summarised the disaggregated expenditure data per visit for the three national parks.

Table 3 - Disaggregated Expenditure Data Per Visit for Three National Parks

Expenditure per visit	Dorrigo National Park	Gibraltar Range National Park	Minnamurra Rainforest Centre, Budderoo National Park
Accommodation	\$6.03	\$5.63	\$4.07 - \$8.19
Meals	\$5.10	\$4.45	\$3.47 - \$6.98
Shopping	\$3.05	\$6.60	\$2.02 - \$4.06
Fares	\$1.18	\$0.68	\$0.52 - \$1.05
Car	\$4.67	\$7.35	\$2.08 - \$4.18
Other	\$0.07	\$0.42	\$0.27 - \$0.54
Total	\$20.10	\$25.13	\$12.43 - \$25

The data for Dorrigo and Gibraltar Range National Park are considered to be the most robust for extrapolation to the Eden CRA/RFA region. Due to difficulties with the Minnamurra survey, a range of expenditure data were used, from a very conservative estimated to a total expenditure per visit figure based on the Gibraltar Range and Dorrigo National park surveys.

It should be noted that the outcome of surveys to ascertain the level of expenditure in a local region depends on the delineation of the region. Generally the larger the region that is defined the greater will be the level of expenditure by visitors in that region.

The region defined for the Dorrigo study was that part of the Bellingen Local Government Area above the escarpment. The region defined for the Gibraltar Range National Park included the Local Government Areas of Nymboida,

Severn, Glen Innes and Grafton.

The Eden CRA/RFA region is larger than the Dorrigo study region and not dissimilar in size to the Gibraltar range region. The disaggregated expenditure per person data obtained from the Dorrigo and Gibraltar Range National Parks studies are therefore likely to be reasonable, if not conservative, estimates of the expenditure associated with visits to national parks and State forests within the Eden CRA/RFA region.

By combining this information with the estimated number of visits associated with forested areas within the region, an estimate of the total expenditure in the CRA/RFA region from visits associated with forested lands can be obtained. This is calculated to be in the order of \$10.5 m to \$13 m per year.

Table 4 – Total Expenditure in the Eden CRA/RFA Region from Visits to Forested Lands

	Visit Numbers	Expenditure Per Visit		Total Expenditure	
National Parks	506,600	\$20.10	\$25.13	\$10,182,660	\$12,730,858
State Forests	16,100	\$20.10	\$25.13	\$323,610	\$404,593
Total				\$10,506,270	\$13,135,451

This total expenditure can be disaggregated on the basis of Table 3 above.

Table 5 – Disaggregated Expenditure in the Eden CRA/RFA Region from Visits to Forested Lands

Category	Low Exp. Estimate	High Exp. Estimate
Accommodation	\$3,151,881	\$2,942,801
Meals	\$2,665,770	\$2,326,015
Shopping	\$1,594,235	\$3,449,820
Fares	\$616,786	\$355,436
Car	\$2,441,009	\$3,841,845
Other	\$36,589	\$219,534
Total	\$10,506,270	\$13,135,451

“Macro Approach”

A macro approach to estimating expenditure of tourists associated with the forested areas of the Eden CRA/RFA region is to utilise total tourism expenditure data for the region. This approach requires a number of assumptions, which are identified below. Using this macro approach it is not

possible to distinguish between different tenures of forested lands.

A summary of tourism visitation and expenditure data for the entire LGAs of Bega Valley, Bombala and Cooma Monaro is provided below.

Table 6 – Tourism Visitation and Visitors’ Expenditure for LGAs in NSW 1995/96

LGA	Visits ('000)	% for Pleasure*	Visit Nights ('000)	% for Pleasure*	Expenditure (\$M)
Bega Valley	754	65.4	2,839	70.6	183
Bombala	116	72.4	350	77.1	24
Cooma-Monaro	351	72.4	1,002	77.1	69
Total	1221		4191		276

Source: Ruth Morris, Tourism NSW pers. comms

*Based on the percentage for respective subregions as data for individual LGAs not available.

Tourism NSW estimate that in 1995/96 there were 754,000 visits³ to the Bega Valley LGA or 2,839,000 visitor nights; 116,000 visits to Bombala LGA or 350,000 visitor nights and 351,000 visits to the Cooma-Monaro LGA or 1,002,000 visitor nights. This includes domestic and international visits for all purposes i.e. business, visiting friends/family or holiday. The data also includes all types of accommodation and visits by adults as well as children (Tourism NSW 1996).

