ASSESSMENT OF THE SIGNIFICANCE OF FORESTS TO THE RECREATION AND TOURISM INDUSTRIES OF SOUTH–EAST QUEENSLAND

Final report

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Summary

This report provides information on economic values associated with nature-based tourism and recreation in public forests in the south-east Queensland region, as defined for the Regional Forest Agreement process. Significant values are indicated, now and in the future.

There are 224 State Forests and 143 National Parks represented in this study of public forests in the south–east Queensland region. Visitor facilities are provided in many of these State Forests and National Parks. Other sites in these forests can be visited by those who undertake more extensive activities such as bushwalking or four-wheel driving on roads and tracks.

An estimated 7.6 million visitor-days are spent in these forest areas each year. This total is made up of 1.8 million visitor-days spent in State Forests and 5.8 million visitor-days spent in National Parks which feature forests. The majority of visitor-days, 7.2 million, are made by independent visitors who provide their own transport to the forests. It is estimated that the commercial tour operators who have permits to operate in State Forests and National Parks cater for 347,000 visitor-days to forests per year.

The majority of visits made are day trips. The number of visitor nights spent camping in State Forests is 30,000 per year. The number of camping nights spent in National Parks is 620,000.

It is estimated that one million visitor-days are made by tourists to the south-east Queensland region, and the remaining 6.6 million visitor-days are made by local south-east Queensland residents.

There are many more visitors to National Parks than to State Forests. The National Park estate in the south-east Queensland region includes a number of very popular sites that feature rainforest and forests in combination with beaches. Noosa National Park is the most visited site with around 1.2 million visitor-days per year. The rainforest locations of Springbrook and Lamington National Park together attract over one million visitor-days per year. These rainforest areas are part of the Central Eastern Rainforests Reserves of Australia World Heritage Area. The other significant attraction in the region is the Great Sandy Region with the Fraser Island World Heritage Area and Cooloola, together attracting 1.1 million visitor-days per year.

State Forests provide a number of tourism and recreational opportunities not available in National Parks. Horse riding and taking of domestic animals are not permitted in National Parks, but are permitted in some State Forests. Over 38310 visitor days are spent in horse riding in State Forests each year. While four-wheel drive vehicles, trail

bikes and mountain bikes are permitted in some areas of both State Forests and National Parks, the roads and tracks kept open for logging in State Forests provide an important resource for recreational vehicle use (and horse riding) in these forests. State Forests are used for events including endurance rides and rally driving, not permitted in National Parks. State Forest areas with high visitor numbers include those close to Brisbane, with the State Forests in Brisbane Forest Park, attracting around 900,000 visitor-days per year. Daisy Hill and Bunyaville are the next most frequently visited State Forests.

The forests provide an important resource for the commercial nature-based and ecotourism tour sector. There are around 84 operators running commercial tours into National Parks and State Forests, with the majority operating in National Parks. The takings of this sector are estimated at $29 million per annum. Total full and part time employment in these operations is 768 people, with 229 of these people employed by the 40 operators who conduct 100% of their business in forests.

Total expenditure for all 7.6 million visitor-days to forests is estimated at $196 million for 1997. Expenditure associated with visits to forests was calculated based on trip costs plus one night's accommodation cost for tourists. The component of this expenditure made by tourists is estimated conservatively at $79 million. This is $79 M about 3% of all tourism expenditure in the south-east Queensland region per annum. Expenditure by local residents is estimated at $117 million, which is about 15% of all expenditure on day trips in the south-east Queensland region per annum.

Willingness to pay (consumers' surplus) for access to forests for tourism and recreation was estimated based on results for similar forest locations in the south-east Queensland region and elsewhere. A range of $75 million to $118 million per annum is indicated.

Current Departmental budgets devoted to management of visitor use of these forests is up to $6.3 million per annum.

The demand for tourism and recreation in forests is likely to grow considerably. Future projections for tourism and recreation in forests are for an increase at least in line with predicted increases in domestic tourism and in the population of the south-east Queensland region. The number of visitor-days may increase by 36% to the year 2011 and by 57% to 2021.

Significant values are indicated for Net Present Values projected to 2021, at $5,420 million for expenditure, and $2,074 million to $3,263 million for net consumers' surplus.

A broad-scale analysis of the potential economic impact, for tourism and recreation, of a change in tenure from State Forests to National Parks was undertaken. Only 2% of

visitor–days are spent in the ‘indicator’ recreation activities in state forests, that may not be permitted in National Parks, while 98% of visitor–days are spent in ‘passive’ activities permitted in State Forests and National Parks. The majority of future demand for tourism and recreation will be for activities consistent with National Park tenure. There was insufficient information to predict whether positive impacts of managing more forests as National Parks would outweigh the negative impacts of a loss of ‘indicator’ recreation opportunities.

This report is accompanied by tables with data on visitor-days, expenditure and consumers surplus, for each individual State Forest and National Park.

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1 Introduction

1.1 PURPOSE OF THE STUDY

The purpose of this study is to provide information on the economic characteristics of tourism and recreation in the forests of south-east Queensland for use in the Comprehensive Regional Assessment (CRA) of forests.

A Regional Forest Agreement (RFA) is to be developed for the forests of south-east Queensland which will become the basis for forest management for at least the next twenty years. The Comprehensive Regional Assessment is a major step in this development, whereby information is assembled on environment and heritage and social and economic characteristics and uses of forests. Tourism and recreation are important uses of forests and information on the economic characteristics of these activities is to be included in the CRA.

This study will be a major source of information on tourism and recreation for the CRA. It may be complemented by information provided by the Queensland Government's Department of Natural Resources and Department of the Environment directly to the CRA. However, it is the aim of this study to document all the relevant significant information held by those agencies and others and collected from original sources for this study.

1.1.1 Terms of reference

The terms of reference for this study are to provide:

- an assessment of the significance of forests to the tourism industry in south-east Queensland
- a description of the level of business dependency of forest dependant tourist operators
- documentation of the needs and concerns of the tourist industry in south–east Queensland with regard to the current and future uses of forests
- an assessment of the possible impacts of changes in forest use on the tourism industry in south–east Queensland
- a spatial coverage showing the areas of forests in the south–east Queensland RFA region and an indication of their level of use by tourist operators (this coverage should be compatible with the GIS used by the CRA Unit Arcview)
- conduct a tourism operators postal survey through the relevant Regional Tourism Associations and tourist operators with permits who have permits to access State Forests and National Parks. This survey will include questions which investigate the business dependency of tourism operators, linkages to forests, impacts of changes in forest use, types of activities being conducted in forests and the direct and indirect values of forests
- conduct tourism focus groups. Three case study areas will be selected which have linkages to the tourism industry and tourism and recreational

forest use areas, in the region. A number of focus groups will be conducted (in) areas that involve tourism operators who directly use forest areas

- other data including data held by the Queensland Tourist and Travel Corporation and the Australian Bureau of Statistics relating to visiting numbers and other relevant details will need to be collected and analysed
- also including optional work—recreation expenditure study (but not including consumers surplus from recreation and tourism in the same clause).

The terms of reference for this study specify that the study should as far as possible illustrate the economic significance of tourism and recreation in forests in terms of the overall tourism and recreation industries in south-east Queensland, in terms of the economic benefits of tourism and recreation and in terms of employment directly supported. In order to meet these terms of reference, information has been collected on:

- visitor numbers to State Forests and National Parks, by independent visitors and visitors on commercial tours
- expenditure by independent visitors
- expenditure by visitors on commercial tours
- economic characteristics of commercial tour operations to State Forests and National Parks, including employment supported
- economic benefits, represented by willingness to pay, for visits to State Forests and National Parks.

This information is placed into the context of all tourism and recreation in south-east Queensland, now and as projected for the future.

The economic information is presented as far as possible in a disaggregated form for individual State Forests and National Parks on a database that accompanies this report.

In addition, the terms of reference require that case studies be undertaken of some towns or locations where there are strong economic links between forests and tourism and recreation. Two case studies were undertaken using focus group workshops, and each supplemented with a survey of business links to forests. This provided a more in depth approach than initially envisaged, so two rather than three case studies were included.

The study was required to be undertaken in the short time frame of less than three months. Information held by the Department of Natural Resources and the Department of the Environment was an important input and the cooperation of those Departments is gratefully acknowledged. However there are gaps in the information collected by those agencies, for example, visitor numbers are not recorded for all State Forests or National Parks. In some cases, information held on files could not be made available for reasons of confidentiality or because the Department did not have the resources to extract the information in the time available.

The visitor–day numbers used in this report are the best estimates able to be obtained from the relevant Departments in the time available. The

Departments caution that in many cases, the numbers are estimates only and not the product of systematic collection. Data provided by the Departments does not indicate whether visitors are local residents of south-east Queensland or tourists. The results in this study should be interpreted in this light.

1.2 ECONOMIC MEASUREMENT CONCEPTS

There are two broad types of economic measures presented in this report. One type is a *gross economic value*, represented by expenditure on tourism and recreation. This is a tangible amount of expenditure that has impacts in the economy by supporting employment and other economic activity. This type of measure is often the one quoted in describing the economic significance of tourism and recreation, for example, the reported expenditure of $16.1 billion by overseas tourists visiting Australia is this type of measure. The gross economic value of the tourism industry is its value before the costs of producing tourism goods and services are deducted. In Section 5 of this report, estimates of expenditure by visitors to forests are presented.

Gross economic value represents direct expenditure on tourism and recreation. It is possible to undertake further economic analysis of this information, to estimate the direct and indirect effects, or 'multiplier' effects, in the regional economy of this direct expenditure. Such analysis would be by use of Input Output or General Equilibrium models. It was not within the Terms of Reference of this study to undertake this further analysis.

The other type of measure included in this study is *consumers' surplus* from recreation and tourism. For most visitors to forests, there is no monetary charge to enter the forest. Therefore studies of expenditure do not gauge the whole amount that people would be willing to pay to visit forests. Economic studies have established that many visitors are willing to pay something, over and above their costs of getting to forests, to enter forests. Consumers' surplus is the technical economic term for this amount.

Economic techniques have been developed to estimate the consumers' surplus from tourism and recreation in public natural environments, including forests. They are discussed in Section 6 of this report. An order of magnitude estimate of the consumers' surplus that could be attributed to forests of south-east Queensland is made.

The use of these two measures in the CRA depends upon the question being asked. If the exercise is to compare levels of economic activity in tourism and recreation and in other forest uses, gross economic value is the relevant measure.

Consumers' surplus is a measure of economic value in which both market and non–market values are embraced. It is a measure of the economic welfare that individuals in the community gain from the consumption of goods and services (such as visits to forests). Forest use options would be compared in economic terms through a comparison of the potential economic welfare which each option could yield. Cost benefit analysis is the appropriate

technique for this comparison. By estimating consumers' surplus we can estimate the current benefits (or the contribution to economic welfare) of tourism and recreation in forests, or put another way, the economic welfare that individuals would lose if tourism and recreation opportunities were to be no longer available.

1.3 DEFINITIONS OF TOURISM AND RECREATION

The definitions of tourism and recreation may overlap somewhat. Generally, tourism is considered to involve an overnight stay away from home. For Australia's Domestic Tourism Monitor, tourism is defined as 'travel by Australian residents involving a stay away from home for one or more nights and requiring a journey of at least 40 km from home, undertaken for any reason' (BTR 1997, p.ix). Following from that definition, visitors from outside Australia are clearly all tourists. Adoption of this definition also means that people who live in south-east Queensland, but stay away overnight on their trip which includes a visit to forests, are tourists, even if they camp overnight. The only visitors to forests not defined as 'tourists' are those on a day trip from home. It is assumed, based on interviews with operators of commercial tours of forests, that all passengers on commercial tours are tourists to south-east Queensland.

Recreation may be defined as an activity undertaken in leisure time. In the context of this study of tourism and recreation in south-east Queensland, 'recreation' is use of forests by people other than tourists, for leisure activity. The majority of visitors to the forests of south-east Queensland are local residents on a day trip from home, and these people are the recreational users of the forests.

For the purposes of this study, the term 'visitors' will be used to include all people who visit forests for recreational activities, whether they be tourists who are staying away from home overnight or day trippers. When the Department of Natural Resources and the Department of Environment estimate visitor numbers to forests, they do not make a distinction between whether the visitors are tourists or day trippers.

The lack of distinction between tourist and day trippers becomes an issue when trying to connect visitor estimates to tourism statistics available from other sources, in order to place tourism and recreation in forests in a broader context. There are several major series of tourism statistics and each includes different categories of tourists. As far as possible, given the limits of the broader information sources, the significance of tourism and recreation in south-east Queensland forests is discussed in Section 7.

1.3.1 The tourism and recreation industries

There is no specific tourism or recreation 'industry' defined in the Australian Standard Industry Classification or in the National Accounts. The nature of tourism and recreation is that people spend money in a variety of industry sectors, transport, accommodation, retail, entertainment, etc. The most

common way of estimating the economic value of the 'tourism industry' is to define people as tourists and then measure how much they spend in total on all tourist-related goods and services. This is the basis of estimates made by the Bureau of Tourism Research of the contribution of international and domestic tourism to Australia's economy. In defining people as tourists, expenditure by day trippers may be left out, though the BTR has made an attempt to estimate such expenditure also. Occasionally, a tourism sector is developed for regional economic modelling by splitting off part of the accommodation, transport etc. sectors and forming a new sector.

The terms of reference for this study include making an estimate of the contribution of tourism and recreation in forests to the overall 'tourism and recreation industries' of south–east Queensland. This is difficult, partly because there is no complete information on the economic characteristics of the tourism and recreation industries in south-east Queensland. As well, there is little information available about the characteristics of visitors to forests and whether they are tourists or day trippers and whether they are visitors to south-east Queensland or local residents. Because people travelling for tourism and recreation disperse their expenditure spatially, expenditure cannot be readily attributed to specific attractions such as forests. Thus we know little about the expenditure patterns of visitors to forests nor about their contribution to the overall expenditure by tourists and people undertaking recreation in south-east Queensland. The dimensions of this issue are explored as far as possible in Section 7 of this report.

There is a specific commercial tourist industry based on taking people into forests for guided walks, driving tours, horse riding, adventure activities, etc. This sector is examined in detail in Section 3 of this report. It is however only a part of the greater economic activity involved in providing transport, accommodation, food and entertainment, etc., to tourists and the goods and services consumed by south–east Queensland residents who travel to forests on day trips. Some idea of the links between specific forest attractions and commercial activity in adjacent areas is explored in the case studies presented in Section 2.

1.4 IMPACT ASSESSMENT

An assessment of the potential impact on tourism and recreation of changing the tenure of State Forests to National Parks is included in Section 8 of this report. This assessment is based on a 'worst case' scenario that all activities of horse riding, four-wheel driving, mountain bike riding and trail bike riding would be prohibited under National Park tenure. Under current arrangements, only horse riding is completely prohibited in National Parks, and the other listed uses may be allowed in some National Park areas. This impact assessment provides a gross assessment across all south-east Queensland forests. For the purposes of the CRA, it is likely that any such assessments will be made on a case-by-case basis.

1.5 INFORMATION NOT INCLUDED IN THIS REPORT

There are several issues not covered in this report, due to their being outside the terms of reference or to a lack of available information. These are discussed briefly here.

Outside the terms of reference was any direct comparison between the economic values of tourism and recreation in forests and of other uses of forests in south-east Queensland. The information provided in this report is in a form appropriate for use in the CRA for making comparisons if desired.

It would be useful to the CRA to have an assessment of future plans of National Park and State Forest managers for accommodating the expected growth in demand for visits to forests. As demand grows, provision of additional State Forest or National Park areas may need to be considered, giving rise to the suggestion of a trade-off between increasing tourism and recreation and current uses of the potential additional tourism and recreation areas. In particular it would be useful to consider the level of use able to be accommodated at existing sites, at existing sites with expansion of facilities, or at new sites; and whether upper limits on visitor use may be placed on any sites in the future. Unfortunately very little such supply side information is available from management agencies. Some managers have anecdotal information that sites are reaching capacity at times, and a recent report on Fraser Island discusses such issues (Department of Environment 1997). However, there is no comprehensive assessment of supply side projections for tourism and recreation sites that could be used in this study. It will be necessary for management agencies to provide assessments of future supply on a case by case basis for the RFA.

On the question of compatibility of logging and tourism, it was not part of the terms of reference to conduct original research on this issue. However, it appears that this question does call for specifically designed surveys of users of State Forests and National Parks. We found little conclusive information in the literature about the compatibility or otherwise of tourism and recreation with logging operations in forests. We present here the information that we could find on this issue.

There was clear anecdotal information from many users of State Forests that roading provided for logging operations was a very important recreational facility. Users of State Forests including commercial tour operators, horse riders and recreational vehicle users were of this opinion. It is not clear how these users feel about the issue of proximity of logging operations to recreation areas.

In several cases in Queensland, logging has been excluded from forest areas that have subsequently become popular for tourism and recreation, the Wet Tropics WHA and Fraser Island WHA being the prominent examples. In both cases, the cessation of logging was a conservation-based decision. The lack of a time series on visitor numbers and a lack of information from visitors makes it difficult to establish any causal relationship between banning of logging and growth in visitor use at either of these locations.

In the Wet Tropics WHA, logging was banned in 1987 and the gross output of logging in the year preceding the ban was $25.7 million (Driml 1991). Tourism growth has been significant since World Heritage Listing. The actual quantum of tourism growth is not known, as visitor numbers were not monitored until 1993. In 1997, it was estimated that the direct expenditure associated with tourism and recreation visits to the area was $443 million (Driml 1997). here may be a number of factors contributing to tourism growth: underlying growth to the region, interest sparked by publicity of conflicts in the Daintree and the WHA listing, and appreciation of the WHA status. It is not clear whether a continuation of logging would have suppressed the effects of other influences on visitor trends.

In a study of visitors to Fraser Island before the ban on logging, Hundloe et al (1990) found that 51 per cent of visitors surveyed favoured a ban on logging as did 60 per cent of a sample of the Australian population. Visitor numbers to Fraser Island have increased to a point that managers are considering strategies to prevent environmental damage. In this case, there is no evidence as to the relationship between visitor attitudes to logging and preferences for visiting Fraser Island subsequent to the banning of logging.

As stated above, it is difficult to make any conclusions on the compatibility of logging and tourism from the evidence currently available.

1.6 ORGANISATION OF THE REPORT

Section 2 presents the case studies undertaken of the relationship between communities adjacent to forests and tourism and recreation in forests. The commercial tour sector operating in forests is described in Section 3, and the results of economic analysis of a sample of operations are presented. In Section 4, visitor numbers to forests are reported. The results of surveys to gauge expenditure in visiting forests and estimates of total expenditure in visiting south-east Queensland forests are discussed in Section 5. An exercise to estimate willingness to pay for access to forests, using the benefit transfer approach, is the subject of Section 6. In Section 7, the economic value of tourism and recreation in south-east Queensland is described as far as possible and the results for south-east Queensland forests placed into this context. Projections for future growth in visitor-days and economic value are included in Section 8. A discussion of the potential economic impacts for tourism and recreation of a change in tenure from State Forests to National Parks, is also included in Section 8.

2 Case studies of links between tourism and recreation and forests

2.1 INTRODUCTION

People visit forests in south-east Queensland for tourism and recreation and in doing so they have an economic impact on towns and businesses adjacent to the forest areas of attraction. The economic impacts of visitors are dispersed widely and are often difficult to identify. Some visitors make the majority of their purchases close to where they live, or on the way to forest sites, rather than at or near the sites themselves. Not all expenditure by people who visit forest attractions is necessarily for the purposes of enjoying forests, but can include the purchase of other goods and services and visits to other attractions in the same trip. However, it is obvious that in some towns and locations in south-east Queensland, there are a number of businesses dependent on tourism where the major attraction is adjacent forests.

One aim of this part of the research is to get an understanding of the contribution of tourism and recreation to economic activity in the tourism and related industries in areas adjacent to forests. This will only be a part of the economic impact of tourism and recreation, given that visitors spend money close to where they live, or on the way to forest sites.

The research involves two case studies of situations where there appear to be links between forests and economic activity brought by tourism and recreation. The case studies attempt to provide an understanding of the links between business and forest-based tourism and recreation via (i) a survey of businesses to establish links and (ii) focus group discussions involving local businesses, specifically tourism businesses, forest managers and representatives of recreational users. The focus group discussions included issues of current links between business and forest-based tourism and recreation, and future issues for forest management and tourism business development.

The case study areas are the Springbrook area and the Kenilworth area. These areas were chosen to illustrate a diversity of types of links between forests and tourism and recreation. All the potential case study areas examined, and those chosen for the case studies, have elements that are unique to the area, be they type of forest, proximity to population concentrations and tourism areas, type of facilities offered and types of tourism and recreational activities permitted in the forests. However, the areas chosen do provide examples that can be generalised to other locations.

The Springbrook area represents a relatively mature destination where the businesses appear to be very closely linked to the attractions of the National Park forests of the area. There are few business opportunities other than providing services for visitors. A number of commercial tour operators bring visitors to the area on day and evening trips, from the Gold Coast and Brisbane. It is estimated that around 350,000 people per year visit the National Parks in the area of the Springbrook Mountain, and a further 350,000 visit Natural Bridge National Park.

Areas similar to Springbrook include the other popular southern rainforest sites of Binna Burra and O'Reillys/Green Mountain, although the latter are based primarily on single resort businesses. The areas of Maleny, Montville and Mapleton on the Blackall ranges behind the Sunshine Coast are also destinations where tourism is a large part of the local economies. The link with forests for these towns is perhaps less direct than for Springbrook, although there are opportunities to visit forests in the Blackall Ranges.

Kenilworth is a town which has a more diverse economic base, including primary industry and food processing. There is no longer a sawmill operating in Kenilworth but there are a number of other sawmills still operating in other areas of the upper Mary Valley.

Kenilworth is located near the Kenilworth State Forest which has well developed recreational facilities and is estimated to have over 70,000 visitor-days per year. The forested hills in the upper Mary Valley form a part of the scenic attraction of the area. There are a few businesses in Kenilworth which appear to cater primarily to visitors. The local business community in the upper Mary Valley has recently formed an association to promote enterprise and tourism.

It was difficult to draw boundaries for the case studies, particularly before the studies commenced. The approach taken was to focus mainly on a particular forest resource and try to establish the links to the adjacent towns and businesses. Thus the focus in Springbrook was Springbrook National Park and in Kenilworth it was Kenilworth State Forest. However, in both cases, tour operators who visit a number of other sites as well, are included in the case study. The focus group for the Kenilworth case study included business people from other towns who are active in the Mary Valley Enterprise and Tourism Association.

A description of the methodology for the focus groups and business links survey follows, then followed by the results for each case study area and a general discussion.

2.2 METHODOLOGY

2.2.1 The focus groups

One focus group meeting was held in Kenilworth and Springbrook. The focus group workshops were held with the aim of gaining a broad understanding of links between the forests and businesses. In addition, the

participants were invited to provide their vision for future links between forests and business, and ideas on what might be required in terms of forest management and business development to support the vision.

The focus groups were targeted to include people with direct interests in tour businesses, local business, recreation and forest management. Potential participants were identified by contacting local chambers of commerce or tourism associations, tour operators with permits to operate in the State Forests and National Parks and others who advertise that they visit the vicinity, local businesses which advertise in tourism publications and through discussions with State Forest and National Park Managers.

Potential participants were telephoned and invited to the meeting and were sent an invitation and background paper (see Appendix B).

The workshops were held in the evenings and lasted two hours. The agenda included an introduction and a brief discussion of general issues. Information on potential growth in numbers of tourists to south-east Queensland and in the resident population was then provided in order to inform discussion of potential future demand for access to forests for tourism and recreation. The group then broke into small groups to discuss four questions in detail (see Box). Rapporteurs from the small groups reported back to the entire group, and then the views of the participants were summarised before the meeting closed. An effort was made to ensure that all participants had a chance to contribute to the meeting. The aim was to collect views, not to reach a consensus. Records of the meetings were produced and sent to participants.

Focus Group Discussion Questions

How much do businesses and tourism operators rely on forests? (OR for recreation groups, Where do recreational users spend money for recreation equipment?)

What are general views about resource and facility quality and quantity for recreational and tourism use?

What are concerns about current and future management of forests?

What is your vision for forest based tourism in the area in 2020?

Most of the tour operators who take visitors to National Parks and State Forests in the Springbrook area are based on the Gold Coast or in Brisbane. These operators were not invited to the evening focus group meeting held in Springbrook itself. Due to the dispersed location of these operators and it being a busy time of year over Christmas, it was judged impractical to include these operators in a focus group meeting. Instead, they were all contacted by telephone and invited to participate in a mail survey if they wished their views to be recorded in the report. The mail survey instrument consisted of the four questions discussed by the focus groups with space for open-ended responses.

All workshop participants were subsequently sent a summary of the workshop proceedings and a record of all comments (see Appendix B), and were invited to provide further comments or point out any inaccuracies. Only one reply was received, see Appendix B.

2.2.2 The business links surveys

A brief survey was undertaken of all identifiable businesses in the case study towns (apart from farming businesses). The survey was administered at the end of focus group meetings to all business representatives attending the meetings. The following day, businesses in the town which did not attend the meeting were visited and asked to complete the survey form. Questions were asked about what proportion of income is provided by visitors and local residents visiting forests, where expenditure on business inputs is incurred and on employment. The questions were structured to provide information for this study and also to be compatible with information being collected on timber towns in the social impact study. Although it would have been desirable to collect monetary information on business income and expenditure, this was not attempted because it was considered that an attempt to do so would have jeopardised obtaining responses from the full range of businesses in the towns.

In addition to businesses based in the towns adjacent to the forests are tour businesses that bring people to these areas. Information on commercial tour use of the areas which was gathered for the case studies is complemented by information gathered in the commercial tour operator survey (see Section 3 for methodology).

2.3 KENILWORTH CASE STUDY

2.3.1 Background to the Kenilworth Tourism and Recreation Focus Group Workshop

The upper Mary Valley, with Kenilworth as its heart, was chosen as one focus group location because of the area's potential for increased forest-based tourism and its proximity to a major tourism destination, the Sunshine Coast. The case study area was originally defined by the area covered by the Mary Valley Enterprise and Tourism Association (MVEATA) and includes the following forests: Jimna, Kenilworth, Mapleton, Imbil and Amamoor State Forests, and Conondale Range National Park. Tourism and recreation use spans across National Park and State Forest tenures. The major focus of the Workshop was, however, on the core of this area, the town of Kenilworth and Kenilworth State Forest (with Charlie Moreland and Booloumba Creek State Forest Parks), which is 6 km south of the town.

Forests in the upper Mary Valley include National Parks and State Forests. The Conondale Range National Park is managed for conservation values and passive recreation. There are currently four commercial tour operators who at times conduct tours in the National Park. The emphasis of these tours is sightseeing and educating visitors about the forest.

The State Forests include native forests managed for timber, plantation forests and areas of State Forest and State Forest Parks managed for recreation. The recreation permitted in the State Forests includes passive recreation and active recreation including, bushwalking, four-wheel driving, horse riding, mountain bike riding, hang gliding, outdoor education and husky dog training. There are currently eight commercial tour operators who at times conduct tours in the State Forests. Activities include sightseeing and educating visitors about the forest, walking, horse riding and four-wheel drive training.

Recreation facilities are provided in the State Forest Parks and these facilities are used by people from in the local area and from the south–east Queensland region (with Brisbane predominating), and by tourists to the Sunshine Coast. Active recreation in the State Forests uses roads and trails throughout the forests. The facilities in Charlie Moreland and Booloumba Creek State Forest Parks are in the process of reaching capacity, for example at Easter. A choice in the future will be between expanding capacity or limiting use. The only class of accommodation close to the forest is camping.

One of the issues surrounding any possible change in tenure (that might occur as a result of the RFA process) is whether changing the State Forests to National Parks will expand or restrict different types of tourism and recreation. An issue for management of the State Forests, if tenure doesn't change, is whether to expand current areas for recreation/tourism use or find additional areas that may be suitable and possibly restrict areas managed for timber. A further issue is funding of management to provide the ideal level and mix of facilities for recreation/tourism.

2.3.2 Focus group workshop

The Kenilworth Tourism and Recreation Focus Group Workshop was held at the Kenilworth Public Hall on the 4 December 1997. Participants from local businesses, government tourist associations, recreation groups, forest management, commercial tour operations, and the Mary Valley Enterprise and Tourism Association (MVEATA) were invited. The participants were chosen because of their knowledge of forest use in the Kenilworth area. A total of 25 participants attended the workshop.

There were two main purposes of the workshop. The first purpose was to gain an understanding of the economic links between the State Forests, and the businesses and recreational groups operating in the Kenilworth and Upper Mary Valley areas. The second purpose was to identify the future needs and concerns of the community and the tourism industry in relation to forest use.

The issues raised

The participants were separated into groups based on their main area of interest. The groups were classed as recreational users, local businesses, tourist operators, and forest managers. Each group had approximately six

participants. A number of set questions were put forward to each group, and all responses have been included in the Appendix B.

The participants of the workshop expressed considerable interest in the whole Comprehensive Regional Assessment (CRA) process and what it would mean for them. The participants wanted to know which aspects of the State Forests in the Kenilworth area were being valued, and how the private businesses or recreational groups which depend on them may be affected by any changes to management.

During the group discussions, a number of interesting points were raised. The majority of participants agreed that it is important to conserve forest cover, as forests play a large role in attracting visitors to the region. Most of the participants were concerned that current recreational opportunities would be reduced if State Forests were converted to National Parks. The recreational users, and in particular the horse riders, were very concerned that no horse riding is permitted in Queensland National Parks.

At present, many of the roads in State Forests are maintained for logging purposes. Many participants consider this to be a large benefit to other forest users as it gives them access to the forests. If logging activities were ceased, there is a question of whether or not these roads would be maintained.

Increased tourism to the area seemed to be desired by most participants, especially by the local businesses and the tourist operators. Some of these participants however, expressed concerns over too many tourists visiting the region and the effects that they would have on the surrounding environment. The forest managers noted that the existing camping facilities are currently overused during peak holiday periods. The Forest Managers observed that the level of enjoyment experienced by visitors to these sites however depends on the number of other visitors staying at the same sites. Hence, they thought that encouraging more visitors to come to these sites during peak times was not desirable. The recreational users also seemed to have some reservations about increasing tourist numbers. Like the forest managers, they expressed concerns about the current number of visitors using the facilities during peak periods, and the effects imposed on the surrounding environment.

A possible solution to the overcrowding issue was put forward by the tourist operators. They suggested that more camping sites be constructed, then a site rotation system introduced to minimise the environmental impact. This would allow the sites time to recover before they were reused. The recreational users seemed to agree with this idea, suggesting that building new sites may be a better alternative to expanding existing sites. The tourist operators also raised the possibility of building a resort in the forest as an alternative to camping sites. This idea may be supported by the local businesses that agree that a broader range of accommodation facilities is necessary to attract a wider variety of tourists to the area.

The local business participants agree that the Kenilworth and Mary Valley areas are currently under–promoted. They suggested that local businesses

are promoted in tourist brochures, and both the Kenilworth and Mary Valley areas be included and highlighted on tourist maps. However, this particular group also seemed to be the most concerned with limiting tourist numbers so that development would not get too out of hand. The tourist operators were also very keen on promoting the area, but they too seemed to emphasise the importance of keeping tourism development at a sustainable level.

The forest managers expressed considerable concern over forest management issues. They felt that any allocation of land from State Forests to National Parks would threaten their employment, and the employment of other forest workers in the area. According to the forest managers, changes to forest management is of particular concern to the local residents in the area, as they are often neglected in the decision making process. The forest managers all agreed that education on sustainable forest management needs to begin at primary school level, so that future policy makers can make well informed decisions on how forests should be used.

The recreational users represented only by horse riders and four-wheel drive users, had some of the strongest views on any possibility of State Forests changing to National Parks. All these recreational users agreed that if National Park areas were to increase, allowances for recreation should be made, especially for horse riding. While tourist operators did express some concerns over the lack of accessibility to National Parks, they seemed to be more concerned with promoting the area, adequately managing the existing facilities, and constructing future sites. Like the tourist operators, the local businesses seemed primarily concerned with promoting the area. They also focused on ways of encouraging tourists to visit the towns adjacent to the forests, such as Kenilworth and Imbil, and not just the forests themselves.

2.3.3 Interpretation of business links survey

The business links survey was limited to the town of Kenilworth. All the businesses located in the main street of Kenilworth were asked to participate in the business links survey. In addition, two tour operators who attended the focus group meeting, and who operate in the Kenilworth State Forest were included in the survey. Only one business chose not to respond at all, and two businesses only gave out information on the type of business operating, and employee numbers. A total of 21 businesses responded wholly or partially to the survey. The survey is therefore considered to be almost a complete census of the businesses in the town.

Businesses were asked to estimate what proportion of their business was dependant on visitors (tourists or locals) to forests. They were asked how many people they employed. Businesses were also asked to classify themselves into one or more of the following categories:

- commercial tours to forest locations
- accommodation
- hospitality (food and beverage)

- souvenirs, gift shop, craft, gallery
- other retail (eg newsagent)
- transport
- tourism bookings
- other.

Business dependence on the surrounding forests

Over three-quarters of businesses in Kenilworth stated they have some dependence on visitors to forests, however, the majority of these businesses do not rely on visitors to forests much for their livelihood. Visitors to forests are very important for a proportion of the town's businesses. Of the businesses surveyed, over 60% rely on visitors to the surrounding forests for less than a quarter of their total business income–see Table 2.1. Three of the businesses said they had no reliance on forests. Ten businesses had some reliance, but for less than a quarter of their business. Six businesses said they relied on visitors to forests for more than 50% of their income. Two businesses did not estimate their reliance on visitors to forests.

The businesses that estimated that none of their business income is dependent on visitors to forests identify themselves as 'other retail' and 'other'. The businesses that only rely on visitors to forests for 1–24% of their total business income rely on the local residents to generate income, rather than tourists to the area. The majority of businesses in this group identified themselves as 'other', including a vet, second–hand and upholstery store, cheese factory, accountant, chemist, doctor's surgery, laundromat and real estate; or 'other retail' including the garage, post office, supermarket, newsagent, fruit and vegetable store, and hardware store. A small percentage identified their business as 'hospitality', 'souvenirs, gifts, craft, gallery' and 'transport'.

The four businesses that rely on visitors to forests for 50–74% of their business income say they cater more for tourists than for local residents. Of these businesses, 33.3% identified themselves as 'hospitality', 33.3% as 'souvenirs, gifts, crafts and gallery', 16.7% as 'accommodation' and 16.7% as 'other'. The businesses that rely on visitors to forests for either 75–99% or 100% of their total income, identify themselves as 'souvenirs, gifts, craft, gallery' and 'commercial tour'.

Employment characteristics

Including proprietors, a total of 110 people were employed in the business surveyed. Of this number, 50% were full time employees and 50% part time employees. Almost 60% of the total employees live in Kenilworth itself. This does not include the 34 employees of Kenilworth Country Foods, as the places of residence of this group were unknown by the survey respondent. Other towns of residence include Gympie, Nambour, Mapleton, Mooloolaba

and Cooroy. However the total number of employees living in these towns is very small.

Ninety-four people are employed by the businesses that have some dependence on visitors to forests. The number of people employed in the businesses that depend on visitors to forests for less that a quarter of their business is 85 people, representing 77% of all employees in the businesses surveyed. The remainder of businesses with more dependence on visitors to forests employs 22 people, representing 20% of employment. Three people are employed by the two businesses that did not specify their dependence on visitors to forests.

Expenditure

The location of expenditure on inputs to businesses was sought to give an illustration of the regional links between Kenilworth and other centres within south-east Queensland. The results indicate strong links to Brisbane and weaker links to the Sunshine Coast.

Table 2.1 Kenilworth business links survey results

Percent of total income dependent on forests	No. of businesses surveyed	Percentage of total businesses surveyed	Types of business by percentage breakdown (multiple response question)	No. of employees	Percent of employees
0	3	14.3	33.3% other retail 66.7% other	13	11.8
1–24	10	47.6	43.0% other 35.7% other retail 7.1% hospitality 7.1% souvenirs, gifts, craft , gallery 7.1% transport	72	65.4
25–49	0	0	0%	0	0
50–74	4	19.0	33.3% hospitality 33.3% souvenirs, gifts, craft, gallery 16.7% accommodation 16.7% other	10	9.1
75–99	1	4.8	100% souvenirs	6	5.5
100	1	4.8	100% commercial tours	6	5.5
don't know	2	9.5	50% hospitality 50% other	3	2.7
	n= 21	100.0		n=110	100.0

Source: Kinhill Economics.

The largest proportion of expenditure made by the businesses surveyed, is in Brisbane (33.4%). Seventeen and a half per cent of total business expenditure is in the town of Kenilworth itself; 28.4% of total business expenditure is made in the Sunshine Coast region, including coastal towns and the hinterland; 14.4 % of total business expenditure is made to various/other locations for which there were too many towns for the respondents to identify; 5.8% of total business expenditure is made in Gympie, and 0.5% in Sydney; 42.1% of the businesses report that none of their expenditure is made in Kenilworth.

Summary

In summary, the business links survey illustrates that for Kenilworth, links between businesses and visitors to forests exist for most businesses surveyed, but are responsible for less than a quarter of income and employment for the majority businesses. The six businesses dependant on visitors to forests for over 50% of their income employ 22 people, one fifth of the workforce of the businesses in the town.

Comments on forest management issues

The last part of the survey gave the respondents an opportunity to express any comments regarding the forest management issues relating to their business. Most of the comments made were quite individual with only one or two duplicate responses made. The comments made by respondents are as follows, and illustrate a diverse range of views:

- forest management is a very important issue
- forest management is a somewhat important issue
- forest management should continue as is
- the forests are currently not well managed
- camping fees are a good form of forest management
- camping fees are a bad form of forest management
- forests should be used sustainably
- forests are good for tourism
- the impacts of tourism on the local businesses in the area are difficult to assess
- more money should be spent on promoting the forests in the area
- the existence of forests is important
- the educational value of forests is important.

2.3.4 Themes that emerged

The current situation

Business links

There are currently eight tour operators who, at times, provide tours to Kenilworth State Forest (KSF) and four tour operators who, at times, visit the Conondale Range National Park. An additional horse riding business is being developed. The tours are either horse riding in the State Forest or small bus sightseeing/education tours. The horse riding tours are locally based while the other operators originate from the Sunshine Coast or Brisbane.

The links between visitors to KSF and the town of Kenilworth can be summarised as follows:

- many businesses in Kenilworth have some dependence on tourism to the forests and six businesses depend on visitors to forests for over 50% of their income
- forests are not the only attraction to the town, not all visitors to the town visit the KSF, but forests do play a part in the scenic attraction of the area
- there is a perception that not all visitors to the KSF visit Kenilworth (campers and day trippers may arrive and leave by road from the south without having passed through Kenilworth)
- there is a perception that the campers purchase most of their supplies elsewhere
- the current slow pace of development is perceived as appropriate for the town.

Forest management and facilities

All groups appreciate the current State Forest facilities, the range of recreational opportunities provided by management, and the access provided by roads and tracks in the KSF (some of which are kept open by logging).

Some participants appreciate the keeping of some areas free from any human use, including tourism and recreation, as represented by the Conondale Range National Park. On the other hand, some participants thought there could be more recreation access to the National Park.

The level of use of camping facilities in KSF is acknowledged by Managers and participants to be at capacity at peak periods. Suggested options for dealing with this in the short and longer term included expanding current sites or establishing new sites and rotating use.

Future visions and actions

Business and the town of Kenilworth

Some development of tourism based business would be good but at a slow pace suited to the community and which would not spoil the attractiveness of the area to residents and visitors.

Greater links between the forest and the town were suggested to be facilitated by local businesses supporting:

- advertising the existence of the town and its attractions in or near the KSF
- trying to encourage visitors to the KSF to stop off and spend some money in the town
- trying to encourage a broader cross–section of visitors to the KSF, perhaps by providing a greater range of accommodation options, which would in turn provide demand for a broader range of services in Kenilworth.

Links between Kenilworth and the upper Mary Valley and sources of tourists

Attraction of more tourists to the area was suggested as positive, within limits, and could be assisted by:

- ensuring Kenilworth and Imbil are shown on all tourism maps (local government, media and local businesses)
- publicising the forest and other attractions on the Sunshine Coast, as part of the Sunshine Coast Hinterland (local government media and local businesses)
- governments improving roads and public transport.

Forest management

It was generally accepted that there will be greater demand for recreation in natural environments, from nearby communities and visitors.

The retention of opportunities provided by current SF management was supported

It was perceived that any expansion of the National Park would reduce the range of recreational opportunities currently enjoyed.

Expansion and rotation of camping facilities was suggested.

Provision of built accommodation facilities in or adjacent to the SF was suggested, to broaden the opportunities.

No significant expansion of other facilities was suggested.

Retention of road access for recreation was supported.