It is estimated that tourism visitor expenditure in 1995/96 was in the order of \$183M for Bega Valley LGA, \$24M for Bombala LGA and \$69M for Cooma-Monaro LGA (Ruth Morris, Tourism NSW pers. comms). This expenditure was calculated by multiplying the estimated number of adult⁴ nights spent in the LGA by an estimated per night expenditure of \$85.00 which was derived from the 1992 NSW Domestic Tourism Expenditure Survey (adjusted for CPI) (Tourism NSW 1996) together with an allowance for children.

However, to obtain an indication of tourism expenditure that is specifically related to the forests of the Eden CRA region requires a number of assumptions. The assumptions used in this report are outlined below.

Firstly, because only parts of the abovementioned LGAs are within the Eden CRA region, the overall visit and expenditure data needs to be apportioned to better represent the Eden CRA region. For the purpose of this study the following information has been used as base visit and expenditure data for the Eden CRA region:

- 100% of the Bega Valley LGA data;
- 50% of Bombala LGA data; and

³ A visit is defined as a stay of one or more nights i.e. day trips are not included.

⁴ Defined as a traveler 14 years and over.

- 5% of Cooma-Monaro LGA data.

Furthermore, not all visits to the region are for pleasure/holiday purposes and not all of the visitors that do visit the region for pleasure/holiday purposes visit forested areas. Adjustment must be made to take account of this.

Tourism NSW (1997) indicated that 65.4 % of domestic visits to the South Coast Sub-Region were for the purpose of pleasure/holiday, while 70.6% of visit nights were for pleasure holiday. The respective figures for the Snowy Mountains Sub-Region were 72.4% and 77.1%. Because visitor nights is the basis of expenditure data provided by Tourism NSW, the proportion of visitor nights related to pleasure/holiday is used as the basis for further apportioning visit and expenditure data.

It is difficult to gauge what proportion of these pleasure/holiday visitors visit for the purpose of visiting forested lands or are attracted to the area primarily because of the forested lands. A study of the Recreation and Tourism Values of the public lands of the Upper North East of New South Wales considered that 75% of expenditure associated with pleasure/holiday visits could be attributable to public lands (RACAC 1996). However, that study related to all public lands including beaches, not just forested public lands.

A recent study by Valerio for Tourism NSW (in press) gives some indication of the importance of forested lands vis-à-vis other recreation opportunities in the region of Shoalhaven, Illawarra and Southern Highlands. While 57% visited the beach, 49% visited a national park and 27% visited a State forest. However, the coastal nature of some of the national parks in these regions make it difficult to draw definitive conclusions from the data.

A lower figure was obtained from surveys undertaken by the Sapphire Coast Tourism. Of those visitors who were surveyed 9% stated that they enjoyed a visit to a forested area (national park) and 17% were recorded as enjoying the scenery and 10% clean air and water.

Forest based tourism would appear to be becoming increasingly important to some areas of the Eden CRA/RFA region. Bombala Council has indicated that pine forest tours in State forests are becoming an increasingly important tourism attraction. While there were 5 coach visits to Bombala for pine forest tours in 1996, in 1997 there are already some 50 coach tours planned. Recognising the need to foster and develop the forest based tourism opportunities, Bombala Council has undertaken some preliminary work on providing a packaged forest experience for three markets: the serious ecotourist, the casual visitor and the educational groups (Bombala Council 1997).

It is difficult to get a precise measure of the percentage of holiday/pleasure visits to the Eden CRA/RFA region that are associated with forest areas. For the purpose of this study, it is assumed that between 10 and 15% of holiday/pleasure visits and the associated expenditure is directly associated with forested lands.

On the basis of these assumptions and Table 6, the visits and expenditure in the Eden CRA region attributed to forested lands are shown below.

Table 7a – Visits and Expenditure Associated with Forests - 10% of Holiday/Pleasure Visits

LGA	Visits ('000)	Nights ('000)	Expend. (\$M)
Bega Valley	53.23	200.43	12.92 ⁵
Bombala	4.47	13.49	0.93
Cooma-Monaro	1.35	3.86	0.27
Total	59.06	217.79	14.11

Table 7b – Visits and Expenditure Associated with Forests - 15% of Holiday/Pleasure Visits

LGA	Visits ('000)	Nights ('000)	Expend. (\$M)
Bega Valley	79.85	300.65	19.38
Bombala	6.71	20.24	1.39
Cooma-Monaro	2.03	5.79	0.40
Total	88.59	326.68	21.17

The tourism expenditure data above is based primarily on an estimated per night expenditure of \$85.00⁶ which was derived from the 1992 NSW Domestic Tourism Expenditure Survey (adjusted for CPI) (Tourism NSW 1996). The break down of this \$85 expenditure on types of purchases is shown in table 8. The breakdown of the above estimates of tourism expenditure attributable to forested lands is also shown below assuming the same expenditure pattern applies.