2.4 SPRINGBROOK CASE STUDY

2.4.1 Background to the Springbrook Tourism and Recreation Focus Group Workshop

The Springbrook area was chosen as a focus group location because of the area's close links with forest-based tourism and its proximity to a major tourism destination, the Gold Coast. The case study area includes the following forests: Springbrook National Park, Natural Bridge National Park and Numinbah State Forest. Tourism and recreation use spans across National Park and State Forest tenures. The major focus of the workshop was on the core of this area, in particular the Springbrook area.

Forests in the Springbrook area include National Parks and State Forests. The National Parks are managed for conservation values and passive recreation. There are currently a number of commercial tour operators who conduct guided tours in the National Park, and others who transport visitors to the parks, but do not conduct walks. The emphasis of these tours is sightseeing and educating visitors about the forest.

The State Forests include native forests managed for timber, and areas of State Forest Parks managed for recreation. The recreation permitted in the State Forests includes passive recreation and active recreation including, bushwalking, four-wheel-driving, horse riding, and mountain bike riding, often with permits required.

The National Parks are the focus of tourism and recreation in Springbrook. There are around 350,000 visitors per year to Springbrook National Park and a further 350,000 visitors to Natural Bridge National Park. The Springbrook National Park has extensive facilities in the form of walking tracks and picnic areas that represent significant investment in previous years. Currently however, the local National Parks and Wildlife Service has limited funds with which to manage the sites and provide adequate ranger presence. The demand for access by visitors fluctuates and the peak visitor numbers are at weekends and holiday periods. At times the facilities including car parks and picnic areas are not sufficient to meet demand. Park Managers limit the number of facilities as a way to manage visitor numbers to ecologically and socially tolerable levels.

The demand for use of the Natural Bridge National Park has increased markedly in recent years with the popularity of night time tours to see the glow worms. Limits have been placed on visitor numbers for these tours. The site is relatively small and potentially vulnerable in the face of demand for day visits, where swimming is a feature, and for night time use.

The area is part of a World Heritage Area, yet this is not well publicised and limited funds are available from government, to promote this or undertake any special management warranted. Lack of promotion means that tourist businesses do not benefit as they might from the status of the area.

There are limited camping facilities in the area: 10 sites in the Springbrook National Park. There may be potential to develop more campsites elsewhere, perhaps in the State Forest.

2.4.2 Focus group workshop

The Springbrook Tourism and Recreation Focus Group Workshop was held at the Springbrook Public Hall on the 11 December 1997. Participants were invited from the local businesses, the Springbrook Chamber of Commerce, the Springbrook Mountain Community Association, and the National Parks and Wildlife Service. The participants were chosen because of their knowledge of forest use and tourism in the Springbrook area. A total of 12 participants attended the workshop. No commercial tour operators with a permit to operate in the Springbrook National Park attended this workshop as the majority of them live on the Gold Coast or in Brisbane.

The issues raised

The participants were separated into three groups at random. Each group had four participants. A number of set questions were put forward to each group, and all the responses have been included in Appendix B.

While the participants of the workshop showed an interest in the study of Tourism and Recreation in the south-east Queensland forests, some were sceptical about the whether or not anything thing would actually eventuate from this study.

During the group discussions, a number of interesting points were raised. Most of the participants were very concerned about the relationship between the Gold Coast City Council (GCCC) and government tourism agencies, and the people who live and work in Springbrook. There was a lot of discussion about the businesses in Springbrook and perceived restrictions placed on them by the GCCC. There was also some discussion on the lack of public awareness and promotion of Springbrook by the relevant tourist authorities. A large amount of discussion was also generated on the lack of funding to run the National Park and to upgrade the facilities.

Each group stated that the forests play an extremely important role in the tourist industry currently operating in Springbrook. It was also said that the businesses who do not directly rely on tourism for an income still rely on the forests for other purposes. Nearly all the visitors who come to the area come to visit the forests. However, the rural landscape was also mentioned as an important feature of the Springbrook landscape. Springbrook is in quite a unique situation as there is no passing trade to the area, therefore all non-local traffic on the mountain is there specifically to visit Springbrook.

It was generally agreed that the quality of the forests is very high. It was also agreed that the existing facilities need to be upgraded and additional facilities need to be constructed to cope with increasing visitor numbers. However, each group agreed that any additional development should be controlled so that environmental damage does not occur. Land purchased

under the Regional Open Space Scheme (ROSS), known as 'the settlement' is partly forested and partly cleared. It is considered by the participants as the ideal place for development–especially for active recreation facilities such as four-wheel-driving, trail bike riding, and horse riding.

The lack of rangers was a concern to the participants. If visitors to the area are forecast to increase, then more rangers will need to be employed to patrol the National Park and run educational programs about the forests. The idea was put forward that rangers could run educational programs for a fee.

The town is located within a water catchment area and the GCCC has placed a limit on subdivision and population numbers. Participants appreciate that this will prevent excess development. However, many businesses have the view that they are unnecessarily restricted in what they can do on their private land. Participants expressed a desire to build more cabin style accommodation.

In the short term, participants called for the roads to be upgraded to be safer and accommodate tourist buses. In the longer term, alternative transport to private vehicles was supported.

The participants gave considerable thought to the issue of future development in the Springbrook area. There is a lot of enthusiasm for the construction of a 'skyrail' from the Gold Coast to Springbrook. The participants generally consider this to be a better and more environmentally sound way of attracting tourists to the area, without increasing the number of passenger vehicles. Electric buses could then be used to transport visitors around the mountain. The participants would also like to see the development of new, properly managed facilities, especially more camping areas.

A solution was also proposed to the problem of policing a user pays system. A toll gate at the bottom of the mountain where the two roads to Springbrook join could be built and staffed. That way, if people did not wish to pay, they can easily turn around and leave without wasting too much time. By placing a toll gate just before the entry to Springbrook, everyone who wants to visit the National Park would be required to pay a fee before they can enter. One participant subsequently wrote to Kinhill expressing disagreement with a visitor tax, and a preference for raising funds through sales of goods at a visitor information centre.

Some of the businesses commented on the cyclical nature of tourism, with businesses being best on weekends and during holiday periods. They commented that it was a struggle to attract enough business over the balance of the year to remain viable.

2.4.3 Interpretation of business links survey

Attempts were made to survey all the businesses in the township of Springbrook. While a number of surveys were completed at the end of the focus group workshop, the majority of businesses were surveyed the

following day. A number of businesses were closed. We were informed that some of these businesses were expected to be closed for a period of weeks or months. Survey forms was sent out by mail to all businesses not able to be visited, and some completed questionnaires were returned. Seventeen out of 26 businesses responded to the survey. Amongst the businesses not responding to the survey were businesses that appeared to be accommodation, cafe, and craft businesses, so the survey was not particularly biased towards tourism service businesses. No survey respondent had a permit to operate in the National Park.

Information on commercial tour operators in south-east Queensland was collected in a separate survey conducted for this study (see Section 3). Information on those operators who visit Springbrook was extracted and is reported here.

Business dependence on the surrounding forests

Businesses in Springbrook

Almost all businesses surveyed have some dependence on visitors to forests for business income. Over 70% of businesses surveyed derive over half their income from visitors to forests (see Table 2.2).

Only one business reported it has no dependence on visitors to the surrounding forests for business income. The respondent identified the business as 'other' (plant nursery) and reported that income is dependent on numerous clients scattered throughout Queensland.

Of the businesses surveyed, only one relies on visitors to forests for 1–24% of its total business income. The respondent identified the business as 'other' and reports that the business relies heavily on the local residents to generate income.

Three businesses surveyed rely on the surrounding forests for 25–49% of their total business income. These businesses identified themselves as 'accommodation', 'hospitality', 'souvenirs, gifts, craft, gallery' and 'other'. In the 50–74% income dependence category, the two businesses tend to be oriented more to tourists than locals. In this category, 33.3% of the businesses identified themselves as 'accommodation', 33.3% as 'hospitality', and 33.3% as 'souvenirs, gifts, crafts, gallery'.

Seven businesses rely on visitors to forests for 75–99% of their income. Once again, the businesses depend more on tourists to the area than on local residents. In this category, 26% identified themselves as 'accommodation', 26% as 'hospitality', 36% as 'souvenirs, gifts, craft, gallery', and 7% as 'transport'.

Three businesses rely entirely on visitors to forests for their income. All of these businesses identified themselves as 'accommodation'.

Tours visiting Springbrook

A total of 24 operators with permits to visit National Parks or State Forests were identified as visiting Springbrook National Park. Other operators are known to visit Springbrook regularly or irregularly. At least eight such operators were mentioned by businesses located in Springbrook as visiting the area. These operators without permits are officially restricted to transporting people to the outskirts of the National Park and not taking them on guided walks. The characteristics of the 24 operators with permits are described from their responses to the telephone survey of commercial tour operators in south-east Queensland (see Section 3). Twelve operators visit in coaches or small buses, eight operators visit in four-wheel drive vehicles and four operators offer action adventure tours with rock climbing, abseiling, etc. Four-wheel-driving is not undertaken in the National Park–some of these operators offer four-wheel-driving in the Numinbah State Forest. Nineteen of the operators offer regular daily or weekly tours and the remainder visit on an irregular basis. Twelve of these operators are 100% dependent on forests for their business.

Employment characteristics

Businesses in Springbrook

A total of 55 people were employed in the businesses surveyed. Of this number, 34 (or 62%) were full time employees and 21 (or 38%) were part time employees. All employees live in Springbrook, with the exception of one part time employee who lives on the Gold Coast.

Table 2.2 shows the actual number and percentages of employees found in each of the business dependence on visitors to forests categories. There are 49 people employed in the businesses that have some dependence on visitors to forests. The 75–99% dependence category is not only the largest in terms of number of businesses, but is also the largest employee category, employing 21 people.

At least 43 employees in Springbrook (close to 80% of the sample) work for businesses who rely on visitors to forests for more than 50% of their total business income.

Tours visiting Springbrook

Total employment by the 24 tour operators is 84 full time employees and 162 part time employees, a total of 246. The 12 tour operators who are 100% dependent on forests employ 26 people full time and 55 people part time, giving a total of 81 people.

Expenditure

The largest proportion of expenditure made by the businesses surveyed is on the Gold Coast (62.1%). This includes Nerang, Southport, Robina and Burleigh Heads. 19.5% of total business expenditure is made in Mudgeeraba, while 12.1% is made in Brisbane. Only 3.1% of business

expenditure is made in Springbrook. 2.9% of expenditure is made in 'other' locations of which no towns are listed, and 0.3% of expenditure is made in Sydney. 41.2% of the businesses in Springbrook claim that none of their expenditure is made in Springbrook.

Summary

Our survey covered 65% of businesses in Springbrook township. It appears not to be biased towards businesses that cater to visitors. The results show a strong link between businesses and visitors to forests. The majority of the businesses surveyed were 'accommodation', 'hospitality' and 'souvenir, gifts, craft, galley' operations.

Over 90% of township businesses surveyed have some dependence on visitors to forests and over 70% of derive over half their income from visitors to forests. Thus, can be concluded that 16 to 25 businesses in Springbrook are somewhat dependent on tourism.

The businesses with over half their income dependent on visitors to forests employ 43 people.

In addition, over 24 tour operators used Springbrook. The 12 operators who are 100% dependent on forests, employ 81 people. It therefore appears that around 124 people are employed full or part time, due to tourism and recreation in the forests of Springbrook.

Comments on forest management

The last part of the survey gave the respondents the opportunity to express any comments they had regarding forest management issues relating to their business. Many of the comments made by the respondents were of a similar nature. Almost a third of all the respondents said that the forests are very important to their business. The remaining comments on forest management are as follows:

- there is a need for more people/development in Springbrook
- preserve the forests
- forests are educational
- importance of forests to business is hard to assess
- wildlife is important for business
- forests are not important for business
- people choose to live in Springbrook because of the forests
- need more rangers/government funding.

Table 2.2 Springbrook business links survey results

Percent of total income dependent on forests	No. of businesses surveyed	Percentage of total businesses surveyed	Types of business by percentage breakdown (multiple response question)	No. employees	Percent of employees
0	1	5.9	100% other	6	10
1–24	1	5.9	100% other	1	1
25–49	3	17.6	33% accommodation 33% hospitality 17% souvenirs, gifts, craft, gallery 17% other	5	9
50–74	2	11.8	33.3% accommodation 33.3% hospitality 33.3% souvenirs, gifts, craft, gallery	6	10
75–99	7	41.2	26% accommodation 26% hospitality 36% souvenirs, gifts, craft, gallery 7% transport	21	38
100	3	17.6	100% accommodation	16	29
	n=17	100		n=55	100

Source: Kinhill Economics.

2.4.4 Themes that emerged

Current situation

Business links

The links between the Springbrook National Park and the town of Springbrook can be summarised as follows:

- The forests are the main attraction of the town. Visitors come up the mountain to see the National Park, and then visit the local businesses. Without the forests, many of the businesses in Springbrook would cease to exist.
- Virtually all of the businesses in Springbrook are based on tourism.
- There is a perception that the majority of the visitors are daytrippers, and thus do not spend their money on the accommodation facilities available in the town.
- There is a perception that Springbrook is under-promoted as a tourist destination.
- While more tourists are welcomed, all development should be kept as low impact as possible, so that the natural beauty of the area is preserved.
- Poor roads prevent people from travelling or make travel unsafe. Tourist buses may be discouraged from travelling to Springbrook.

Forest management and facilities

- All groups appreciate the current level of National Park facilities given the level of funding. All groups would like to see new recreational facilities developed both in the National Park and in other forest locations on the Gold Coast Hinterland. Many participants would like to see recreation facilities developed in 'the settlement' Recreational Open Space area.
- All the participants want to preserve the forests as this is key to attracting visitors to their town. All the groups said that more rangers are required to maintain the National Park and to educate the visitors to the area on the importance of the forests.
- There is only one small (10 site) camping area in the Springbrook National Park, and it is at capacity during peak periods. All other facilities are either near capacity or at capacity during peak times. At a number of sites, the car park area has been reduced in order to reduce visitor numbers.
- There is strong support for a user pays system to be introduced to relieve some of the funding constraints. However, there is some debate about how this would actually be implemented and policed. A user pays system is generally only supported by the participants if the money goes back to the National Park and not into general government revenue.

Future visions and actions

Business and the town of Springbrook

Some development of tourism based business is supported however, the participants would prefer better promotion of the existing businesses first. Any new developments should be low key and have minimal impact on the surrounding environment so that the attractiveness of the area is not reduced.

Greater links between the forest and the town were suggested to be facilitated by local businesses supporting:

- advertising the existence of the town and the National Park, especially on the Gold Coast
- encouraging visitors to stay overnight in Springbrook, rather than come up for a daytrip only
- encouraging the government and local Council to provide more nature based recreation facilities, especially camp sites, to encourage more visitors to come to the park, and to take some of the pressure off the existing site
- encouraging the GCCC to ease the conditions which the local businesses perceive make it difficult for them to cater for tourists.

Links between Springbrook and sources of tourists:

- promotion of the World Heritage aspect of the National Park
- better signs on the main roads and highway around the Gold Coast

- upgrading the roads to Springbrook and public transport to Springbrook
- the construction of a skyrail from the Gold Coast to Springbrook.

Forest management

- It is generally accepted that there will be a greater demand for tourism and recreation in the natural environment as knowledge of the area increases, and visitors to the Gold Coast and south–east Queensland increase.
- It is perceived that the National Park is currently under-funded and understaffed. The construction of new facilities in nearby State Forests or on 'the settlement' would be encouraged.
- The introduction of a user pays system for accessing the park is supported as long as the money goes back to the National Park.
- An increase in visitors on commercial tours is preferred to an increase in visitors in private vehicles, as those on commercial tours are generally controlled, and have less of an impact on the environment.
- No significant expansion of the number of businesses in the area was suggested.
- The construction of an adequately funded and staffed Information Centre is encouraged.
- More rangers to run the National Park is encouraged

2.4.5 Mail survey of tour operators

A total of 24 questionnaires were mailed out to tour operators who visit Springbrook National Park and 10 completed or semi–completed questionnaires were returned. The four questions on the questionnaire were the same as the four questions put forward to the participants of the Springbrook focus group workshop.

The tour operators generally agreed that the forests are very important for the survival of their businesses. Tour operators to Springbrook are genuinely interested in eco–tourism and preserving the forests. It appears that many tourist operators feel that they are looked upon as being the cause of many of the problems associated with forest based tourism. While tour operators do bring a large number of people to the parks, operators believe that these people are the least likely to cause damage to resources and facilities. Operators argue that it is in their best interest to preserve the environment so that their businesses continue, and also that they educate the public about the forests so that when these tourists go to a forest in future, they are aware of the right things to do. A number of tour operators have extensive knowledge of the areas they visit and would like to see themselves as an 'extension' of the rangers, who are unable to supervise the parks at all times.

Tour operators to Springbrook agreed that the lack of promotion on the Gold Coast was a problem. They believe that forests are an important drawcard in attracting visitors to an area, yet the tourist bureaus do not seem to be aware

of this. While there are many visitors to the Gold Coast only a small proportion visit the hinterland. The point was made by one operator that the Japanese tourists love the rainforests and the glow worm tours if they can be persuaded to leave Surfers Paradise, and so tourist bureaus should therefore be promoting the hinterland, especially to the Japanese visitors.

While some of the operators believe that the facilities in Springbrook National Park are adequate, others believe that they could be vastly improved. A number of operators expressed concerns over the lack of disabled access facilities in the park. Some operators would like to see four–wheel drive tracks established so that disabled visitors could see the forest by vehicle rather than by walking tracks. There appears to be a limited number of sites for adventure-based activities such as rock climbing and abseiling. Adventure tour operators believe they should have as much right to use the parks as the bus/guided walk tours do.

There is a lot of concern about the roads leading up to Springbrook. The Springbrook Mudgeeraba road is totally inaccessible to full size coaches and the Numinbah/Springbrook road is extremely narrow for full size coaches. Coach parking and all weather facilities were seen to be lacking by a number of tour operators. Some operators expressed concerns over health and safety issues at a number of sites.

The tour operators with permits to take people into the parks expressed concerns over the number of tour companies who simply drop people off at the entrance to the park and leave them unsupervised. There are concerns over this type of activity for a number of reasons. First, it is perceived that these large, unsupervised groups of people cause more damage to the parks than supervised groups, as these people do not learn about the fragility of the forests as part of the tour, and hence it is these tour groups which give the whole forest based tour industry a bad name. Second, it is seen to be unfair that these tour operators avoid paying fees, when the operators who take guided tours have to pay.

Many tour operators believe that their industry should be prepared to invest in the future of forest destinations. In this case, some operators would be prepared to pay an annual operator fee but only if this levied across all operators going to the parks, not just the ones who actually go into the park. At present, many operators feel that they are being unfairly treated as rules and regulations applying to them are constantly tightened, even though they think that they are not the cause of the majority of problems.

Many tour operators are concerned about overcrowding at certain sites in Springbrook National Park. They believe that the park will support a large tourist population as long as other sites and walking tracks are opened up. One idea is to develop areas that could be specifically funded via a user pays system. One operator put forward the idea of creating a micro rainforest within the forest itself to allow people to experience the beauty of the forest in a short period of time. This would also help control visitor damage as visitors would be guided and confined to a certain area. Many operators believe a properly run information centre at Springbrook would be useful in giving

visitors information and explaining the rules to them. It was suggested that a toll gate at Natural Arch could restrict usage, and a full time ranger at the gate could tell people of the rules and regulations, especially about shining torches on the glow worms. Threats of 'loving the forests to death' are perceived to be real unless something can be done to address the overcrowding and environmental degradation problems pointed out by the tour operators.

In the long term, tour operators would like to see a number of changes. Many operators would like to see the roads upgraded as soon as possible. There is some debate of the issue of user pays. Some tour operators believe that the current system of fees is unfair to them and that everyone visiting National Parks and State Forests, not only operators, should have to pay. Others however, believe that no one should be forced to pay to visit forested areas, but rather that everyone should have access that is funded via the taxation system. Operators who commented on this issue believe that any funded revenue collected from direct user charges should be allocated to managing the forests, rather than to consolidated revenue.

2.4.6 An interpretation of findings

We found that there is considerable recognition in both Kenilworth and Springbrook that tourism and recreation in forests is important to the livelihood of local businesses and communities. In both communities, there are people and businesses whose entire livelihood depends on tourism and recreation in forests. In addition there is considerable interest and activity in promoting both areas to potential visitors.

The participants in the Springbrook study were conscious that their economic base depends on forest–based tourism and recreation, while the Kenilworth participants considered their economic base more diversified, with tourism and recreation to forests playing a role. Visitors to forests support the majority of business in Springbrook. All participants at the focus group meeting, all businesses surveyed, and all tour operators surveyed emphasised the importance of tourism and recreation in forests to businesses and communities in the area. The business dependence in Kenilworth in less, but visitors to forests are significant to around one quarter of businesses in that town. Not all businesses surveyed in Kenilworth considered tourism and recreation to forests particularly important to them or the town.

The attitudes of the participants in both studies to the issue of forest management for recreational opportunities was gauged in the studies. In both locations, participants supported having a variety of opportunities available. In neither location was there any advocacy for changing the current tenure of forests.

In Kenilworth, the range of opportunities provided by having Connondale National Park with fairly limited facilities and prohibitions on some uses was seen to complement the wider range of activities available in Kenilworth State Forest. No participants called for an expansion of the National Park, although some emphasised their support for its existence. All participants appreciated the recreational opportunities provided by the facilities in Kenilworth State

Forest and the access provided for driving and horse riding on roads and tracks in the State Forest. Forest managers noted that some roads were kept open by logging. There was no detailed examination of the preferred amount of road and track access for recreational use. The recreational user groups at the focus group workshop represented only horse riding and 4 wheel driving. The recreational horse riding group and the commercial operators who conduct horse riding tours were against any changes to the tenure or management of the State Forest that might threaten their access to what they value as some of the best trails in the region.

In the Springbrook area, there was support for increasing the range of recreational opportunities available. There was no mention by anyone of increasing the range of activities permitted in the National Parks (however some tour operators called for better access for disabled people). A number of participants suggested that a partly cleared area of land on Springbrook known as 'the settlement', purchased under the Recreation Open Space scheme, be developed for recreation activities that would complement the National Park. Others pointed out that a wider range of activities was already permitted in Numinbah State Forest, and a number of tour operators visit this area for four–wheel driving and viewing of flora and fauna as part of their tours.

The concept of a cable car facility was supported by some participants, but potential impacts on the National Park were not discussed. It should be noted that since focus group workshop and surveys were conducted, a private developer has announced a proposal to build a cable car to Springbrook.

Both Springbrook and Kenilworth demonstrate economic links between tourism and recreation use of forests and businesses and employment in the towns, and the tour operators who visit the forests. This section briefly discusses what can be drawn out of the case studies in terms of characteristics that make for successful economic links.

Firstly, is it worth noting the characteristics that Springbrook and Kenilworth have in common:

- They both have attractive settings. Springbrook is on a mountain and features rainforest and waterfalls. Kenilworth is set in a picturesque valley with forested hills.
- They are located within a day trip's distance from the Gold Coast and Sunshine Coast respectively. While both are within a day trip from Brisbane, Kenilworth is at the outer margin of a comfortable day trip.
- Both areas feature attractive forests, with visitor facilities provided and managed by government.
- While both areas offer a range of recreation opportunities in National Parks and State Forests in the vicinity, in both areas, 'passive' use (e.g. picnicking and short walks) is the most popular (see Section 4 for a definition of 'passive' and 'active' uses).

- Businesses that cater for visitors to forests have set up in the towns. Tour operators are active in visiting the forests.

The forests of Springbrook have many more visitors and the economic activity and employment supported by businesses linked to tourism and recreation in forests is much greater than for Kenilworth forests. Characteristics of Springbrook that may contribute to this greater activity include:

- Springbrook is closer to a larger tourist population on the Gold Coast and is closer to Brisbane. Natural Bridge National Park provides the closest rainforest swimming opportunity to the Gold Coast;
- Springbrook forests may be more attractive to visitors, combining mountain scenery and coolness with rainforest;
- the businesses offering food and beverages, art and craft and accommodation are located much closer to the forest, or actually in the forest. There is one road through Springbrook linking visitor facilities and the businesses that have established in the vicinity. By contrast, the Kenilworth State Forest is about 6 km south of the town and visitors from Brisbane or the south of the Sunshine Coast may enter and leave the State Forest from the south without ever visiting Kenilworth;
- the feature of the glow worms in Natural Bridge National Park has been actively promoted as an ecotourism attraction by the tourism industry that has built up around this attraction, drawing upon tourists from the Gold Coast;
- Kenilworth has some advantages over Springbrook for a proportion of visitors;
- Kenilworth State Forest has extensive camping facilities which are well utilised;
- Kenilworth probably benefits more from the 'active' independent and commercial tour users (e.g. horse riding and four–wheel drive use) of Kenilworth State Forest, than Springbrook benefits from 'active' users of the more distant Numinbah State Forest.

Given the above observations, how can communities in the vicinity of forests make the most of the economic potential of tourism and recreation in forests? Some of the attributes that make a forest area attractive for tourism and recreation, and which are linked to businesses benefiting from tourism and recreation, are the natural attractions of the area. While these are determined by nature, they can be enhanced in terms of visitor enjoyment by publicising what is there, making attractive or interesting areas accessible, providing facilities, and providing interpretation. Examples of enhancement are the camping facilities in Kenilworth State Forest, and the glow worm ecotourism business in Natural Bridge National Park. In both these cases, the settings are less spectacular than those on Springbrook Mountain, yet a considerable number of visitors are attracted.

The provision of good roads and good information to potential visitors may reduce locational disadvantages of forests further from population centres.

The provision of visitor facilities has a ‘honey pot’ effect in attracting visitors to those sites. The facilities however, need to be appropriate to visitor’s demands. For example, although the Lamington National Park area has extensive tracks of a very high standard, the majority of visitors to these and other forests favour short walks.

The small private tour businesses that predominate in south-east Queensland forests do not have the capital to develop the roads and visitor facilities which they depend upon for their operations. All the larger operations, for example those on Fraser Island, started small, using the public facilities, however rudimentary. There is only one example in Queensland of a large private capital investment in tour facilities in forests, that is the Skyrail in the Wet Tropics WHA. It is likely that government funding of facilities will continue to play an important part in the support of commercial tour operations.

The vast majority of visitors to forests engage in ‘passive’ recreation pursuits that are able to be enjoyed in National Park type settings, including at visitor sites in State Forests (see Section 4). The facilities needed by these visitors include short walking tracks and boardwalks, parking and day use areas and interpretation. If communities wish to encourage the less well patronised active recreation uses including horse riding and four–wheel driving, some roads and tracks in State Forests will need to be kept open. The options for this are: to continue logging; to secure government funding for road maintenance for recreation use only; or to employ a ‘user pays’ scheme for road users.

3 Commercial tour operators in State Forests and National Parks

3.1 INTRODUCTION

There are over 80 active commercial tour operators who take visitors to State Forests and/or forested National Parks in the south-east Queensland region. These operators provide tourists with the opportunity to experience the attractions of the native forest environments. The commercial tour sector is also an important, and easily identifiable, part of the economic activity supported by the presence of the forests. The purpose of this section is to describe the commercial tour sector in terms of the population of operators and types of tours offered, and economic characteristics including employment, gross takings, and income.

Commercial tour operators wishing to take visitors to State Forests or National Parks require a permit from DNR or DoE. If operators visit both National Parks and State Forests, they can obtain a permit from one of the agencies under a 'one stop shop' arrangement. Operators are required to pay a fee of $1.15 per visitor for visitors taken into State Forests or National Parks for up to three hours and $2.30 per visitor for visits of over three hours. Operators are obliged to provide monthly reports of visitor numbers, and payment of fees, to the agency administering their permit.

Information made available by these agencies for this study was a list of names and addresses of permit holders. Separate information was provided on the total number of visitors to State Forests and National Parks. This was provided in a way that kept the returns of individual operators confidential.

The number of active permit holders represents an underestimate of the actual 'use' of State Forests and National Parks by commercial tour operators for several reasons. Some operators deliver tourists to the entrance of sites and do not accompany the tourists into the sites, thus avoiding the need to obtain a permit and pay fees. Some operators who provide accommodation or transport do not explicitly charge tourists for guided walks, and thus are not strictly acting as commercial operators when at the sites. There are also believed to be some operators without permits who visit State Forests and National Parks occasionally. The extent of this underestimation is not known. However, there are also permit holders who are no longer operating and the extent of this was identified in the telephone survey conducted for this study.

The number of tour operators with permits provided by each DNR and DoE regional office is listed on the table below. The total number of operators listed was 163. Some operators appeared on more than one list.

Table 3.1 Commercial tour operator numbers by region

Department of Natural Resources	Moreton region	North Coast region	Rockhampton
	20	11	1
Department of the Environment	South East Queensland region	Great Sandy region	Central Coast region
	89	36	6

Source: Kinhill Economics.

The number of visitor-days to State Forests and National Parks on commercial tours was estimated from records kept by DNR as 4,000 to State Forests, and by DoE as 343,000 to National Parks, a total of 347,000 per annum (see Section 4).

The first step in understanding commercial tourism use of State Forests and National Parks was to obtain more information on the types of tours offered by these operators and some description of their operations. A telephone survey was conducted of all the operators with permits in order to obtain this information. Another purpose of the phone survey was to define the population by type of operation (e.g. coach tours, four–wheel drive tours, horse riding, etc.), to allow a sample to be drawn for a more detailed economic survey. The economic survey had the aim of estimating gross returns, costs of production and cash incomes. Both these surveys are described below.

3.2 DESCRIPTION OF THE POPULATION

3.2.1 Telephone survey methodology

The telephone survey was designed to reach all operators and collect information which describes their operations but which is not confidential in nature. Questions were asked about the type of operation and length of trips, State Forests and National Parks visited, the proportion of their business which involves visits to State Forests or forested National Parks, number of vehicles or horses used, type of vehicles, price of tours and people employed. Much of this information would be published on advertising brochures. No questions were asked about the number of visitors carried as this was considered potentially confidential commercial information that could not be expected to be obtained from a telephone survey.

An attempt was made to telephone all operators on the lists from DNR and DoE. In a number of cases (12% of all operators listed), no contact was made. There were several reasons for this. In some cases, no telephone numbers had been supplied and on consulting telephone books and directory assistance, it was found that the operators' firms or names were not listed. It is possible that these people are no longer operating, however, they have been included in the 'no contact' category. In all other cases of 'no contact', telephones were not answered or messages left on answering machines were not returned, despite at least four attempts at contact. As the survey was run

over Christmas and the New Year, the last attempt at contact was left until the week of the 12 January.

When contact was successful, the consultant and reason for the study were introduced. Operators were then asked if they would participate in the survey. A small number of operators (4%) refused to participate. Some others (10%) advised they had ceased operating or had not yet commenced. There were some operators on the National Parks list who do not visit forests at all, and these were excluded after initial discussion. This group made up 6% of operators listed.

The questions were asked and the operators then advised that some operators would be contacted for a more detailed survey later. Operators were asked to provide a copy of their advertising brochure.

3.2.2 Results of the telephone survey of the population of commercial operators

Commercial operators contacted and currently active in forests at the time of the survey made up 65% of the operators listed by DNR and DoE. This represents 84 operators. The results of the survey of these 84 operators are presented below and can be interpreted as a description of the population of commercial operators with permits to access State Forests and/or National Parks.

The broad types of tours offered in forests are listed in Table 3.2. The majority of operators visit forests either by coach and small bus or four-wheel drive and provide tours which generally take in a number of sites, usually include guided walks in the forest, and feature information about the sites visited given by the guide. Four-wheel drive vehicle tours fall into two types: those which feature a drive on forest roads as part of the trip which is mainly conducted on sealed roads, and those where most of the trip is on terrain requiring four-wheel drive capability. There is a significant tour business on Fraser Island that requires four-wheel drive capability and includes some four-wheel drive coaches.

Horse riding is conducted entirely in State Forests. Active adventure includes longer walks, abseiling, rock climbing, etc. Most of the operators offering this type of trip conduct only part of their business in south-east Queensland forests. Boat tours operating in the forested area of the Noosa River and Cooloola area have been included in the survey.

Table 3.2 Tour type

Tour type	Number of operators	(%)
Coach and small bus (generally incl. short guided walks)	30	36
Four–wheel drive (generally including short guided walks)	28	33
Horse riding	8	9
Active adventure (longer walks, abseiling, rock climbing, etc)	11	13
Educational—school groups	4	4
Boat tours in forested environments	3	3
Total	**84**	

Source: Kinhill Economics.

National Parks are the most significant resources for the commercial tour industry. The majority (58%) of commercial operators visit National Parks only, see Table 3.3. In addition, 28% of operators visit both National Parks and State Forests. Thirteen percent of operators only visit State Forests. State Forests therefore are a resource for 41% of tour operators. Anecdotal information from operators who visit both National Parks and State Forests is that the State Forests (usually wet or dry sclerophyll forests) are important in providing a contrasting environment to rainforest. These operators report that State Forests are less crowded and offer visitors the potential to see koalas and kangaroos, and to enjoy four-wheel driving on less developed tracks.

Table 3.3 Forest type visited

Forest type	Number of operators	(%)
State Forest only	11	13
National Park only	49	58
State Forest and National Park	24	28

Source: Kinhill Economics.

Eighty percent of the operators in south–east Queensland offer regular daily or weekly trips or a program of extended trips throughout the year, see Table 3.4. The remainder offer charter trips on demand, offer other types of trips in south-east Queensland with forest trips only occasionally through the year, or operate more widely within Queensland or Australia with occasional visits to south-east Queensland forests.

Table 3.4 Frequency of tours in south–east Queensland

Frequency	Number of operators	(%)
Regular, daily or several times weekly	67	80
Irregular charters and/or a small number of trips per year	17	20

Source: Kinhill Economics.

Forty operators depend on south-east Queensland forests for 100% of their business. A listing of the number and percentage of operators who depend on forests for various proportions of their business is shown in Table 3.5. The distribution shows that just over one-third of operators depend only partly on forests. This includes some who make regular trips but who also make trips to other locations, plus the less regular users. On the other hand, the largest group of operators comprises those who rely 100% on forests.

Table 3.5 Proportion of business dependent on forests

Income dependence on forests	Number of operators	(%)
1% to 25%	32	37
26% to 50%	8	9
51% to 75%	6	7
76% to 100%	41	47

Source: Kinhill Economics.

Fifty three percent of operators offer tours that last one day or part of a day. A further 22% of operators offer day and extended tours and 25% of operators offer extended tours only (see Table 3.6).

Table 3.6 Length of tours

	Number of operators	(%)
Day only	26	30
Half day only	4	5
Evening only	2	2
Day, half and evening	14	16
Extended only	22	25
Day and extended	19	22

Source: Kinhill Economics.

The 84 operators who offer tours in south-east Queensland forests own between them 279 vehicles (see Table 3.7). As shown above, not all of the business of these 84 operators is in south-east Queensland forests. The largest number of vehicles owned by one operator is 36. This operation is focused on Fraser Island. Some horse riding operators who access forests from properties adjacent do not own vehicles in association with this part of their operations. The modal number of vehicles owned is one, and there are 38 operators who run sole vehicle operations.

Table 3.7 Number of vehicles

No. of vehicles	Number of operators	(%)
Zero	8	9
1	38	45
2	15	17
3	11	13
More than 3	12	16

Sum	Mean	Mode	Minimum	Maximum
279	3.3 (21)	1	0	36

Note: Relative standard errors are shown in brackets.

Source: Kinhill Economics.

The average prices of tours for adult passengers are given in Table 3.8. Detailed interviews with a sample of operators confirmed that the vast majority of passengers are adults paying full price.

Table 3.8 Tour prices

	Number of observations	Mean price ($)
Day tours	50	84 (7)
Half day tours	22	48 (9)
Evening tours	7	107 (10)

Extended tours, price per day	31	140 (10)

Note: Relative standard errors are shown in brackets. Source: Kinhill Economics.

A total of 768 people are employed by the 84 operators who visit forests in south-east Queensland, see Table 3.9. Full time employment is supported for 425 people and part time employment is provided for 343 people. Not all this employment can be attributed to forests as not all businesses are 100% dependent on forests. The employment supported by the forty operators who are 100% dependant on forests is 130 people full time and 99 people part time, making a total of 229 employees.

Table 3.9 Employment

	Sum	Mean	Mode
Full time	425	4.8	1 (31)
Part time	343	4.0	0 (20)
Total	**768**	**8.7**	**1 (20)**

Note: Relative standard errors are shown in brackets.

Source: Kinhill Economics.

3.3 ECONOMIC SURVEY OF COMMERCIAL OPERATORS

An economic survey was undertaken to estimate the gross returns, costs of production and net returns from the commercial tour sector. The commercial tour sector is diverse. We identified six different types of operation: coach and small bus tours, four–wheel drive tours, horse riding, active adventure, educational groups and boat tours. Additional diversity in the sector results from operations in the first two groups being at different scales. Thus it can be expected that costs of production and gross and net returns will vary across the different types and scales of operation. As the time and resources for this study were limited, we chose to focus the economic survey on the two most significant types of tours in terms of the numbers of operators and the number of visitors carried to forests. These are the coach/small bus and four–wheel drive tours (see Table 3.2 above).

There are several different scales of operations within these types, as shown on Table 3.10. The smaller scale operations (in terms of vehicle numbers), of the coach/small bus sector, are the most regular in visiting forests and visits to forests make up generally a significant proportion of their business. Coach/small bus tours with larger numbers of vehicles tend to visit forests on an irregular basis and visits to forests make up only a small proportion of their business. The exception is a tour company with 17 vehicles which visits glow worms at Natural Bridge National Park. While this operator visits forests regularly, only 50% of the business is dependent on forests. In the four-wheel drive tour type, the majority of operations are of a small scale with up to three vehicles. The exception is on Fraser Island where there are several large operations. It was decided to concentrate on the small operations for this study as they are more typical of operations in the rest of the forests of south-east Queensland. The smaller scale operations, in terms of vehicle numbers,

by bus and four-wheel drive were therefore chosen as most typical of those that regularly visit forests in south-east Queensland. Tables 3.11 and 3.12 describe the vehicle numbers and frequency of operation of the coach/small bus and four-wheel drive tour types.

Table 3.10 Number of vehicles used by coach/small bus and four–wheel drive tour operators

No. of vehicles	Number of operators	
	Coach/small bus	Four–wheel drive
1	16	13
2	2	7
3	4	4
4	1	0
5	3	0
8	0	1
10	0	1
17	1	0
20	1	0
22	1	0
36	0	1

Source: Kinhill Economics.

Table 3.11 Number of operators by vehicle numbers and frequency of tours, coach/small bus tours

No. of vehicles in operation	No. of operators	
	Regular visits	Irregular visits
1	15	1
2	2	0
3	1	3
4	1	0
5	2	1
17	1	0
20	0	1
22	0	1

Source: Kinhill Economics.

Table 3.12 Number of operators by vehicle numbers and frequency of tours, four–wheel drive tours

No. of vehicles in operation	No. of operators	
	Regular visits	Irregular visits
1	9	4
2	6	1
3	3	1

8	1	0
10	1	0
36	1	0

Source: Kinhill Economics.

A sample of 14% of operators was chosen from all operators of these tour types. The choice was determined by operators who agreed to cooperate in providing financial data. The sample had characteristics similar to the population within these types and scales. All the operators included in the survey had over 50%, and the majority had 100%, of their business in forests. All but one coach/small bus runs regular tours to forests. This coach/small bus operator operates when chartered and a significant proportion of the business is to forests.

Table 3.13 Type and vehicle numbers of operators surveyed

Coach/small bus	Four–wheel drive
Operators with one vehicle	Operators with one vehicle
Operators with two vehicles	Operators with two vehicles
Operators with three vehicles	Operators with three vehicles

Source: Kinhill Economics.

The cost of capital in the form of vehicles involved in the operations is reported in Table 3.14. The average purchase price per vehicle was $51,000. Average real depreciation per vehicle per year is calculated as purchase price minus predicted resale price of the vehicle, averaged over the expected life of vehicle use in the business.

Table 3.14 Capital invested in vehicles

Average purchase price per vehicle	$51,000
Age of vehicles	1–6 years
Expected life of vehicles	5–9 years
Average real depreciation per vehicle per year	$3,400

Source: Kinhill Economics.

Information on costs of production was sought from operators. Average costs of production are reported for the sample of operators in Table 3.15. All operations are owner operated with one or up to four owners involved in running the business. The salary figures reported in the tables only include salaries paid to drivers and other employees, not to owners. Returns to owners are discussed later. Average costs for the entire sample are reported here to preserve confidentiality. Average costs for operators with one vehicle are around $32,000, while for two and three vehicle operators together, average total costs are around $154,000 per annum (see Table 3.16).

Table 3.15 Costs of production, average per operator

	($)
Advertising	5,356 (34)
Office costs	4,967 (34)
Permits and licences	1,969 (40)
Insurance	2,143 (35)
Commission	22,938 (56)
Fuel	8,947 (35)
Repairs and maintenance	2,411 (47)
Food for catering	15,062 (39)
Uniforms	588 (40)
Memberships	753 (41)
Salaries	16,625 (44)
Vehicle purchase/lease	9,488 (42)
State Forest/National Park fees	1,884 (40)
Total	**93,131**

Note: Relative standard errors are shown in brackets.