Table 8 – Disaggregated Expenditure Associated with Forests

Type	Expenditure			
	Average Per Night \$	%	10% Option \$ (M)	15% Option \$ (M)
Accommodation	16.34	19.2	2.71	4.07
Meals	13.07	15.4	2.17	3.26
Petrol/Oil	10.90	12.8	1.81	2.71

⁵ This figure was calculated by multiplying the equivalent figure in Table 6 by 100% (as all the LGA is essentially in the Eden CRA/RFA region, then by 70.6% (proportion of visit nights/expenditure associated with pleasure/holiday visits), then by 10% (as proportion of pleasure/holiday visitors associated with forests). A similar approach was taken to derive other estimates in table 7a and 7b.

⁶ Expenditure data was based on the average expenditure per adult per night i.e. \$85 together with an adjustment for children. Data on children visitor nights, children expenditure per visit night and a breakdown of this expenditure is not available. The breakdown of expenditure for adults is therefore applied to all expenditure.

Plane Fares	6.54	7.7	1.09	1.63
Shopping	7.63	9.0	1.27	1.90
Packaged Tours	10.90	12.8	1.81	2.71
Other	19.61	23.1	3.26	4.88
Total	85.00	100.0	14.11	21.17

Source: Extrapolated from Tourism NSW 1997

It should be noted however that the expenditure estimates contain components of expenditure such as transport costs of petrol, airfares and trainfares that may not actually accrue to the region (Tourism NSW 1996). These figures therefore overestimate visitor expenditure in the region attributed to forested areas and require some adjustment.

Following discussions with Tourism NSW it is considered that expenditure data should be adjusted by assuming that:

- 100% of plane fare expenditure accrues outside the region;
- 50% of expenditure on petrol and oil accrues inside the region;
- 66% of packaged tours accrues inside the region (as 66% is related to accommodation and food etc. which is likely to accrue in the local region); and
- 50% of other expenditure accrues inside the region.

Based on these assumptions the range of expenditure associated with forested lands in the Eden CRA region that occurs within the region is provided in table 9.

Table 9 - Disaggregated Expenditure Associated with Forests in the Eden CRA Region

Type	Expenditure	
	10% Option \$ (M)	15% Option \$ (M)
Accommodation	2.71	4.07
Meals	2.17	3.26
Petrol/Oil	0.90	1.36
Plane Fares	0.00	0.00
Shopping	1.27	1.90
Packaged Tours ⁷	1.19	1.79
Other ⁸	1.63	2.44

⁷ Items included in package tours are coach transport within the region, accommodation and guided tours. On the basis of approach used in RACAC (1996) it is assumed that package tours payments can be assigned to the following accommodation 33%, transport 33% and margin for profit (after expenses) 33%.

⁸ Expenditure items assigned to the Other category include pre/post tour expenditure, unforeseen expenses (associated with vehicle breakdown and accidents), medical expenses and pharmaceuticals, business expenses (telephone and postage), entertainment and entrance fees and other (non-tourism) services. Following the approach taken for the Upper North East of NSW (RACAC 1996) expenditure could be apportioned to the following industry sectors: entertainment/recreation 66% and trade 33%.

Total	9.88	14.82
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Allocation of Visitor Expenditure to Sectors

The visitor expenditures identified above using both the 'micro approach' and the 'macro approach' represent final demand expenditures on goods and services rather than intermediate transactions on local household purchases. Since the expenditures are made within the study regions by visitors to the region they can be included in the exports column of a regional economic model.

The local expenditure data can be allocated across sectors in a regional economic model on the following basis:

- "All of the expenditure on meals and accommodation can be allocated to the restaurants and accommodation sector within the personal services sector.
- A component (55 %) of the shopping expenditure can be allocated to imports and not included in the analysis since most of these products purchased would be imported into the region leaving a margin of 45 % to local distributors.
- 30 % of the expenditure on own vehicle costs can be allocated to the trade sector, including the purchase of fuel and oil and any running repairs, and 70 % is comprised of taxes and imports (all fuel and parts are imported into the region) which do not impact on the local region.
- All expenditure on local fares can be allocated to the transport sector.
- The 'other' expenditure can be allocated to the entertainment/recreation sector (70 %); the trade sector (20 %) for the purchase of incidentals associated with vehicle accidents and pharmaceuticals not associated with shopping; the community services sector (5 %) for medical expenses associated with the accidents; and the transport and communication sector (5 %) for telephone and postage services."

(Powell and Chalmers 1995, p.33-34).

3.6.2 Government Agencies

Expenditure in the local region by Government Agencies in the course of the management of tourism and recreation destinations also contributes to regional economic activity.

In the Eden CRA/RFA region the NPWS and SFNSW are the main Government agencies associated with forest based recreation.