Source: Kinhill Economics.

Gross returns are determined by the average price charged for a tour and the number of visitors carried. These returns have been calculated based on the percentages of adult fares, concession fares and child fares for each operator, and then averaged over all the operators in the different categories. The number of passengers carried varied with the size of the operations in the sample, from a minimum of 204 to a maximum of 6,000 passengers per annum. The average gross return for the sample was $155,000 (see Table 3.16). Operations with one vehicle had an average gross return of around $72,000, and operations with two and three vehicles had an average gross return of $238,000.

The annual cash income to the owner/operator is calculated as the year's gross return minus costs of production, which include that year's cost for vehicle purchase/lease but does not include a value for depreciation or a salary for the owner/operator (ABARE 1995). These returns are illustrated in Table 3.16. All operations in the sample were making a positive cash income.

Cash income represents the returns to owner operators. The average number of owner operators per business in the sample was one owner operator for operations with one and two vehicles, and 1.5 full time equivalent owner operators for operations with three vehicles. The average weekly earnings in Queensland for August 1997 was $704 per week, or $36,600 per year (ABS 1997). Thus on average, owner operators of one vehicle operations were making an income of at least the average weekly earnings, and operators of two and three vehicle operations were making incomes above this amount.

As the economic survey was undertaken from a sample of two types of operation, involving one to three vehicles, it is not relevant to extrapolate the results to the entire population of 84 operators. The survey results do illustrate that owner operators of the most common types and sizes of tour operations in forests, were on average making at least sufficient cash income to support owner operators at average weekly earnings.

Table 3.16 Average gross returns, cost of production, cash income and producers' surplus

	Operations with one vehicle	Operations with two and three vehicles	Average for entire sample
Gross returns	72,000 (16)	238,000 (15)	155,000 (26)
Costs of production	32,000 (7)	154,000 (22)	93,000 (34)
Cash income	40,000 (27)	84,000 (10)	62,000 (20)

Note: Relative standard errors are shown in brackets.

Source: Kinhill Economics.

4 Visitor numbers to State Forests and National Parks

4.1 INTRODUCTION

The aim of this section is to present estimates of the annual number of visitor-days made to State Forests and National Parks for recreation and tourism. The information in this section was compiled from data and estimates provided by the various regional and district offices of the Department of Natural Resources (DNR) and Department of the Environment (DoE) located in the south-east Queensland region.

The relevant measure for this study is 'visitor-days'. That is the number of days that visitors spent on site. For example, a person making one visit who camps and stays two nights will be reported as two visitor-days. One individual who visits twice will also be reported as two visitor-days. Information for campers is recorded in visitor nights and this is directly translated to visitor-days for this study, though it may be an underestimation, as visitors may spend one more day than the number of nights they spend.

The visitor-days estimated in this section form the basis of calculations of expenditure in Section 5, willingness to pay in Section 6 and future projections in Section 8. The methodologies for assembling visitor-days estimates and creating a database and GIS mapping capacity are discussed in the next section, followed in Section 4.3 with the results of this exercise.

4.2 METHODOLOGY

4.2.1 Visitor-day methodology

Visitor-days for south-east Queensland National Parks and State Forests were provided by the Department of Environment, the Department of Natural Resources and the Department of Primary Industries. DoE was responsible for data for National Parks while DNR and DPI provided data for State Forests. The Departments manage National Parks and State Forests according to regions and districts respectively and it was necessary to approach each region and district in the south-east Queensland RFA region for visitor-day estimates for that area. Thus, visitor-day estimates for National Parks were provided by DoE offices in the south-east region, the Central Coast region and also the Great Sandy area, a division of the Central Coast region. DNR offices in the Rockhampton, North Coast, and Moreton districts provided visitor-day estimates for State Forests while DNR and DPI jointly provided data for the Burnett district.

The Departments collect visitor number information on a systematic basis for campers and from commercial operators. Both these groups pay visitor fees. We were able to obtain actual passenger numbers carried on commercial operations for many of the National Parks and State Forests. However, for the DoE's south-east region, we obtained actual passengers carried for Springbrook and Lamington National Parks, and permitted passenger capacity figures only for other National Parks visited by commercial operators. We made an estimate that 10% of permitted capacity was being met. This percentage was selected based on our knowledge of use from the telephone survey of commercial operators. We consider this estimate to be conservative but realistic.

Neither Department systematically collects visitor-day numbers for independent day visitors. Vehicle counters and surveys are used at some sites for data collection. For all other sites, we have had to rely on estimates of visitor-days made by the managers. A survey of 'indicator' recreation activities in State Forests was carried out by DNR at the time of this study and visitor-day numbers collected in that survey are used here. For the purposes of this survey, 'indicator' activities included those activities most likely to be affected by a change in tenure from State Forest to National Park. These are: four-wheel driving, horse riding, trail bike riding, mountain bike riding and camping with a horse or dog. The term 'passive' recreation is used for the remaining activities, though many of these involve physical activity.

Visitor numbers to State Forests in south-east Queensland were divided into the following categories:

- independent visitors:
  - passive recreation:
    - campers
    - day visitors
  - indicator recreation activities:
    - day visitors.
- commercial tour passengers.

Almost half of the State Forests throughout south-east Queensland have been estimated to have little or no visitor use. The figures provided are, at most, estimates and should be treated as such. In particular, visitor-day estimates for State Forests in the Rockhampton district should be considered simply as an indication of relative use and not absolute figures.

Visitor numbers to National Parks in south-east Queensland took the form of total visitor-days, a figure that includes campers, day visitors and commercial tour operator passengers. For many National Parks, visitor-days were not estimated by DoE. However, DoE advises that those Parks for which figures have been provided account for as much as 80% to 85% of visitor use of National Parks throughout south-east Queensland, so the other Parks account for the remainder 15% to 20%. For the purposes of this study, it was

assumed that National Parks for which estimates of visitor-days were provided accounted for 85% of visitor-days. The remaining 15% was distributed evenly across all other National Parks, giving a figure of 8,360 visitor-days to each. This may not be a realistic representation of visitor-days to the individual National Parks. All National Parks in the region except two were included in the analysis on the basis that they are forested. St Helena Island and Fort Lytton were excluded as they are primarily historical attractions. As per the figures for State Forests, visitor numbers to National Parks as supplied by DoE are estimates only and should in no way be treated as being completely accurate.

4.2.2 Access database and link to GIS

The Terms of Reference specified that the data should be supplied in a spatial form, able to be mapped on DNR's Geographical Information System (GIS). This required setting up of an ACCESS database with the name and mapping coordinates for each State Forest and National Park, along with visitor-day and economic data for each State Forest and National Park.

GIS coverages were obtained from DNR and DoE for State Forests, National Parks, towns, roads and watercourses in south-east Queensland.

The information contained in the GIS database was then imported into Microsoft Access. The Access database is essentially identical to that of the GIS. As such, it contains the following information for both State Forests and National Parks:

- Lotplan–the unique identifier for each State Forest/National Park.
- Reserve Name/Gazetted Name–the given names for State Forest/National Parks.

Visitor number attributes were added to relevant State Forests and National Parks according to the form of the data. Visitor-days to State Forests and National Parks were therefore provided in a form able to be mapped in the form of ranges (i.e. 0–5,000 visitor-days,etc.). The following is the full list of visitor-day information:

- for State Forests–'indicator' recreation visitor-days (i.e. days spent mountain bike riding, horse riding, trail-bike riding, four-wheel driving, etc.).
- for State Forests–'passive' recreation visitor-days (i.e. day use in bushwalking, picnicking, swimming, etc.).
- for National Parks–day visitors (equivalent to 'passive' recreation)–the number of visitor–days spent in the Park.
- for State Forests and National Parks–visitor-days by campers–the number of nights spent camping.
- for State Forests and National Parks–commercial tour passenger visitor-days–visitor-days to State Forests/National Parks that are part of commercial tours.

- for State Forests and National Parks–independent visitor-days–total number of visitor-days excluding commercial tour passengers.
- for State Forests and National Parks–total visitor-days–total number of visitor-days of all types.

4.3 VISITOR-DAYS ESTIMATED

The total annual number of visitor-days estimated for forests of the south-east Queensland RFA region is around 7.6 million. This is made up of 1.8 million visitor-days to State Forests and 5.8 million visitor-days to National Parks, see Table 4.1. Thus State Forests attract under a quarter of visitor-days and National Parks attract three quarters of visitor-days to forests within these estates. The numbers in the following tables have been rounded to the nearest thousand.

Table 4.1 Total visitor–days, all forests

State Forests	National Parks	All forests
1,845,000	5,816,000	7,661,000

Source: Kinhill Economics.

Visitor-days to State Forests were estimated by adding visits by people on commercial tours, plus camping nights, plus day visits by people undertaking 'indicator' and 'passive' pursuits (as defined above). Visitor-days in State Forests are distributed amongst these categories of use as shown on Table 4.2.

Table 4.2 Total and distribution of visitor–days, State Forests

		Independent		
Commercial tours	Camping	Indicator day visits	Passive day visits	Total
4,000	30,000	185,000	1,626,000	1,845,000

Source: Kinhill Economics.

For National Parks, visitor-days have been recorded as those spent on commercial tours, camping and day visits. The distribution is illustrated in Table 4.3.

Table 4.3 Total and distribution of visitor–days, National Parks

		Independent	
Commercial tours	Camping	Day visits	Total
343,000	620,000	4,853,000	5,816,000

Source: Kinhill Economics.

The distribution of visitor-days for all forests is shown in Table 4.4, and it is obvious that independent day visits are in the vast majority.

Table 4.4 Total and distribution of visitor–days, all forests

Commercial tours	Camping	Independent Day visits	Total
347,000	650,000	6,664,000	7,660,000

Source: Kinhill Economics.

The split of visitor-days between people on commercial tours and independent visitors is shown in Table 4.5. There may be some double counting of people on commercial tours who camp, but camping is offered by very few tours and so any double counting would be minor.

Table 4.5 Commercial and independent visitor–days, all forests

	State Forests	National Parks	Total
Commercial tours	4,000	343,000	347,000
Independent visitors	1,841,000	5,472,000	7,313,000

Source: Kinhill Economics.

A further split of interest is between tourists to south-east Queensland and residents of south-east Queensland. It can be expected that the proportion of visitors to forests who are tourists will be greatest in forests closest to the tourist destinations of Brisbane, the Gold Coast, the Sunshine Coast and Hervey Bay. Information on the origin of visitors is not recorded by managers of National Parks or State Forests and managers were therefore not asked to make estimates of visitor-days by the origin of visitors.

An estimate was made for the purpose of this exercise. It was assumed that all visitors on commercial tours were visitors to south-east Queensland. This assumption was supported by the detailed survey of tour operators (see Section 3) as operators reported the majority of passengers being from outside south-east Queensland. The proportion of independent visitors who are tourists to south-east Queensland is not known with any precision. Some evidence is available from our survey of visitors to Brisbane Forest Park, Mt Tamborine National Parks and Kenilworth State Forest (see Section 5). Nine per cent of all visitors surveyed were tourists to south-east Queensland. This survey was undertaken only at one period of the year, late November/early December, and the degree to which the results represent the full year is not known. Anecdotal information from managers is that apart from visitors on commercial tours, the majority of visitors to forests are south-east Queensland residents. An assumption was made that around 10% of independent visitors are tourists to south-east Queensland. The estimation of visitor-days by tourists has been made by adding 10% of independent visitor-days plus all visitor-days on commercial tours, see Table 4.6.

Table 4.6 Visitor–days by tourists and south–east Queensland residents, all forests *

	State Forests	National Parks	Total
Tourists to south–east Queensland	166,000	890,000	1,056,000
South–east Queensland residents	1,679,000	4,925,000	6,604,000

* *Assuming 10% of independent visitors are tourists*

Source: Kinhill Economics.

The ten most popular State Forests and the visitor-days for each are listed in Table 4.7. The numbers for Brisbane Forest Park are for the four State Forest areas of this complex, Enoggera, Mt Glorious, D'Aguilar South and Samford State Forests. It is notable that for many State Forests, visitor use has been reported as negligible.

Table 4.7 Visitor–days to the ten most popular State Forests

State Forest	Visitor days
Brisbane Forest Park	898,000
Daisy Hill	267,000
Bunyaville	197,000
Mt Mee	108,000
Glasshouse Lookout	50,000
Beerwah	39,000
Belthorpe	25,000
SF 256 FTY1190	21,000
Wongi	19,000
Belthorpe	18,000

Source: Kinhill Economics.

The 10 most popular National Parks are listed in Table 4.8. The National Parks of Noosa, Fraser Island and Cooloola and Moreton Island feature beaches as a major attraction. Nevertheless all these areas are forested and the vegetation features amongst their attractions.

Table 4.8 Visitor–days to the ten most popular National Parks

National Park	Visitor days
Noosa	1,200,000
Great Sandy NP, Fraser Island Rec Res	764,000
Springbrook (inc Natural Arch)	700,000
Burleigh Heads	375,000
Lamington	350,000
Tamborine	350,000
Great Sandy NP, Cooloola	336,000
D'Aguilar	216,000
Kondalilla	200,000
Moreton Island	150,000

Source: Kinhill Economics.

5 Expenditure by visitors to State Forests and National Parks

5.1 CONCEPTS

As stated in the introduction to this report, one of the relevant measures of the economic value of tourism and recreation is the gross economic value of the expenditure by people engaged in these activities. The aim of this Section is to gain an estimate of how much money spent in the south-east Queensland region by people visiting forests in the region, can be attributed to the attraction of the forests.

Expenditure by people visiting forests is often dispersed in space and time. Expenditure is dispersed in space as people who visit forests may, for example, purchase fuel close to home and buy film in a town close to the site. Expenditure may be dispersed in time as people use vehicles and camping equipment that they purchased some time ago. Relevant expenditure items vary with the origin of the visitor and type of trip.

For independent visitors, the relevant expenditure is the cost of providing transport and any special items purchased for the visit to the forest. We have included information on the cost of meals consumed in the forest. Independent visitors are not charged any fee to enter either National Parks or State Forests.

Expenditure by visitors on commercial tours is made up of the cost of the tour plus any special items purchased for the visit to the forest. Government charges on tour operators ($1.15 or $2.30 per visitor) are included in the tour cost.

It is also relevant to consider the cost of overnight accommodation associated directly with the visit to the forest. For visitors who are camping in forests or visiting for the day as part of an extended trip from home, it is relevant to attribute some accommodation costs as part of their costs of visiting the forest. For campers, the cost of camping fees and a proportion of the cost of their camping equipment have been included. Campers in State Forests are charged $2 per night (adults). In National Parks the camping charge is $3.50 per night (adults). For visitors staying in commercial accommodation, we have included the cost of accommodation the previous night. (As the focus of this section is expenditure in south–east Queensland, any costs of travel to south-east Queensland are not included).

For this exercise, visitors to forests have been separated into those visiting via commercial tours and those visiting independently. Independent visitors can be separated into day trippers, and those who are staying away from home, with the latter group able to be further separated into campers and people making a visit from an accommodation base outside the forest. A further separate group is engaged in ‘indicator’ recreation activities in State Forests.

There was little current published information available about how much money independent visitors spend in visiting forests. For this reason, a survey of independent visitors to forests was undertaken for this study. Details of the survey methodology and results are included in Section 5.2. A literature review of published visitor expenditure estimates is presented in Section 5.3.

In Section 5.4, the results of calculations of total expenditure by all visitors to State Forests and National Parks are presented.

5.2 INDEPENDENT VISITORS—SURVEY OF EXPENDITURE

5.2.1 Expenditure survey methodology

Surveys were conducted in order to estimate how much money independent visitors to State Forests and National Parks spend on a typical visit to forests in the study area. The majority of independent visitors do not camp overnight in forests but rather visit for part of a day. It was assumed that they travel no more than about two hours each way from home or from where they stayed the previous night. For that reason, we were seeking the cost of travel for up to two hours each way.

Surveys were carried out in three sites, of different travel distances from Brisbane. This approach was taken so that results could compared to see if there was any significant difference in travel cost with distance from Brisbane, and to provide estimates to be extrapolated to other sites of equal distance from Brisbane or other population centres.

The closest site to Brisbane was the Brisbane Forest Park, which is on the western outskirts of Brisbane and in places is adjacent to urban areas. The visitor facilities at Jolly's Lookout are about 35 km from the city centre. It takes about 45 minutes by car from the city to reach Jolly's Lookout. There are camping sites at several locations in the Brisbane Forest Park.

The National Parks on Mt Tamborine were selected as the second site as they represent popular sites about one and a quarter hour's drive from the city centre. The Knoll National Park is about 75 km from the centre of Brisbane. There are no official camping areas on Mt Tamborine.

The Kenilworth State Forest complex was chosen as the third site as it represents a one and a half to two hour trip from Brisbane. The Booloumba Creek camping area is about 150 km from the centre of Brisbane. Kenilworth State Forest is just over a half hour drive from Noosa. The site offers relatively extensive camping facilities.

A questionnaire was designed to collect information on visitor and trip characteristics and expenditure, with a few questions on visitor attitudes included.

The questionnaire was administered by interviewers on site. The interviewers visited a number of facility sites within each site to collect sufficient interviews. One person per group was approached, with a preference for the driver to be

interviewed. The target of 150 responses per site was met or bettered at each site. The refusal rate was negligible.

The survey was conducted over two weekends at each site, in late November and early December 1997. The timing for the survey was determined by the requirements for this study to be completed in a limited time period. The survey period was before the start of the school and Christmas holidays and therefore represents 'typical' weekends during the year but not the peak periods of Christmas and Easter. The number of visitors per vehicle may be higher during peak periods, as more children may visit in those times and therefore the cost per person may be lower at those times.

5.2.2 Expenditure survey results

The data were analysed using EXCEL and STATISTICA software. The analysis involved the calculation of means and/or frequencies for selected responses and also the calculation of total expenditure per person. The results obtained from the analysis are reported under three headings: description of visitors and trips; expenditure; and attitudes.

Description of respondents and trips

Table 5.1 Place of residence

	Brisbane Forest Park	Tamborine Mountain National Parks	Kenilworth State Forest Complex
South–east Queensland	155	153	139
Other Queensland	3	4	2
Other Australia	2	15	6
Overseas	1	8	1
Total	161	180	148

Source: Kinhill Economics.

The majority of respondents came from south-east Queensland. Tamborine showed the broadest cross-section of visitor origin with a total of eight overseas respondents and 19 Australians from outside the south-east Queensland region. Nine percent of all respondents were tourists to the south-east Queensland region.

Table 5.2 Trip type

	Brisbane Forest Park	Tamborine Mountain National Parks	Kenilworth State Forest Complex
Day trip	148	137	61
Extended trip	13	43	87

Source: Kinhill Economics.

The above Table 5.2 shows that for Brisbane Forest Park and the Tamborine Mountain National Parks, the majority of respondents were on day trips from home. The majority of the 161 respondents of the Brisbane Forest Park survey were on day trips from home. No campers were surveyed and only 13 respondents had stayed in accommodation other than their own home the previous night. Of the 180 respondents to the Mt Tamborine survey, 137 were on day trips from home and 43 were on extended trips. Of the extended trip respondents, three were camping in the Mt Tamborine National Parks. For Kenilworth, however, those on extended trips outnumbered those on day trips. All 87 respondents on extended trips were camping in Kenilworth State Forest.

Table 5.3 Average number of persons per group

	Brisbane Forest Park	Tamborine Mountain National Parks	Kenilworth State Forest Complex
Adult	2.4	2.3	2.2
Child	0.6	0.9	1.3
Total	3	3.2	3.5

Source: Kinhill Economics.

Table 5.3 shows that there is an average of about three persons per vehicle to each of the three areas.

Table 5.4 Average distances travelled

	Brisbane Forest Park	Tamborine Mountain National Parks	Kenilworth State Forest Complex
Direct distance	38.2	45.3	87.2
Total round trip distance	86.7	108.5	177.6

Source: Kinhill Economics.

Table 5.5 Destination of day trip

	Brisbane Forest Park	Tamborine Mountain National Parks	Kenilworth State Forest Complex day trip only
Sole destination	139	163	52
Not sole destination	20	17	9
Non–response	2	0	0

Source: Kinhill Economics.

Table 5.4 shows that for each site, the total distance travelled was approximately twice the direct distance from home to the site. It is therefore concluded from this information that the forest sites were the main destination of trips for the respondents interviewed. Respondents were asked whether the forest site was the sole destination of their trip. It is shown on Table 5.5 that this was so for the majority of respondents. Because the majority of respondents were travelling only to the sites studied, the costs of trips were attributed totally to visits to those forests.

Expenditure

Items of relevant expenditure were defined to be limited to vehicle running cost, petrol cost, hire car or public transport cost, lunch (purchased at the site or brought from home) and special items such as film or maps. Souvenirs can be purchased in the Brisbane Forest Park visitor centre and expenditure on souvenirs was included only for this site.

The make and model of private cars was sought, to allow calculation of running costs of vehicles. Motor vehicle running costs were calculated based on NRMA data, including a per kilometre service and repairs and tyre cost, not including depreciation or on–road costs (NRMA 1994). If hire cars were used, the cost was proportioned by the proportion of time spent at the forest destination.

For visitors on extended trips, the cost of accommodation for the previous night, including camping fees where relevant, was also sought. A question on the purchase price of camping equipment and the number of times it was used over the last twelve months was included. The cost of camping was calculated as the cost of camping fees plus the cost of use of camping equipment. The cost of use of camping equipment per group, per trip was estimated in several steps. First, the value of camping equipment being used, by purchase price, was divided by five, based on the assumption that most camping equipment will need to be replaced after five years. This annual value of camping equipment was further divided by the number of camping trips made in the last 12 months by the owner of the equipment, to get a per-trip cost. If more than one individual or family contributed equipment to the group, the per-trip costs were summed to get a per-group, per-trip cost.

Expenditure per person for each site was calculated, according to the following formulae:

Total expenditure per group = $C_{travel} + C_{misc} + C_{camp}$

Total expenditure per person = $(C_{travel} + C_{misc} + C_{camp})$ / no. in group

where: $C_{travel} = C_{public} + (C_{hire}$*prop.time in SF or NP) $+ C_{other} + (C_{fuel} + C_{running}$*km)

C_{misc} = food + special + souvenirs + accommodation

$C_{camp} = [(value_1/trips_1) + (value_2/trips_2) ...+(value_n/trips_n)] / 5$

Where: $value_1/trips_{1,}$ etc is the purchase price of camping equipment owned by each person or family in the group who provided equipment, divided by the number of camping trips made in the last 12 months.

For the purposes of the analysis in this study, the expenditure per visitor-day was required. As campers stay at a site for more than one day, their total expenditure at the site needs to be converted to a per visitor-day figure. In the Kenilworth survey, 87 out of the 148 respondents were campers. Expenditure was analysed separately for day trippers and campers visiting Kenilworth. The average length of a camping trip to Kenilworth was two nights. For Mt Tamborine, the three camping responses were analysed with the day trip

responses, leading perhaps to a slightly elevated estimate of expenditure per visitor-day.

The expenditures per visitor-day for day visitors to Brisbane Forest Park, Tamborine Mountain National Parks and Kenilworth State Forest are shown in Table 5.6. The expenditures per person and per visitor-day for campers to Kenilworth State Forest are shown in Table 5.7. Expenditures including and excluding food and accommodation costs are reported.

Table 5.6 Average expenditures per visitor–day—daytrippers

	Brisbane Forest Park ($)	Tamborine Mountain National Parks ($)	Kenilworth State Forest Complex ($)
Exp. inc. all costs	18.53 (10)	20.00 (8)	14.05 (8)
Exp. w/o accomm.	17.03 (6)	15.00 (6)	14.05 (8)
Exp w/o food	13.01 (15)	12.97 (10)	8.68 (13)
Exp w/o accomm & food	11.52 (11)	8.00 (7)	8.68 (13)

Note: Relative standard errors are shown in brackets.

Source: Kinhill Economics.

Table 5.7 Average Expenditures per person and per visitor-day—Kenilworth campers

	Kenilworth campers, per person ($)	Kenilworth campers, per visitor–day ($)
Exp. inc. all costs	61.02 (13)	30.51
Exp w/o food	40.89 (17)	20.44

Note: Relative standard errors are shown in brackets.

Source: Kinhill Economics.

The information in Table 5.6 shows that the cost of a day trip with no accommodation costs the previous night, is similar for the Brisbane Forest Park and Tamborine respondents and Kenilworth day trippers, ranging from $14–$17 including food costs, and from $8–$11 excluding food costs.

If accommodation costs the previous night for visitors to Brisbane Forest Park and Mt Tamborine are included, the average costs for all visitors to these sites are $18–$20, including food costs. No respondents to the Kenilworth survey had stayed in accommodation other than camping at the site.

Interestingly, the per-visitor-day expenditure by day trip visitors to Brisbane Forest Park is higher than that for Mt Tamborine or Kenilworth. It was earlier hypothesised that it would be lower, due to Brisbane Forest Park being close to the major source of visitors in Brisbane. This finding leads to the conclusion that average costs do not necessarily increase with increasing distance from Brisbane. In the case of Kenilworth, for example, the average cost may have been influenced by the cost to visitors from the Sunshine Coast. Such patterns of visits from several population centres may be relevant for many forest sites in south-east Queensland.

It was decided therefore to adopt a single per visitor-day cost for a day trip. From the literature review reported in the next section, it is clear that most authors include the cost of food in the average cost of a day trip. For that reason, the cost of food has been included in the estimates used in this study to calculate total expenditure. The average expenditure, including food but excluding accommodation, ranges from $14–$17 per day. A figure of $15.50 is used in later calculations as the average cost of a day trip to forests in south-east Queensland.

The average expenditure per person per visitor-day for camping at Kenilworth was estimated at $30.51, including food costs. This expenditure of $30 per visitor-day is adopted for application to all camping days in south-east Queensland.

Attitudes

Table 5.8 What visitors liked most about their visit

	Brisbane Forest Park	Tamborine Mountain National Parks	Kenilworth State Forest Complex
1. Scenery/nature	65	92	53
2. Temperature	36	17	3
3. Facilities	11	3	17
4. Relaxed, peaceful atmosphere	63	27	66
5. Bushwalking	23	36	4
6. Fresh air	13	8	1
7. Just arrived–couldn't comment	4	6	4
8. Swimming	1	36	52
9. Camping	0	0	1
10. Other	29	35	20

Source: Kinhill Economics.

The above table 5.8 shows that the majority of visitors to the three study areas liked the scenery/nature and/or the relaxed peaceful atmosphere of the forests the most. It should be noted that respondents were allowed two responses for this particular question. Bushwalking rated highly in Brisbane Forest Park and Tamborine Mountain while swimming was a favourite in the latter and in the Kenilworth State Forest Complex.

Table 5.9 What visitors disliked most about their visit

	Brisbane Forest Park	Tamborine Mountain National Parks	Kenilworth State Forest Complex
1. Nothing	95	93	56
2. Heat	7	3	1
3. Facilities (some aspects)	11	6	5
4. Flies/ants/leeches	18	31	35
5. Just arrived—couldn't comment	4	1	2
6. Noisy people/campers etc.	1	5	24
7. Other	28	40	32

Source: Kinhill Economics.

Table 5.9 shows that on the whole, most had no dislikes about the area they visited and were largely unaffected by other visitors. Of the things that were disliked, flies, ants, and leeches were mentioned by visitors to all three areas, while Kenilworth recorded a number of complaints regarding noisy people.

Table 5.10 Impacts of visitor numbers

Adversely affected?	Brisbane Forest Park	Tamborine Mountain National Parks	Kenilworth State Forest Complex
Yes	0	12	4
No	154	161	126
A little	5	7	17

Source: Kinhill Economics.

A further question was asked to investigate whether visitor numbers were considered a problem by respondents. The question was 'has your group's visit to this State Forest/National Park today been adversely affected by the number of other visitors to the same area?' The majority of visitors were not adversely affected (see Table 5.10). This result should be interpreted in the light of the period over which the surveys were undertaken being late November, early December, a relatively quiet period before the commencement of school and Christmas holidays.

5.3 LITERATURE REVIEW OF EXPENDITURE

A literature review was undertaken to attempt to identify previous estimates of expenditure on visits to natural environments, which may be similar to the forests of south-east Queensland. The estimates identified in the literature were used to judge whether the results of the survey are of the same order of magnitude as previously published results. The most equivalent day trip expenditure figures are likely to be those reported for Green Mountains (Scoccimarro 1992), and south–east Queensland (NSW National Parks and

Wildlife Service and the Royal Institute of Parks and Recreation (NSW Region) 1989). The former estimates by Scoccimarro, of $12.34 to $14.97 (including meals) are very similar to our findings. The latter estimates of $5.60 to $20.40 are generally lower than ours, but given that they are for the early 1980s, they are of the same order of magnitude. Beal's (1995) estimates for camping in Carnarvon National Park are higher, at $44.47 per day, than our estimate of $30 per day, suggesting that ours is a conservative figure.

Also included in the literature review were studies on expenditure on day trips in general. Two studies were identified as relevant, a 1990 study of day trips in regions in south–east Queensland (NUSTT no date) and a 1992 study on expenditure in day trips in Australia (BTR 1993). The former study provided results similar to ours. The latter reports a higher figure of $41 per day in Queensland. This expenditure includes a larger range of items including meals and admission to events and commercial attractions.

5.3.1 Visits to natural environments

Carnarvon Gorge National Park

Beal's (1995b) study of recreation in south-west Queensland included a table showing the 'Estimated TC (travel cost) for campers at Carnarvon Gorge National Park' (Table A3.1) and 'Annual number of campers by zone, zonal population and estimated value of campers per 1000 zonal population (V) for Carnarvon Gorge National Park' (Table A3.2).

From these two tables, Kinhill Economics calculated the average expenditure costs per camper, and the total annual expenditure by campers. Expenditure for campers was calculated at $155.65 per camper. Based on an average stay of 3–4 nights, the average expenditure per camper per day was $44.47. Total expenditure by campers per annum, was calculated as $2.7 million.

Flinders Ranges

Delforce, Sinden, and Young (1986) undertook a study to look at the values of tourism and pastoralism in the Flinders Ranges. Expenditure data was collected from tourists via a mail survey and an on-site survey.

Expenditure estimates in this study are comprised of costs incurred both inside and outside the area, although no specific costs are mentioned. Total expenditure was calculated to be $68.22 per tourist. Multiplied by annual visitor numbers, the total tourist expenditure in 1980 was $5.96 million, and $6.71 million in 1981.

Green Mountains

Scoccimarro (1992) included a table of 'visits per capita and travel costs for peak and off peak periods by zone of origin' (Table 6–6) in the study looking at Green Mountains.

From this data, Kinhill Economics calculated average expenditure per person and total expenditure. Expenditure ranged from $12.34 during peak times to

$14.97 in off peak times. The costs included in Scoccimarro's expenditure equation are vehicle running costs such as fuel, tyres, and service and repair costs. On-site costs such as snacks, meals and souvenirs were also included. Total expenditure is therefore estimated to be between $1.2 million and $3.8 million.

Ovens and King River System

Expenditures estimated by Walpole (1991) for the 25 recreational sites along the Ovens and King River System ranged from $1.80 per person to $75.60 per person. The low expenditure of $1.80 per person at Whorouly Bridge was attributed to the fact that the majority of recreational users were locals who incurred minimal costs. The next lowest estimate reported was $9.00.

National Estate Forests of south–east Australia

As part of a study on tourism and recreation in the National Estate Forests, RAC (1992) and Bennett and Carter (1993) calculated expenditure figures for visitors to the forests. The average expenditure per visitor was calculated at $34.35 per year. Total expenditure therefore was $3.6 million.

South–east Queensland

In a report on National Parks and Tourism by the NSW National Parks and Wildlife Service and The Royal Institute of Parks and Recreation (NSW Region) (1989), a number of visitor expenditure studies for National Parks in south-east Queensland are cited in Table 2. The surveys were undertaken by Jarvie (1984), Maunsell (1982) and McConville (1984). Total expenditures and visitor numbers are given. Kinhill Economics was therefore able to calculate expenditure per person.

Total expenditure in Girraween National Park in was calculated at $261,820 in 1984. Expenditure per person was calculated at $10.07 in 1984 and included food, transport and other costs.

For Binna–Burra/Lamington, total expenditure in 1982 was calculated at $635,614. Expenditure per person was $6.24 in 1982 and included food and transport costs.

For Springbrook, total expenditure in 1982 was calculated at $599,033. Expenditure per person was therefore $5.65 in 1982 and included food and transport costs.

At Natural Arch in 1982, total expenditure was $1,683,250. Expenditure per person was calculated at $6.01 in 1982 and included food and transport costs.

Two expenditure studies were undertaken at Mt Tamborine in 1982. One study that surveyed respondents during January, March, June, August, and September, estimated total expenditure as $4,358,570 which was $20.44 per person in 1982. The other survey was conducted during August only and produced a total expenditure amount of $879,552. Expenditure per person therefore, was calculated at $5.76 in 1982.

Wet Tropics World Heritage Area

Driml (1997) estimated expenditure per visitor–day as $100 for visitors on commercial tours, $66 for visitors in hire cars, and $25 for visitors in private vehicles. These figures do not include accommodation costs of the night before for those visitors who live outside of North Queensland. Total expenditure based on these figures is $179 million per year. However, if all costs including two night's accommodation, tours, petrol, etc., are included in the total costs of the visit, then expenditure per annum is estimated at $443 million.

5.3.2 Day trips in general

Day trips in south–east Queensland

The NCSTT (no date) report results of a study of day tripping in three regions that lie within the south-east Queensland RFA region. In 1990, expenditure in the three regions was from $13.66 to $20.13 per person. The break up of expenses is shown in Table 5.11.

Table 5.11 Expenditure on day trips, regions in south–east Queensland

	Transport ($)	Food ($)	Entertainment ($)	Other ($)	Total ($)
Brisbane	5.05	4.37	1.20	3.05	13.66
Gold Coast	6.98	7.47	2.94	2.74	20.13
Sunshine Coast	6.69	5.12	0.69	1.94	14.43

Source: NCSTT (no date).

Day trips in Australia

A comprehensive survey of expenditure associated with day trips was undertaken by the Bureau of Tourism Research (1993) for the year 1992. The average expenditure on a day trip for Australia and for Queensland was estimated to be $41. The components of expenditure in Queensland were; own vehicle $11, meals $8, souvenirs $6, entry fees $3 and other $13. In terms of average cost for different types of day trips, 'pleasure driving' was found to have an average cost of $37, which was higher than visiting friends and relatives or trips for sport but lower than day trips associated with business/conferences and trips for other reasons.

5.4 EXPENDITURE ESTIMATES

5.4.1 Results

In Section 5.2, average per person expenditure by independent visitors was presented. In this section, these estimates are converted to total expenditure

estimates for the south-east Queensland forests by multiplying costs by the number of visitor-days to State Forests and National Parks.

The estimates of visitor-days to State Forests and forested National Parks in the south-east Queensland region were presented and discussed in Section 4. For the purposes of this exercise, visitors are grouped according to their expenditure patterns. This results in six distinct groups:

1. Visitors on commercial tours.
2. Campers.
3. Independent day visitors who travelled from home, or otherwise did not pay for accommodation the previous night.
4. Independent day visitors who stayed in commercial accommodation the previous night.
5. Horse riders in State Forests.
6. Participants in other 'indicator' recreation activities in State Forests.

The expenditure to be included for visitors on commercial tours is the cost of the day trip on a commercial tour plus the cost of one night's accommodation. It is assumed that all visitors on commercial tours are tourists who stay in commercial accommodation the previous night.

Expenditure included for campers is the cost of a visitor-day, which includes the cost of providing their own accommodation on site. The cost is the same regardless of whether campers are south-east Queensland residents or tourists to the region.

The group of independent day visitors is made up of south-east Queensland residents who stay in their own homes the night previous to their visit, and tourists who stay in commercial accommodation. We do not have accurate data on how many day visitors are tourists and so have used the estimate made previously that 10% of these visitors are tourists. Thus 90% of independent day visitors are placed in Category 3 and 10% in Category 4. Expenditure by Category 3 visitors is the cost of accessing the forest while for Category 4 visitors, the cost of one night's accommodation is also included. The number of visitor-nights for each category of visitor is shown in Table 5.12.

Table 5.12 Visitor–days, by four visitor categories

Visitor category	Visitor days		
	State Forests	National Parks	All forests
1. Visitors on commercial tours	4,000	343,000	347,000
2. Campers	30,000	620,000	650,000
3. Day visitors on day trip from home	1,522,000	4,367,000	5,890,000
4. Day visitors using commercial accommodation *	169,000	485,000	654,000
Total	**1,725,000**	**5,816,000**	**7,541,000**

* *Assume 10% of 3 and 4.*

Source: Kinhill Economics.

Note: The numbers in the tables have been rounded to the nearest thousand.

The average expenditure by visitors on commercial tours is taken to be made up of the average cost of a day tour plus the average cost of staying in commercial accommodation. The average cost of a day tour found from our survey of commercial tour operators is $84 (see Section 3).

The average expenditure on accommodation per person per night in commercial accommodation across the regions that make up the south-east Queensland region is available from the Queensland Visitor Survey. The mean total daily expenditure across the four regions is $148 per night. The average expenditure on accommodation across the four regions is around $40 per night, see Table 5.13. Using the figure for expenditure directly on accommodation only gives a conservative estimate of expenditure in the region by visitors, but also avoids double counting of commercial tour costs.

Thus the average expenditure per visitor-day for people who visit forests on commercial tours is taken to be $124.

Table 5.13 Expenditure on commercial accommodation

QVS region	Accommodation ($) per person per night	Total ($) per person per night
Brisbane	49.59	160.49
Gold Coast	45.91	188.56
Sunshine Coast	29.21	91.86
Wide Bay Burnett	21.28	82.72
Mean for combined regions	39.82	147.67

Source: Queensland Visitor Survey 1995/96, QTTC

The average expenditure by campers was calculated in Section 5.2 above as $30 per visitor-day. The average cost for independent day visitors who travel from home or do not pay for accommodation the previous night was calculated in Section 5.2 above as $14 to $17 per visitor-day. The value of $15.50 is used in the estimation of total expenditure.

The average cost for independent day visitors who stayed in commercial accommodation the previous night is taken to be $15.50 for trip expenses plus $40 for accommodation, making a figure of $55.50 per visitor-day. There is some question about whether we should treat expenditure by tourists to south-east Queensland as if they had all spent the previous night in commercial accommodation, because only half of domestic tourists in Australia and 63% of overseas tourists stay in commercial accommodation. As the estimate of the number of tourists is believed to be a conservative one, the expenditure by this group is initially calculated as if all had used commercial accommodation. An alternative calculation whereby only half the group used commercial accommodation is also reported below.

Participants in indicator activities spent an estimated 185,000 visitor days in State Forests–horse riders 38,310 visitor-days and other indicator activities

146,760 visitor days. A survey of horse riders revealed their expenditure per visitor-day was higher than the average day trip or camping visitors. Indicator activity visitors were therefore treated separately in expenditure estimates. An average expenditure per visitor day for horse riding was established from interviews of a sample of horse riders, in which details of all costs were obtained. The average expenditure per visitor day was $63 (relative standard error 19). It has been assumed that other indicator activities on average have a daily expenditure that is less than this figure. The expenditure of these other users was estimated using the camping expenditure rate of $30 per visitor day.

Expenditure values used are presented in Table 5.14.

Table 5.14 Average expenditure per visitor–day

Visitor category	Average expenditure per visitor–day ($)
1.Visitors on commercial tours	(84 + 40)=124.00
2.Campers	30.00
3.Day visitors on day trip from home	15.50
4.Day visitors using commercial accommodation	(15.50 +40)=55.50
5.Horse riders in State Forests	63.00
6.Other 'indicator' activities in State Forests	30.00

Source: Kinhill Economics.

The total expenditure estimated, by visitors to State Forests and National Parks and in total is shown in Table 5.15.

Table 5.15

Visitor category	State Forests ($)`	National Parks ($)	All forests ($)
1. Visitors on commercial tours	442,000	42,536,000	43,005,000
2. Campers	909,000	18,604,000	19,513,000
3. Day visitors on day trip from home	22,692,000	67,694,000	90,386,000
4. Day visitors using commercial accommodation	9,028,000	26,932,000	35,960,000
5. Horse riders in State Forests	2,414,000	—	2,414,000
6. Other 'indicator' activities in State Forests	4,403,000	—	4,403,000
Total	**39,915,000**	**155,765,000**	**195,708,000**

Source: Kinhill Economics.
Note: The numbers in the tables have been rounded to the nearest thousand dollars.

5.4.2 Discussion

The estimates of expenditure total $196 million, representing the per annum expenditure associated directly with visiting forests plus one night's accommodation for tourists who visit forests. The direct expenditure on fares for commercial tours is around $29 million per annum. In addition, it is estimated that around one million nights are spent in commercial accommodation associated with day visits to forests by tourists. The expenditure on commercial accommodation is around $40 million. If only half the tourists were staying in commercial accommodation, the accommodation expenditure would be $20 million and total expenditure would be $170 million. The tourists who visited independently also spent around $10 million on costs of day visits. In total expenditure by tourists to south-east Queensland was around $79 million.