As shown in Appendix 1, National Parks are the primary forest related destinations for visitors. A survey was undertaken of the NPWS to ascertain the level of expenditure in the Eden CRA/RFA region that is associated with the management of the parks and reserves in the region.

The CRA/RFA region incorporates the Eden District and part of the Narooma District. It is estimated that the NPWS expended in the order of \$2.3 million on national parks and reserves in the Eden District in the last financial year, and \$335,000 in that part of the Narooma District that is located in the Eden CRA/RFA region. In addition, there was capital expenditure in the Eden District in the order of \$785,000. 40 full time and 6 part time jobs were directly associated with management of the parks and reserves in the region. A full breakdown of expenditure is shown in Appendix 2. At least 52% of the NPWS expenditure was associated with recreation and tourism (Worboys pers comms).

Expenditure by SFNSW associated with forest based recreation and tourism mainly related to the construction and maintenance of community access roads and the maintenance of recreation facilities such as BBQs, rest areas, picnic areas and toilets. In 1996/97, it is estimated that in the order of \$72,470 was expended in these areas.

3.7 Employment

The employment levels associated with estimated tourism and recreation expenditure (both by NSW Government Agencies and visitors) would contribute both directly and indirectly to employment in the region.

Direct employment by the NSW NPWS in managing the resource was estimated above at 40 full time and 6 part time people, although only 52 % of this was considered attributable to recreation and tourism. There would also be some direct employment associated SFNSW expenditure.

However, a number of studies have shown that the impact of visitor expenditure on regional economic activity may far exceed the impact of management expenditure (Powell and Chalmers 1995, Gillespie 1997). These studies, consequently expressed the contribution of parks to their respective regional economies on a per 1,000 or per 10,000 visit basis. It was estimated that the total (direct and indirect) employment impact per 10,000 visitors ranged from 4 to 7 jobs.

On the basis of estimated visitors associated with forested lands in the Eden region, this would be equivalent to between 208 and 364 local jobs generated from visitor expenditure.

3.8 Trends

Both the visitation levels associated with forested areas and the values/employment associated with these visits, particularly consumer surplus values, are likely to increase over time.

Domestic visitor nights within Australia, which make up the majority of visitor nights to Eden CRA/RFA region, are forecast to grow at approximately 2% per annum to 2005 (Tourism NSW 1997). Within New South Wales, growth may be greater than the national average, given the recent growth of 7% and the anticipated population increases. As most domestic tourism activity is created by people travelling, predominantly within 2 or 3 hours of major population centres, the highest proportion of growth in New South Wales could be expected along the coast. This is particularly the case given that the coastal areas including, Greater Metropolitan Sydney, Illawarra, Wollongong, and the South East are expected to experience the highest population growth (Worboys 1997).

International tourism within Australia (visitor nights), which makes up only a small proportion of visitors to the Eden CRA/RFA region, is predicted to grow at a rate of 9% per annum to 2005. The most dramatic growth is expected to be in the Other Asian market, but steady growth is anticipated from Japan, Europe/ UK and North America (Worboys 1997). International tourism will be further impacted by the Olympic Games in the year 2000. There may be some increase in visitation to regional New South Wales as both international and domestic visitors seek alternatives to Sydney (Worboys 1997).

Given that nature based tourism is reputed to be one of the fastest growing segments of tourism, the importance of forested areas in the Eden CRA/RFA region to both domestic and international tourism is likely to increase.

Having regard to the above, it is considered reasonable to assume that there might be an increase in forest based visitation in the order of 2-3% per annum. Worboys (1997) identifies that the NPWS preferred forecast growth in visitor numbers is 2.25%.

The scale effects associated with providing a range of complementary attractions and support services reinforces the likelihood of a growth rate for tourism associated with forests of greater than 2%.

It is also possible that with higher levels of income and a continuing shift of community preferences towards environmental goods, the WTP for nature based tourism may increase. A limitation on such a trend in growth of forest based recreation benefits is the carrying capacity of recreation facilities and opportunities.

On the basis of a 2% growth per year in visits associated with forested areas, the trend in visits, consumer surplus, expenditure and employment (associated with visitor expenditure) would be as per table 10. This of course assumes no carrying capacity limitation.