The remaining $117 million represents direct costs associated with residents of south–east Queensland visiting forests for day trips and camping. These costs are dispersed over space and time as they are made up of vehicle running costs and purchases of camping equipment, which may be made at times separate to the time of travel, as well as fuel and food purchases made at the time of travel. Nevertheless, they are all real costs to the visitors to forests and the money involved is generally spent in south-east Queensland. There will be 'leakages' from the region on imported fuel, vehicles and equipment.

Expenditure related to visits to State Forests is estimated at $40 million per annum. Expenditure by tourists is made up of $0.3 million spent on tour fares, $2.6 million spent on day trip costs and $7 million spent on accommodation costs, making a total of almost $10 million. The remaining $30 million is spent by local south-east Queensland residents.

Visitor to National Parks spend $156 million per annum. Total expenditure by tourists is almost $70 million, including almost $29 million spent on tour fares, $7.5 million spent on day trip costs and $33 million spent on accommodation costs. South-east Queensland residents visiting National Parks spend $86 million per annum.

6 Willingness to pay to visit State Forests and National Parks

6.1 INTRODUCTION

In this Section, an estimate is made of the consumers' surplus arising from tourism and recreation use of forests in south-east Queensland. The concept of consumers' surplus was introduced briefly in Section 1.2. It is the amount which visitors are willing to pay to enter forests, over and above the cost they must pay to enter. The amount represents the current benefits visitors enjoy from their access to forests, or the loss that they would bear if they could no longer visit.

Where entry to public natural environments is free of charge, the consumers' surplus is equal to the willingness to pay. If there is a fee, the consumers' surplus is the difference between total willingness to pay and the amount paid in fees. As there are no explicit entry fees for visitors to forests in south-east Queensland, it is assumed for this exercise that consumers surplus equals the willingness to pay[1].

The willingness to pay is a non-market value of tourism and recreation. As the value can not be observed in the market place, other economic techniques for estimating it have been developed. The relevant non-market valuation techniques are the Travel Cost Method (TCM) or the Contingent Valuation Method (CVM).

The TCM has been in use for over 20 years in Australia to estimate the willingness to pay for access to recreation sites where there is no entry fee. The technique is one of the 'surrogate market' approaches to valuation, where observed behaviour in one market is used to estimate demand for a non-market good (DEST et al 1995). The observed behaviour in this case is expenditure on travel to a site. A survey is undertaken of visitors to a site and their costs of travel documented. The data is used to derive a demand function to relate visitor numbers to travel cost (and usually also to other demographic or attitudinal variables that may affect travel behaviour). It is then assumed that demand for entry to the site would be equally sensitive to cost. A second demand function is constructed by adding a hypothetical range of entry fees to the travel cost. The area under the demand function is the total consumers' surplus, and an average consumer' surplus per visitor can be calculated.

The CVM is a 'simulated market' technique. It relies on asking people what they would be willing to pay for something, contingent upon a described change being effected. This technique is most relevant where there is a

[1] There are no entry fees for private visitors. Campers are charged a fee and provided facilities for camping. Commercial tour operators pay a per passenger charge, but this is not made explicit to passengers as being an entry fee.

specific change in access or facilities proposed, as distinct from the situation in which an economic value of current behaviour is being sought.

The technique for estimating willingness to pay favoured for this study is the TCM. All estimates reported in this Section are from studies that used the TCM.

The challenge for this Section of the study is to derive estimates of willingness to pay for tourism and recreation in all the individual State Forests and National Parks that make up the estate in south-east Queensland, in order to estimate total consumers' surplus all visits to forests.

Studies using the TCM have been undertaken for a small number of the State Forests and National Parks in the region. It was not practical to undertake TCM studies for all the remaining forests in the region

The approach proposed for this study was to use the 'benefit transfer' technique whereby values estimated by research from one site can be transferred and used for another site. The benefit transfer technique requires that certain criteria be met to ensure that the transfer is reasonable. The criteria suggested by the NSW EPA for benefit transfer are that:

- the study and policy sites are similar
- the environmental change under consideration at the policy site is similar to the proposed change at the study site
- the socioeconomic characteristics of the populations or other site details are similar' (NSW EPA 1995, p.9).
- A set of criteria was developed for benefit transfer for south-east Queensland forests and is detailed in section 6.3 below. The values used as candidates for the benefit transfer were taken from:
- studies using the TCM undertaken for a small number of the State Forests and National Parks in Queensland, and
- all Australian studies using the TCM to estimate values for access to recreation sites.

The results of a literature review of Australian travel cost studies are reported in the next section.

6.2 LITERATURE REVIEW OF TRAVEL COST STUDIES

Carnarvon Gorge National Park

Beal (1995a) estimated a travel cost (TC) for Carnarvon Gorge National Park for both daytrippers and campers. Carnarvon Gorge National Park lies 600 km north-west of Brisbane and is renowned for its rare flora and array of microclimates. Eighteen thousand people camp in the park annually, and 10,000 people make it a day tripping destination.

The estimated consumers' surplus is $2.4 million per annum and the Net Preset Value (NPV) of future recreational use of the park in 1993–94 values in perpetuity is $40 million based on a real interest rate of 6%.

Kinhill used Beal's demand schedule to determine the average consumers' surplus. The averages were around $2.50 per person. However, the cut off point used for both demand schedules was very low. The highest hypothetical fee for both campers and day trippers was $20. With a camping fee of $20, 11,265 campers still remained, and with a $20 fee for day trippers, 1,925 visitors still remained. The consumers' surplus derived using Beal's demand schedule was considered too low to use, given that the visitors remaining at the $20 cut off point would be willing to pay a fee greater than this amount.

Centennial Park, Sydney

Centennial Park is situated 5 km south-east of central Sydney and is made up of sculptured gardens, ornamental wetlands, sporting fields and other natural areas. In 1992 Centennial Park received over three million visits. The most popular activities include horse riding, cycling, jogging, bird watching, picnicking and walking.

Lockwood and Tracey (1995) analysed this recreational site using both the TCM and the CVM. The TCM yielded average consumers' surplus estimates of between $7.42 and $10.56 per visit. The park's annual use value was estimated to be between $23 million and $33 million.

Dorrigo National Park

Dorrigo National Park in northern New South Wales is one of the reserves that make up the Central Eastern Rainforest Reserves (Australia) World Heritage Area. It receives approximately 1,600,000 day visits per year. There are no entry fees for the Park.

Bennett (1995) estimated the consumers' surplus for the Park at a mean value of $17.33 per visit (visitor–day)[2]. This translated into a total of $2.7 million per annum.

East Gippsland

The East Gippsland forests are predominantly Alpine Ash, Mountain Ash and Shining Gum, with Mountain Mixed Species forest types in some areas (Commonwealth and Victorian Regional Forest Agreement (RFA) Steering Committee, 1996). The activities enjoyed by recreational users include four-wheel driving, motorcycling, horse riding, picnicking, camping, rock climbing, hang gliding and hunting for introduced animals. The East Gippsland forests receive approximately 140,000 visitors per year. Read Sturgess and Associates (1995) found that the net economic value of recreation in East Gippsland is between $840,000 and $2.52 million per annum. These

[2] Bennett used a double log function to estimate the travel demand function and therefore the entry fee demand schedule estimated was asymptotic. He used a $100 cut-off point as the upper limit of fees used to estimate consumers' surplus.

estimates were calculated using a willingness to pay of between $6 and $18 per visitor day, based on reviews of published studies.

Fraser Island World Heritage Area

TCM was applied to estimate recreation values for Fraser Island before it became a Word Heritage Area. Hundloe et al. (1990) included all visitors. Two populations of visitors were surveyed, private visitors and those on commercial tours. There were an estimated 100,000 private visitors in 1989–90 who stayed an average of five days. There were 90,000 visitors on tours. The length of stay is not reported but a proportion of tours are day trips. There was a visitor fee of $10 per private vehicle at the time. Entry fees, if any, for visitors on commercial tours are not reported.

The estimate of consumers' surplus above entry fees was between $3 million and $6.2 million[3]. Based on a total of 1,900,000 visits, the mean consumers' surplus was between $15.70 and $32.63 per visit.

Gerringong–Gerroa

This study by James et al. (1993) used a TCM with eight travel zones and 48 visitor groups to estimate willingness to pay for recreational use of Gerringong–Gerroa in NSW (127,500 visitor–days per year). The resulting willingness to pay was $104 per visitor day, with travel costs were assumed to be 50 ¢/km (40¢ for the costs of motoring and 10¢ for the imputed value of leisure time).

Gibraltar Range National Park

Bennett (1995) estimated the economic values of the recreation use of the Gibraltar Range National Park. Like Dorrigo National Park, is it is one of the reserves that makes up the Central Eastern Rainforest Reserves (Australia) World Heritage Area. It is in more of a remote location than Dorrigo, between Glen Innes and Grafton. It receives approximately 40,000 visits per year, mostly by campers. The average length of stay was two days. The average per visit consumers' surplus was $15.83, leading to an annual consumers' surplus for the Gibraltar Range National Park of $633, 200.

Grampians State Forest

The Grampians State Forest is located in western Victoria, 257 km from Melbourne, and 563 km from Adelaide in South Australia (Greig, 1977a). In 1970–71, there were 352,000 visitor-days. Greig (1977b) estimated the willingness to pay for recreational use per visitor day to be $3. Only vehicle related costs were included in the benefit estimates. The estimates are in 1990 dollars.

[3] The $3 million estimate comes from estimating the consumers' surplus for the two groups separately and adding the results. When the survey responses for both groups were added and a single consumer surplus value estimated, the result was $6.2 million.

Green Mountains

The Green Mountains recreational site is located in Lamington National Park in Queensland. It attracts a large number of visitors due to its proximity to the Gold Coast. Scoccimarro (1992) recorded visitor numbers to range between 337,088 (pessimistic) and 400,792 (optimistic) per annum. Although Scoccimarro did not record an average consumers' surplus, the demand schedule was used by Kinhill Economics to calculate the average consumers' surplus under a number of scenarios used by Scoccimarro.

During peak season, the optimistic estimate of consumers' surplus per visitor is $9.23, while the pessimistic estimate is $8.81. In the off peak season, the optimistic consumers' surplus estimate is $8.09 and the pessimistic estimate is $8.10.

Hinchinbrook Island National Park

Hinchinbrook Island National Park is located off the Queensland coast, close to Cardwell. It is within the Great Barrier Reef WHA. The results of a study using the TCM for visits to Hinchinbrook Island were published by Stoeckl (1994). This study only included Australian visitors, who made up an estimated 70% of all visitors. It was estimated that there were 3,211 visits by Australians. Stoeckl does not report the average length of stay by visitors but notes that visits are made as day trips or longer stays. There are no entry fees to the island[4].

The consumers' surplus was estimated at between $959,811 and $1,164,735[5]. The mean consumers' surplus per visit was $362. The estimates are in 1992 dollars.

Kakadu National Park

A study of the value of Kakadu National Park to travellers was published by Knapman and Stanley (1991). The study included Australian visitors who made up 80% of visitors. People from Jabiru township located within the National Park were not included in these visitor numbers or in the study. Knapman and Stanley do not report the average length of a visit but information from the park managers is that the average stay by private visitors was four days and the average stay by visitors on commercial tours was two days in 1991 (ANPWS 1991). Visitor fees of $5 per visit were charged in 1991.

The consumers' surplus, above payments of entry fees[6], was estimated at $34,005,149. The mean consumers' surplus was therefore $174 per visit for

[4] Tour operators on Queensland National Parks pay a per visitor fee of $1.15 or $2.30 per day but the extent to which that is passed on to visitors or made known to visitors is unknown.

[5] The smaller estimate does not include a value for the opportunity cost of travel time while the larger estimate does. The estimate without time costs gave a better R^2 value in the travel demand function.

[6] It was estimated from the model that with current entry fees of $5 per visit, $896,797 would be paid in entry fees at the number of visits predicted by the model, which was 242,135 visitors.

200,000 actual visits or $140 for 242,135 predicted visits. The estimates are in 1990 dollars.

Murray River

Thomas (1982) estimated the recreational value of the Murray River (WA) catchment using the TCM to be $8 per visitor day. Only 10% of travel time costs were included in this estimate.

National Estate Forests of south–east Australia

A TCM study was undertaken in conjunction with a CVM study looking at the values of the forests of south-eastern NSW and east Gippsland in Victoria. Results of this study are reported in RAC (1992) and in Bennett and Carter (1993). The types of forests included in the study range from coastal forests to the forests found on the Great Dividing Range between the towns of Orbost in Victoria to Eden in NSW. The forests are not located near any large population centres and levels of visitors are considered to be quite low by Bennett and Carter. Total visitors to the area are estimated at 106,000 per year.

Bennett and Carter calculated average expenditure on travel to be $34.35 per person per year, which amounted to approximately $3.6 million for all visitors per year. Consumers' surplus of the entire region calculated using the TCM was estimated at $950,000 per year, which translates to $8.90 per person per year.

New South Wales North Coast

This study by Pitt (1992) surveyed three local government areas of the New South Wales North Coast, between Greater Taree and Tweed Heads, to estimate the recreational value of beaches. Willingness to pay was calculated at $143 per tourist; total willingness to pay was estimated as $48,000 per $100 m of coastline for the Lower North Coast, $208,000 for the Middle North Coast, and $66,000 for the far North Coast.

Ovens and Kings River System

Two TCM studies have been conducted on the Ovens and Kings River system in northern Victoria. The area is used extensively for recreation. The first study was published in 1990 by Sinden, and the second study was published in 1991 by Walpole.

Sinden's study values the recreational benefits to day users and campers of 24 sites along the Ovens Kings River System in Victoria. Sinden estimates the willingness to pay for day visitors at $24 per household and willingness to pay for campers at $41 per household.

Walpole's study looked at 25 sites and the willingness to pay estimates are related to environmental quality ratings of the sites. The willingness to pay estimates range from $7 to $23.

Tidbinbilla Nature Reserve

This nature reserve is located 40 km south-west of Canberra City. The reserve has a number of features including a broad cross-section of Australian forest and grassland types. Almost 150,000 visitors a year enjoy picnicking, bushwalking, scenic drives and other low impact activities at the Reserve.

Bull (1994) estimated the annual consumers' surplus to be $11,160 if the estimated travel cost (ESTC) is used, or $20,205 if the respondents perceived costs (PERC) is used. The average willingness to pay per visitor, using estimated travel cost, is $37.

Warrumbungle National Park

Warrumbungle National Park is located about 160 km north–west of Dubbo, NSW. The willingness to pay estimates calculated by Ulph and Reynolds (1981) are high relative to more recent studies. Travel and on site time costs were included and valued at the full time average wage rate. The mean income of the respondents to the survey was almost 50% higher than the national average. The willingness to pay for recreational use, per visitor day was calculated at $200.

Wet Tropics World Heritage Area

Driml (1997) used the TCM to derive an economic value for Australian tourists visiting the biodiverse Wet Tropics World Heritage Area. The number of individual visitors to the area was estimated at 3.4 million in 1993.

The average willingness to pay per visitor day was $49, giving a total of $45.7 million for 1994 for the 932,000 Australian tourists per annum. This is a minimum estimate because it does not include local residents or overseas visitors who visit the area. The net benefit from tourism to the area, minus costs of management, was calculated at approximately $36 million per annum.

6.3 BENEFIT TRANSFER AND ESTIMATES OF WILLINGNESS TO PAY

A benefit transfer approach is adopted to estimate willingness to pay for access to National Parks and State Forests for tourism and recreation. The principles of undertaking benefit transfer are that there should be close similarities between the values being estimated and ones for which measures have been calculated through research. The three criteria suggested by the NSW EPA to be met for benefit transfer to be valid are:

- …the study and policy sites are similar
- the environmental change under consideration at the policy site is similar to the proposed change at the study site
- the socioeconomic characteristics of the populations or other site details are similar (NSW EPA 1995, p.9).

In order to meet the first criterion, we have categorised forests in south-east Queensland into two categories (see below) and selected results from studies

of similar forests and settings. In this exercise, there is no environmental change involved, we are simply transferring results for tourism and recreation in forests to similar forests, so the second criterion is not an issue. We are addressing the third criterion by only considering results from other Australian natural environment recreation areas and not employing results from other countries.

The influences on willingness to pay that are potentially relevant to site characteristics might include:

- type of forest and other natural environment attractions
- 'icon' status of the site
- visitor numbers to the site
- proportion of tourists visiting the site
- location of the site relative to population centres.

All these characteristics were considered for the south-east Queensland forests and it was decided to categorise sites into two categories:

1. Rainforest, forest/beach and forest sites which are close to Brisbane, the Gold Coast and the Sunshine Coast and have relatively high visitor use including by tourists to south-east Queensland, including some sites which have icon status as World Heritage Areas.
2. Dry forest sites and other sites that have relatively low use numbers, are away from the population and tourist centres, and are mainly visited by south-east Queensland residents (some CERRA World Heritage Area sites are included).

The forests in the region were assigned into the two categories based on known visitor numbers, location and broad descriptions of the vegetation and amenities taken from brochures and other publications. The majority of forests assigned to Category 1 are National Parks that feature rainforest and/or beaches. The State Forests of Brisbane Forest Park, Daisy Hill and Bunyaville have been included as Category 1 forests. These forests are located close to Brisbane and attract around 200,000, or more, visitor-days per annum.

The estimates of willingness to pay contained in the literature review, considered relevant to this exercise, were grouped as follows. The average willingness to pay figures are based on behaviour across a visitor population, some of whom would not be willing to pay much more than the current zero entry fee and others, who would be willing to pay much more.

Table 6.1 Relevant willingness to pay results, Category 1 forests

Location	Authors	Average willingness to pay
Green Mountain	Scoccimarro (1992)	$8.09 to $9.23 per visitor-day
Dorrigo National Park	Bennett (1995)	$17.33 per visitor-day
Fraser Island	Hundloe et al. (1990)	$15.70 to $32.63 per visit (camping average 5 days, plus day trips)
Hinchinbrook Island	Stoeckl (1994)	$362 per visit
Wet Tropics WHA	Driml (1996)	$49 per visitor-day Australian tourists

Source: Kinhill Economics.

Table 6.2 Relevant willingness to pay results, Category 2 forests

Location	Authors	Average willingness to pay
Gibraltar Range National Park	Bennett (1995)	$15.83 per visit (average 2 days)
National Estate Forests of SE Australia	Bennett and Carter (1993)	$8.90 per visit
East Gippsland	Read Sturgess and Associates (1995)	$6 to $18 per visitor day

Source: Kinhill Economics.

The results selected as relevant to Category 1 forests include those from studies of World Heritage Areas in Queensland and rainforest sites in Queensland and Northern New South Wales. It is not clear how to convert the findings of Hundloe et al (1990) for Fraser Island into a value per visitor-day, as both day and longer trips are represented in the willingness to pay estimate. Similarly for Hinchinbrook Island (Stoeckl 1994), the estimates are for trips of varying lengths. The estimate of $49 per visitor-day for the Wet Tropics World Heritage Area was based on tourists to the area and so is potentially too high to use for south-east Queensland, where local residents make up the majority of visitors to forests.

The results of Scoccimarro (1992) are for a south-east Queensland rainforest area and may most closely reflect the willingness to pay for forests in this area. Converted to 1997 dollars, the values are $9.06 to $10.33 per visitor-day. However the Dorrigo National Park rainforests are similar and the willingness to pay results for this site may reflect the upper end of a range of willingness to pay for rainforest sites. Accordingly, the population willingness to pay estimates have been made with a low value of $10 per visitor-day and a high value of $17 per visitor-day. The low willingness to pay estimate is interpreted to be the minimum consumers' surplus for the Category 1 forests.

The average willingness to pay used in the study for Category 2 forests is $8 per visitor day. The estimate is based on Bennett and Carter (1993) for forests of south-east Australia and Bennett (1995) for Gibraltar Ranges National Park.

6.3.1 Sources of error and caveats

Some important caveats must be placed on this benefit transfer exercise.

There are several sources of error in the exercise:

- The TCM analyses reviewed are all based on sample surveys, which will have associated sampling error. All the estimates used come from published studies. There was no information available in the studies used on the error attached to estimates of means used to construct the demand functions. All studies reported *t* statistics and R^2 values for demand functions that indicated acceptable functions.
- The selection of average consumers' surplus estimates for use in the benefit transfer and the rounding off to whole dollar values are additional sources of error. Estimates in the lower range of those reported in the published studies were selected to ensure a conservative estimate of consumers' surplus.
- The benefit transfer is based on the assumption that, provided the three conditions for validity are met, it is a reasonable approach to make broader estimates of consumers' surplus, using average consumers' surplus estimates. The separation of forests into two categories was undertaken to meet the criteria and to also ensure a conservative approach to estimation.
- It must be assumed that the demand elasticises for forests for which there is a published TCM estimate are similar to other forests of grouped in the same category. The degree to which this is true is unknown. We accept the advice in the New South Wales EPA's ENVALUE document (NSW EPA 1995) that such assumptions were likely to hold, provided the three criteria are met.