Table 10 – Projected Trend in Forest Associated Visits, Consumers’ Surplus, Expenditure and Employment

Year	Visits	CS (\$M)	Exp (\$M)	Empl
1996	522700	2.5 to 9.9	10.0 to 15.0	280 to 364
1997	533154	2.6 to 10.1	10.2 to 15.3	286 to 371
1998	543817	2.6 to 10.3	10.4 to 15.6	291 to 379
1999	554693	2.7 to 10.5	10.6 to 15.9	297 to 386
2000	565787	2.7 to 10.7	10.8 to 16.2	303 to 394
2001	577103	2.8 to 10.9	11.0 to 16.6	309 to 402
2002	588645	2.8 to 11.1	11.3 to 16.9	315 to 410
2003	600418	2.9 to 11.4	11.5 to 17.2	322 to 418
2004	612426	2.9 to 11.6	11.7 to 17.6	328 to 426
2005	624675	3.0 to 11.8	12.0 to 17.9	335 to 435
2006	637168	3.0 to 12.1	12.2 to 18.3	341 to 444
2007	649912	3.1 to 12.3	12.4 to 18.7	348 to 453
2008	662910	3.2 to 12.6	12.7 to 19.0	355 to 462
2009	676168	3.2 to 12.8	12.9 to 19.4	362 to 471
2010	689692	3.3 to 13.1	13.2 to 19.8	369 to 480
2011	703485	3.4 to 13.3	13.5 to 20.2	377 to 490
2012	717555	3.4 to 13.6	13.7 to 20.6	384 to 500
2013	731906	3.5 to 13.9	14.0 to 21.0	392 to 510
2014	746544	3.6 to 14.1	14.3 to 21.4	400 to 520
2015	761475	3.6 to 14.4	14.6 to 21.9	408 to 530
2016	776705	3.7 to 14.7	14.9 to 22.3	416 to 541

Nature based tourism in the region would be further enhanced by a number of forest based proposals or potential tourism opportunities in the region. These are briefly outlined below:

General tourism proposals

Accommodation

Bega Valley Shire Council currently has proposals for up to \$45 million of tourism investment in the LGA (Andrew Kenny, Economic Development Officer, pers comm). These developments range from farm stays to upmarket hotels offering health and fitness programs including walks and tours in surrounding national parks (eg. Mirador Health Resort proposal, Merimbula). The emphasis for new developments relies on the ability to offer visitors the opportunity to experience relaxation, health and fitness in a pristine environment (Andrew Kenny pers comm).

Jigamy Farm - Cultural Tourism

Cultural tourism is a growing tourism market as shown by the success of Umbarra Cultural Tours run by the Wallaga Lake Aboriginal Community near Bermagui in the north of the study area.

Construction of a large tourism development by the Eden Local Aboriginal Community is well under way at Jigamy Farm between Eden and Pambula,

adjacent to Ben Boyd National Park. It is expected to be operating within a year. It consists of a Keeping Place (museum), restaurant, walking tracks and performance area. It is anticipated that tours to cultural sites in surrounding forested areas will be offered from there. This will be a major attraction for the area.

Fisheries Beach Campground

The Eden Local Aboriginal Land Council (ELALC) is also negotiating with State Forests to establish a campground at Fisheries Beach on the southern shores of Twofold Bay south of Eden. This site would be managed by ELALC and tours to surrounding archaeological sites on the coast and in the forests would be conducted from this point.

Pambula Wetlands Redevelopment

The racecourse at Pambula is being removed and relocated further north as it is currently in a wetland and is subject to regular flooding. Community members have formed a committee to look at rehabilitation and future use of this area. A major consideration is the development of a tourism facility incorporating boardwalks and bird hides providing for recreation and education. A management committee is currently developing a management plan. This facility will add to the nature-based attractions of the area.

Tour operators

There is a high demand for guided tours in the Eden RFA area. NPWS runs tours and activities under its Discovery Program in the holiday periods and these are generally well-attended. State Forests offer tours and walks through a booking system year-round. Moves have recently been made by accommodation-providers to develop packages of accommodation and activities for visitors. This market has great potential.

Private commercial operators offer four-wheel drive forest tours and platypus watching tours. The forest based tours complement a growing whale-watching industry based around Merimbula and Eden.

There seems to be a growing trend for people to seek out reasonably priced activities in the forests where they are accompanied by a guide and will learn more about their environment.

Pambula Goldfields

The opportunity exists for a tourism destination in the Pambula Goldfields west of Pambula. The area has a rich gold-mining history and has potential as an educational facility. No particular group is currently proposing this concept, although it has been discussed in the past.

Others

- Scenic forest drives with accompanying interpretive material

- Improved signage (directional and information)

NPWS proposals

Myanba Falls - Coolangubra Section, South East Forests National Park

- Consists of car park, day visitor area, walking track to lookout over a waterfall. Offers picnics in a bush setting and views of waterfall. Completion October 1997.

Pheasants Peak , Coolangubra Section, South East Forests National Park

- Construction of 2-wheel drive access to a day visitor area, short walk to mountain top. Offers spectacular views over surrounding forested areas. Completion date uncertain.

Brown Mountain, Bemboka Section, South East Forests National Park

- This destination has been identified for a major facility development to attract domestic and international visitors (Worboys, 1997). Currently there is a lookout with a short loop walk, picnic tables, visitor information and a composting toilet at Pipers Lookout. A network of walking tracks are planned and this will eventually form part of the Brown Mountain Old Growth Visitor Centre Complex when funds become available. There is considerable local support for this project which will provide a boost to the local economies. Director of Sapphire Coast Tourism, Jim Collins, says that another major visitor destination in the south east is necessary to attract more visitors and to increase the length of visits in the region.

Biamanga National Park

- A concept plan for a regional facility development in this park is being prepared. It will start with visitor management to protect Aboriginal sites and incorporate boardwalks and walking tracks. The proposal may include the construction of a cultural centre. The scope of works is dependant on the wishes of the local Aboriginal community.

Merimbula/Pambula

- A major visitor destination within an hour's drive of these towns has been identified as a desirable component of the NPWS tourism package.

Victorian Border

- Information and facilities for visitors at the NSW/Victorian border on the Monaro Highway and Princes Highway.

Scenic Drives

- Drives of half to full day length through South East Forests National Park

SFNSW proposals

“State Forests of NSW proposes to initiate a Nature Tourism and Recreation strategy which will set new strategic directions. This strategy is based upon research into the recreation users of State forests, local knowledge, and past experience at Eden.

The strategy will among other things set the framework for the rationalisation and enhancement of State Forests' tourism and recreation facilities in NSW and the Eden RFA in particular. It will seek to promote opportunities for recreational use which have been identified for forest areas, and specifically those activities that are confined to State Forests' tenures. These activities have been identified by State Forests research and include interactive uses such as horseriding, mountain bike touring and freshwater fishing. These activities are generally not available or difficult to organise on other tenures. The strategy will integrate and interact with regional plans of other agencies and organisations such as NPWS, Sapphire Coast Tourism and Bombala tourism bodies.

State Forests is committed to the ongoing investment of funds to improve existing recreational facilities and develop new opportunities within the Eden RFA which conform to SFNSW strategic plan. Investment will be required to market recreational activities, ensure that facilities area maintained at a suitable standard, and accommodate growth in tourism within the region.

State Forests intends to further develop educational tourism facilities in the Eden Management Area. Existing developments include the Forest Shop at Eden – an innovative educational and service store front facility – and Bondi Forest Lodge, which contains accommodation, lecture room and recreational facilities for 40 residents. Further development will include additional interpretative walking trails and information boards, and flora and fauna tours and courses specifically designed for State forests users.

The proposed Brown Mountain Visitor Centre and surrounds may incorporate some of the developments described above. It is intended that State Forests be represented and utilise the many suitable sites for high quality interpretation that occur in close proximity to the proposed site. A SFNSW\NSW partnership in the development of the Brown Mountain site could be used as a model approach to encourage integrated nature tourism ventures elsewhere in NSW.

Recent tourism developments in the Eden RFA include Forest Industry tours as a component of coach tours from Bombala and Eden. Tours of the Harris-Daishowa plant and forest operations in the pine plantations and native forests successfully incorporated edification and recreation. With targeted marketing it is considered that Forest Industry Tourism and Educational tours have the potential to expand substantially from the current average of 2 coach loads per week in summer" (SFNSW 1997).

With many of these abovementioned private, NPWS and SFNSW proposals there is a need for early and adequate consultation with appropriate Aboriginal to ensure appropriate planning, siting and construction of works.

Significant investments in infrastructure, currently being undertaken or proposed are related to the base case or "without" tenure change situation and as such should not be taken as an expenditure benefit of changing land

tenures. Nevertheless, to the extent that such investment involves local expenditures it is likely to provide a significant contribution to the local economy. Once established, any visitation to the facilities from outside the region is likely to also contribute to regional economic activity. The proposed Brown Mountain Visitor Centre may be particularly important from this perspective. Worboys (1997) identifies this potential development as one of 11 strategic NPWS regional visitor destinations for NSW which aim to be improved to international destination product quality.

4.0 Sensitivity of Recreation and Tourism Visitation/Values to Land Tenure Changes

The NPWS tourism developments identified above are all part of the base case. That is, they are likely to occur regardless of the outcome of the CRA/RFA process. To identify the sensitivity of recreation and tourism values to land tenure/management changes requires consideration of how, compared to the base case:

- expenditure of management agencies would change;
- visitation levels would change; and
- consumers' surplus estimates or expenditure estimates per visitor would change.

With respect to agency management costs (expenditure) the net financial impact of any land tenure change associated with land of recreation value is far from clear and would need to be determined on a case by case basis. However, generally SFNSW may experience some cost savings (reductions in expenditure) from a reduction in the area that it has to manage. However, these are not expected to be significant since SFNSW is likely to experience some economies of scale in the management of State forests and so marginal cost are likely to be less than average management costs.

Similarly, NPWS may experience some increase in costs (expenditures) associated with the management of additional land. However, NPWS is also likely to have some economies of scale in the management of natural areas and so the marginal cost of managing additional land is likely to be less than the average cost per hectare of managing land.

From a regional economic impact perspective, any focus on the comparative management costs of SFNSW and NPWS (in relation to land that has some recreation value) if land tenure changes, is of limited value given that such expenditures pale into insignificance against those of visitors to forested areas in the region.

The impact of a change in land tenure on visitor numbers, expenditure and consumer surplus values requires consideration of what would happen to visitation and economic values “with” and “without” a change in land tenure or “with” and “without” logging of deferred forest areas. This in turn would depend on the attributes of different areas such as: the current usage; the likely changes in the access regime; the availability of substitute sites; the contribution of different forested areas to the amenity of current or future visitor destinations; and the uniqueness of the natural attributes of forested areas for visitor amenity.

For deferred forest areas that currently contain low key facilities/opportunities, any change of land tenure would not affect recreation and tourism values provided that the access regime remained unaltered. If the tenure of these

lands were changed to that of a national park and access to these forest areas became more restricted then there would be some adverse affect on visitation levels and economic and expenditure values, provided that there were no substitute sites available for these activities. However, visitation levels to State forests are relatively small and the proportion of these visits that are likely to be associated with an activity that would be restricted in a national park, is likely to be even smaller. Adverse recreation and tourism impacts of land changing tenure from State forests to national parks are therefore likely to be minimal.

Many of the deferred forest areas do not directly contribute to the amenity of existing or proposed visitor destinations and are of limited scenic or recreational value. For these areas, a change in land tenure or restriction in management regime would contribute little to recreation and tourism values.

However, there are four deferred forest areas whose future management may impact on visitor numbers to tourism destinations and/or economic values of visitors. These deferred forest areas need to be considered in conjunction with the tourism destinations that they may impact.

The deferred forest areas immediately to the north and north east of the proposed Brown Mountain Visitor Centre contain old growth forests, including examples of massive eucalyptus trees, rich cloud forest environments with abundant tree ferns. These areas are considered to be of outstanding aesthetic value (Worboys pers comm) and have been identified in a study that assessed places of aesthetic significance in the region⁹. If these areas remains unlogged it is proposed that they could become part of the proposed old growth forest centre attraction, accessed utilising carefully constructed walking tracks and boardwalks. In the absence of either a change of land tenure or a management regime prohibiting logging, these old growth areas are likely to be logged and the remaining unique, very old natural forest visual amenity of the area lost. Given the absence of accessible substitute sites in the region (Worboys pers comm), the presence or absence of this old growth forest area may affect the marketability of the Brown Mountain Visitor Centre and in turn visitor numbers (and potentially consumers' surplus and expenditure values). This is particularly important given that the proposed Brown Mountain Visitor Centre, together with the adjoining old growth forests, would be the only old growth eucalypt forest visitor destination in NSW managed by the NPWS and as such has the potential "to 'regionalise' international visitors to Sydney; attract interstate visitors; attract visitors to the tablelands towns; and to prolong the duration of stay for coastal visitors" (Worboys 1997, Appendix Notes 10).

If it is accepted that logging of the adjoining old growth forests would affect

⁹ A separate study has been undertaken to collate existing information on places of aesthetic significance, building on the Statewide Cultural Heritage Data Audit (non-indigenous) project and combining all sources of data into a database. The project is to assist in the development of conservation management guidelines for national estate and state heritage places of aesthetic significance. Places of aesthetic significance that have been identified in the region are listed in Appendix 3.

visitation numbers and/or economic values of visitors to the Brown Mountain Visitor Centre, then a crucial issue that requires consideration is the minimum size forest area that it would be necessary to retain to protect the aesthetic amenity for visitors. This is particularly an issue given that access would be controlled by boardwalks and hence only a small area would be visually accessible. Given that the unique aesthetic appeal of the area is a function of its ecology, the minimum area required to retain the unique aesthetic values would be that required to maintain the ecological integrity of the area (Worboys pers comm).

Deferred forest areas either side of Swamp Road and New Line Road surround or are near a proposed north south walking trail route generally along the Great Escarpment from the proposed Brown Mountain Visitor Centre towards the Victorian border. To gauge the marginal recreation values from not logging these forests it would be necessary to compare visitation levels and economic values per visit if the walks went through a section of logged forest compared to if that section was unlogged. It is difficult to determine if there would be a marginal effect. One argument put forward by the NPWS is that any logging of the area through which the walking track would pass would affect the domestic and international marketing of the walks as being through mature eucalypt forests. In the absence of any empirical evidence it is difficult to determine what impact logging of part of the walk and the limitation on marketing would have on visitor number and economic values.

To the extent that there is no alternative route for the walking track and that logging of these forests would affect the marketing of the walks and in turn affect visitor levels or visitor values, then protection of these areas would confer some marginal recreation benefits. Again the issue of the size of the area needed to maintain the required visual and aesthetic amenity values is an issue. SFNSW generally retain an unlogged buffer along roads and this, or a variation, may suffice depending on the location of the proposed walking track and whether the ecological integrity of the unlogged strip could be maintained.

Access to two tourism destinations within national park that are currently being developed i.e. the Myanba Creek Falls and Pheasants Peak is through deferred forest areas. The latter has been identified in a study that assessed places of aesthetic significance in the region. If logging of these deferred forested areas would affect visitor numbers and economic values then protection of these areas would confer some marginal recreation and tourism benefits. Whether this is the case or not is again a matter of judgement. Some visitors or prospective visitors to the Myanba Creek Falls and Pheasants Peak facilities may be adversely affected or deterred from visiting because of the logging beside the access roads, whereas others may derive utility from the contrast provided between different land tenures. Standard buffer zones along access roads may be sufficient to minimise any adverse affect on those visitors that are sensitive to disturbance along the access roads to their destination.

If it is decided that the above four interim deferred forest areas, or parts of them, warrant protection there are a number of possible alternatives for protecting the areas, including:

- prescriptions or conditions on logging operations;
- State Forest's Preferred Management Priority classification system; and
- various reserve declarations under the Forestry Act and NPW Act.

The above discussion focuses on site specific areas where logging may affect future tourism and recreation values associated with the forest. However, creation of a comprehensive, adequate and representative reserve system (whatever spatial form this may take) may also have broad benefits for regional tourism by influencing the wider community's perception of the areas image. Eden has historically been associated with forest conflict. Promotion of the region as a centre of nature protection and progressive land management could potentially positively influence visitation to the region as a whole.

5.0 Conclusions/Discussion

The tourism and recreation values associated with the forests of the Eden CRA/RFA region are considerable.

Tourism and recreation visitor expenditure in the region associated with forested lands is estimated to be in the order of \$10 m to \$13 m per year based on a “micro approach” to calculation and \$10 m to \$15 m per year per year based on a “macro approach”. This expenditure is estimated to be associated with between 208 and 364 local jobs.

The NPWS was estimated to spend approximately \$2.6m in the 1996/97 financial year in the region primarily for the benefit of conservation, recreation and tourism. The Service directly employs 40 full time and 6 part time people in the region. At least 52% of this expenditure and employment has been estimated to be primarily for tourism and recreation. Expenditure in the region by SFNSW that is associated with recreation and tourism is estimated to be approximately \$72,500 per annum.

Considerable expenditure is proposed by NPWS in the near future for the provision of additional recreation and tourism infrastructure, in particular in relation to the Brown Mountain Visitor Centre. SFNSW proposes to initiate a Nature Tourism and Recreation strategy for the region and is committed to ongoing investment of funds to improve existing recreation facilities and develop new opportunities. This expenditure by both NPWS and SFNSW together with the expenditure of tourist visitor that are attracted to visit the region or stay longer within the region will directly contribute to the regional economy.

Consumer’s surplus values associated with visitors to forested lands are estimated to be in the order of \$2.5 m to \$10 m per year. These values may increase over time with increased visitation levels, higher levels of household income and a continuing shift of community preferences towards the environment.

Visitation levels based on forested lands are likely to increase over time by over 2% per annum. Factors contributing to this growth include:

- general population growth;
- a concentration of population growth around the east coast of NSW including in the south east;
- a substantial growth in international visitation to NSW;
- the increasing importance of nature based tourism;
- the provision of new tourism and recreation investments; and
- scale effects associated with providing a range of complementary attractions and support services.

Recreation and tourism visitation and economic values are unlikely to be sensitive to changes in land tenure for much of the deferred forest areas. However, there are four specific areas where logging may adversely affect future visitation levels, economic values and visitor expenditures, namely:

- deferred forest areas to the north of Brown Mountain;
- deferred forest areas along Swamp Road and New Line Road; and
- deferred forest areas along the access roads to Myanba Falls and Pheasants Peak.

These areas therefore require some specific consideration in the development and analysis of options for the future management of deferred forest areas.

At a broader level, the establishment of comprehensive, adequate and representative reserve system could change the image of the region from an area that has long been associated with forest conflict to one recognised as a centre of nature protection and progressive land management. This change of image and its associated marketing possibilities could positively affect visitation levels to the region as a whole.

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