The implication of these potential sources of error is that the total consumers' surplus estimate should be interpreted as an order of magnitude estimate only without necessarily a high degree of precision. The estimates do not indicate the error involved in each of the TCM results, or introduced in the benefit transfer exercise. The main purpose of providing these order of magnitude estimates is to illustrate that the non-market values of visits to forests can be considerable when estimated in monetary terms. The existence of these non-market values should be acknowledged when considering options for forest use.

6.4 WILLINGNESS TO PAY ESTIMATES

6.4.1 Results

The range of values adopted for the Category 1 and Category 2 forests were multiplied by total visitor-days to obtain estimates of total willingness to pay for access to these forests, as shown in Tables 6.3 to 6.5.

Table 6.3 Category 1 forests willingness to pay estimates, all forests

	State Forests ($)	National Parks ($)	All forests ($)
Low WTP estimate	13,552,000	47,864,000	61,416,000
High WTP estimate	23,190,000	81,369,000	104,599,000

Source: Kinhill Economics.

Table 6.4 Category 2 forests willingness to pay estimates, all forests

	State Forests ($)	National Parks ($)	All forests ($)
WTP estimate	3,852,000	10,183,000	14,035,000

Source: Kinhill Economics.

Table 6.5 Total willingness to pay estimates, all forests

	State Forests ($)	National Parks ($)	All forests ($)
Low WTP estimate	17,404,000	58,048,000	75,451,000
High WTP estimate	27,042,000	91,553,000	118,594,000

Source: Kinhill Economics.

The consumers' surplus estimates represent the non-market values of visiting forests, estimated as the amount visitors would be willing to pay, over and above the costs they now incur, to experience the attractions of natural environments in State Forests and National Parks. The total consumers' surplus is estimated at between $75 million per annum and $118 million per annum. This is for around 7.6 million visitor-days per annum. This is an order of magnitude estimate only.

7 Current economic values of tourism and recreation in State Forests and National Parks

7.1 INTRODUCTION

The aim of this section is to interpret the findings made in Sections 5 and 6 of economic values of tourism and recreation in south-east Queensland forests. The current economic values of tourism in south-east Queensland are presented in Section 7.2, while estimates of the current economic values of recreation by south-east Queensland residents are presented in Section 7.3. In Section 7.4, the results of our analysis of the economic value of tourism and recreation in forests is discussed in the context of tourism and recreation in south-east Queensland as a whole.

The south-east Queensland region defined for the RFA extends from the Queensland/New South Wales boarder, north to about Gladstone and west to Toowoomba. It is based on a biogeographic region and does not neatly coincide with Statistical Divisions or any other regions defined for reporting of tourism or population statistics. As far as possible, approximately equivalent areas are used for reporting on all tourism and recreation in south-east Queensland.

7.2 TOURISM IN SOUTH–EAST QUEENSLAND, ECONOMIC VALUES

In this section of the report, economic values associated with tourism in south-east Queensland are described so that tourism in forests can be placed in a wider context. Firstly, tourism in south-east Queensland is placed within the context of tourism in Australia and Queensland.

There are several sources of tourism statistics. Unfortunately there is no one statistical series which encompasses both tourism and recreation activities. The International Visitor Survey (IVS) reports on the activities of visitors to Australia. The IVS does not report for regions smaller than States but does report on the number of visitors to particular locations. The Domestic Tourism Monitor (DTM) aims to cover all trips in Australia by Australian residents, whether they stay in commercial accommodation or go camping or stay with friends and relatives (the latter two account for more than half the visitor nights). The reporting is on a State basis, with no detail for the south-east Queensland region. The Queensland Visitor Survey provides more detail on the region of interest, however it only represents visitors staying in commercial accommodation.

7.2.1 Tourism in Australia

Estimates of the gross economic value of tourism are available for Australia. These are based on expenditure by people defined as international visitors,

domestic tourists and day trippers. International tourists spent $15.5 billion dollars in 1996–97. There were 4.16 million overseas visitors to Australia in 1996. Domestic tourists and day trippers together spent $41.9 billion in 1995–96 (ONT 1997b). Separate estimates are available for 1993–94, when domestic tourists spent $19.0 billion and day trippers spent $13.5 billion (ONT 1997a).

Tourism is often claimed to be Australia's largest industry. It is estimated that in 1995–96, tourism directly accounted for 7.4% of expenditure on Gross Domestic Product (GDP) and 6.2% at factor cost. Indirectly, tourism accounted for a further 4.3% of GDP at factor cost. Tourism directly accounted for 8.4% of the Australian workforce, and directly plus indirectly supported 12.4% of the workforce (ONT 1997b).

7.2.2 Tourism in Queensland

In 1996, around 50% of international visitors to Australia visited Queensland (BTR 1997b, IVS 1996, T22). Around 21% of all domestic trips made in Australia are made in Queensland (BTR 1997a, DTM 1995–96). Of the 13 million domestic trips made in Queensland in 1995–96, one quarter were made by visitors from other states and three quarters were made by Queenslanders. According to the Domestic Tourism Monitor, half of all visitor nights spent by domestic tourists in Queensland were spent in commercial accommodation and half with friends and relatives, in own holiday homes or camping (BTR 1997a).

The Queensland State Accounts contain information on the contribution of tourism to Gross State Product. In 1993–94, tourism expenditure contributed approximately 4% of Gross State Product (Stimson et al. 1996). In Queensland, the Queensland Visitor Survey is conducted of people staying in commercial accommodation and economic information is available for this group of tourists. This group represents 50% of all domestic tourists, and 63% of international visitors (based on national figures, BTR 1997b), and presumably it represents a significant proportion of total expenditure.

The number of visitors staying in commercial accommodation grew by 10% in visitor numbers and 7% in visitor nights for the year to December 1996. Visitors staying in commercial accommodation spent $5.8 billion in 1996, an 11% increase on the previous year (QTTC 1997a).

7.2.3 Tourism in south–east Queensland

While the International Visitor Survey does not report the number of overseas visitors to south-east Queensland, visitor numbers are available for selected sites in the region. Four regions which fall within the south-east Queensland RFA region are amongst the top 20 regions visited by overseas tourists.

Table 7.1 Regions visited by international tourists, 1995–96

Region	Rank	Number of visitors	Percentage of all overseas visitors to Australia
Gold Coast	2	976,600	25.6
Brisbane	4	736,300	19.3
Sunshine Coast	11	150,800	4.0
Gympie/Maryborough	16	123,700	3.2

Source: International Visitor Survey, BTR 1997b

The IVS also lists a number of specific attractions visited by international tourists. Two of these, the Gold Coast Hinterland and Mountains and Fraser Island are forested areas in the south-east Queensland RFA region. It can be noted that only around 12% of international tourists to the Gold Coast currently visit the hinterland.

Table 7.2 South–east Queensland forest places/attractions visited by international tourists, 1996

	Number of visitors	Percentage of all overseas visitors to Queensland
Gold Coast hinterland and Mountains	116,000	6
Fraser Island	116,000	6

Source: International Visitor Survey, BTR 1997b

Unfortunately, the information on domestic tourism collected for the Domestic Tourism Monitor cannot be disaggregated to the level of the south-east Queensland RFA region.

Information on areas in south-east Queensland visited by all tourists, domestic and international, staying in commercial accommodation is available from the Queensland Visitor Survey (QVS). The south-east Queensland RFA region is roughly equivalent to the following QVS regions: Gold Coast, Brisbane, Sunshine Coast, and Wide Bay Burnett. The south-east Queensland RFA region also takes in some of the Fitzroy region but this is not included here as most is outside the south-east Queensland RFA region. Visitor numbers and expenditure for these regions are shown in the tables below. Total expenditure in the region was $3.15 billion in 1996.

Table 7.3 South–east Queensland destinations, visitors and visitor nights, 1996

Region	Visitors		Visitor nights	
	1996 ('000)	Increase over 1995 (%)	1996 ('000)	Increase over 1995 (%)
Gold Coast	2,301	8	11,179	5
Brisbane	1,572	7	4,750	8
Sunshine Coast	1,405	11	6,316	10
Wide Bay Burnett	803	–7	2,548	1
Total	**6,081**	**6**	**24,793**	**7**

Source: Queensland Visitor Survey, QTTC 1997a

Table 7.4 South–east Queensland Destinations, expenditure, 1996

Region	Average per visitor night		Total expenditure	
	1996 ($ m)	Increase over 1995 (%)	1996 ($ m)	Increase over 1995 (%)
Gold Coast	173	7	1,715	13
Brisbane	160	0	702	8
Sunshine Coast	97	3	541	13
Wide Bay Burnett	79	3	193	5
Total			3,151	

Source: Queensland Visitor Survey, QTTC 1997a

7.2.4 Current attractions of National Parks and rainforests, south-east Queensland

The extent of current attractions of the forests to tourists to south-east Queensland staying in commercial accommodation can be gauged from information collected for the Queensland Visitor Survey. The QVS records the frequency with which tourists are attracted by National Parks and Rainforests, both as the main attraction for their visit to the region and as one of a number of attractions actually visited, see Tables 7.5 and 7.6. The numbers of people who nominated National Parks and Rainforest as the main attraction to the regions were a very small proportion of all tourists to the region, around 2% or less. More people actually visited National Parks and Rainforest than considered these a main attraction, from 6% to 20% of tourists, depending on the region.

National Parks and rainforests are clearly not the primary attraction to tourists to the south–east Queensland region, however they provide a recreation resource for a significant number of tourists. The number of tourists visiting National Parks in the Sunshine Coast region, for example, is notable at a quarter of a million tourists per annum. There is considerable opportunity for visitor numbers to National Parks and rainforests to increase if tourists' interest in visiting natural environment attractions increases, even if total visitor numbers do not increase.

Table 7.5 Tourists attracted by and visiting National Parks

Region	Main attraction to the region (number of tourists '000)	Main attraction to the region (proportion of tourists %)	Visited National Parks (number of tourists '000)	Visited National Parks(proportion of tourists %)
Gold Coast	18.09	0.91	176.62	8.92
Brisbane	7.76	0.73	75.05	7.06
Sunshine Coast	17.10	1.30	245.80	18.67
Wide Bay Burnett	14.00	2.23	136.65	21.74

Source: QVS 1995–96 (QTTC 1997a).

Table 7.6 Tourists attracted by and visiting rainforests

Region	Main attraction to the region (number of tourists '000)	Main attraction to the region (proportion of tourists %)	Visited Rainforest (number of tourists '000)	Visited Rainforest (proportion of tourists %)
Gold Coast	4.23	0.21	138.08	6.98
Brisbane	0.41	0.04	62.24	5.86
Sunshine Coast	0.81	0.06	123.66	9.39
Wide Bay Burnett	4.18	0.66	89.07	14.17

Source: QVS 1995–96 (QTTC 1997a).

7.2.5 Economic value of tourism in south-east Queensland

The gross economic value of tourism in south-east Queensland, as measured by expenditure by people staying in commercial accommodation was $3.15 billion in 1995/96. This is an underestimate of expenditure by tourists as it does not include expenditure by those not staying in commercial accommodation.

7.3 RECREATION BY SOUTH–EAST QUEENSLAND RESIDENTS, ECONOMIC VALUES

Visits to State Forests and National Parks by residents of south-east Queensland include day trips, camping trips and visits made as part of longer trips from an accommodation base outside forests. Day trips have been shown to make up the largest component of trips to south-east Queensland forests by residents. Information available on day trips in the region is discussed below. In the future, demand for all these types of visits is likely to increase with the projected increase in the population of south-east Queensland.

A comprehensive study of the outdoor recreational patterns representing the 1,063,000 people who are residents of a region in south-east Queensland defined as including Brisbane, Ipswich and the Gold Coast LGAs is being undertaken for DNR and other agencies (due for release in February 1998). The study was not restricted solely to forested areas, although forest-based recreation did play an important role. The survey was carried out by phone interview during August 1997 and workshops were carried out during December 1997. The aim of the workshops was primarily to clarify information provided in the surveys.

Preliminary results of the study show that a significant proportion of residents of the region participate in outdoor recreation. The participants were asked if they had participated in any of the following activities in the last 12 months—picnicking, walking or nature study, camping, bicycle riding, horse riding, swimming (excluding in-ground pools), two wheel driving on unsealed roads, four-wheel driving on unsealed roads, driving other vehicles on tracks, riding on motorised watercraft, abseiling or rock climbing, and riding on non-

motorised watercraft. The results indicate that the percentage of the population surveyed participating in outdoor recreation activities is very high:

- sixty-five percent of the population surveyed said that they participate in picnics
- sixty percent participate in walking or nature study
- thirty-eighty percent participate in swimming activities (excluding in–ground pools)
- thirty-one percent participate in two wheel driving activities along unsealed roads
- twenty-five percent participate in bicycle riding
- twenty percent participate in four-wheel driving activities on unsealed roads
- an equal 7% of the population surveyed participate in horse riding activities and in abseiling or rock climbing activities.

7.3.1 Day trips in Queensland and south–east Queensland

Day trips are an important component of the economic value of recreational activity. Day trips are defined in the Domestic Tourism Monitor as trips away from home for at least four hours and where the round trip distance is more than 50 km. To place day trips into perspective, there were around 24 million day trips made in Queensland in 1995–96 and thirteen million trips for longer than a day (BTR 1997a).

The DTM records day trips taken by Australians. The data are reported for day trips taken in Queensland and in Brisbane City. The results for day trips in Queensland are examined here for evidence of the magnitude of this activity and for trends. Various editions of the Domestic Tourism Monitor from 1988–89 to 1995–96 were used to look at the trends of the day tripping habits of Queenslanders[7].

Between 1988–89 and 1995–96, more than 82% of all Queenslanders surveyed over the age of 14, had taken a day trip of some kind. Each year up until 1993–94 'pleasure driving and sightseeing' was the most popular daytripping activity undertaken. In 1994–95 and 1995–96, 'visiting friends and relatives' became the most popular activity. It should be noted however, that 'visiting friends and relatives' was not a recorded daytripping activity until the 1992–93 edition.

In 1988–89, the total number of recorded day trips taken in Queensland by Queenslanders was 19.9 million. This figure dropped in 1989–90 to 17.8 million and further still to 15.8 million in 1990–91. In 1991–92 it rose slightly to 15.9 million. One plausible explanation for this reduction in numbers is the recession of the early 1990s, which caused an economic downturn in the

[7] By multiplying the number of 'Travellers who took day trips by type of trip and State/Territory', with the 'Average number of day trips by type of trip and State of Residence', the total number of day trips by Queenslanders in Queensland could be determined.

Australian economy. In 1992–93 the recession had passed and the number of recorded day trips rose to 17.5 million. This figure continued to rise to 20.3 million in 1993–94 and peaked at 24.5 million in 1994–95. In 1995–96 the number of recorded day trips dropped slightly to 24.1 million.

The total numbers of trips made to some types of locations in Queensland are included in the following table. Unfortunately there is no category that represents State Forests and National Parks. It is likely that State Forest and National Park sites are included in locations visited for 'pleasure driving and sightseeing', but we have no information on how significant such sites are. The category, 'animal parks, wildlife reserves and zoos' may have been interpreted by respondents as including State Forests and National Parks but focuses on animal attractions and overlaps with commercial attractions.

Table 7.7 Domestic tourism monitor, number of travellers who took a day trip, Queensland 1995–96 (p. 83)

	Number of people ('000)	Average number of day trips	Total number of day trips ('000)
Pleasure driving and sightseeing	1,168	4.8	5,606
Visit animal parks, wildlife reserves, zoos	323	0.3	96
All people who took a day trip	2,271		24,097
Total population aged 14+	2,677		
Percent of population who took a day trip	85%		

Source: Domestic Tourism Monitor, BTR 1997a

As a rough guide to the number of day trips likely to have been undertaken in south–east Queensland, the number of day trips taken in Queensland (24.1 million) has been multiplied by the proportion of the population of Queensland who live in the south-east Queensland region. In 1995, the population of Queensland was 3.277 million and the population of south-east Queensland was 2.295 million, or 70% of the total (see section 7.6). Accordingly, the number of day trips in south-east Queensland for 1995–96 is estimated to have been 16.9 million.

An earlier study published by the QTTC (NCSTT no date) describes day trip activity in 1989 and 1990. Total day trips estimated for the regions of Brisbane (11.6 million), Gold Coast (9.2 million), Sunshine Coast (4.9 million) and Wide Bay Burnett (2.1 million), add to make a total of 27.8 million day trips for the equivalent of the south-east Queensland RFA region in 1990. This was an increase of 8% on the previous years' estimates. This study reports higher figures for south-east Queensland than for the whole of Queensland reported in the DTM. Both studies were based on surveys of a sample of the population. It is likely that the DTM methodology, which has been in use for a decade, provides a sounder estimate.

7.3.2 Economic value of recreation by local residents

The economic value of day trip activity is measured as expenditure made in undertaking day trips. Expenditure on day trips is not collected in the DTM. The Bureau of Tourism Research undertook a one-off study of expenditure by domestic tourists in 1992. The average expenditure on a day trip in Queensland was estimated to be $41 (see Section 5). The 1995–96 equivalent of this is $44.90. The estimate for south-east Queensland is expenditure of $758.8 million on day trips.

7.4 TOURISM AND RECREATION IN SOUTH-EAST QUEENSLAND FORESTS, ECONOMIC VALUES IN THE CONTEXT OF SOUTH-EAST QUEENSLAND

The findings regarding economic aspects of tourism and recreation in south-east Queensland forests may be summarised from earlier Sections. As far as possible, the number of visitor-days to forests was identified as this forms the basis of quantifying economic values associated with visitor use of forests. It should be reiterated that there may be broader economic impacts than implied by actual visits to forests. If tourists are motivated to visit the region by attractions such as forests, and spend a number of days including the day(s) of their actual visit to forests, they may contribute more to the regional economy than measured for the visitor-day(s) to forests. While, in the case of forests in south-east Queensland, these have been shown to be the main attraction to the region of only a small proportion of tourists, forests may, however, be important as part of an overall attraction of appealing natural environments.

7.4.1 Expenditure

One set of economic values estimated here is gross expenditure made in visiting forests. Total expenditure was estimated at $196 million per annum for 1997. Gross expenditure by tourists was estimated at $79 million. Gross expenditure by residents of south-east Queensland was around $117 million.

Expenditure by tourists who visit forests is a proportion of all tourist expenditure in south-east Queensland. In Section 7.2, it was reported that expenditure by people staying in commercial accommodation was $3.15 billion in 1995/96. Expenditure of $79 million associated directly with visiting forests is therefore around 3% of all measured tourist expenditure in south-east Queensland. This is the result achieved using the methodology adopted, which makes perhaps a very conservative estimate of expenditure associated with visiting forests.

Expenditure by local south-east Queensland residents in visiting forests is a proportion of all day trip expenditure in south-east Queensland. In Section 7.3, it was reported that residents of south-east Queensland spend around $758.8 million on day trips per annum. The $117 spent by south-east Queensland residents in visiting forests is around 15% of this total. Strictly speaking, the day trip component of visits to forests is $97 million and the

remaining $20 million is spent by campers. Ninety-seven million dollars is 13% of day trip expenditure.

7.4.2 The commercial tour sector

In Section 3 it was reported that there are 84 commercial operators who operate tours to forests in south-east Queensland. These operators employ a total of 768 people. Full time employment is supported for 425 people and part time employment is provided for 343 people. Not all this employment can be attributed to forests, as not all businesses are 100% dependent on forests. The employment supported by the 40 operators who are 100% dependant on forests is 130 people full time and 99 people part time, making a total of 229 employees.

The revenue earned by commercial operators is estimated at around $29 million per annum. This figure could not be estimated precisely as commercial confidentiality prevented DNR and DoE providing visitor numbers for individual operators.

On average, operators were found to be generating a positive cash income sufficient to pay owner operators at least an average weekly earnings.

7.4.3 Consumers' surplus

The other form of economic value estimated was consumers' surplus. This is a type of value especially relevant to non-market goods and services such as provided by direct use of forests for tourism and recreation, where there are no entry fees or only nominal fees. It is assumed that visitors would be wiling to pay an amount for access to the forests over and above the costs they now incur to visit, that equates to the value that they derive from visiting. There is no estimate of consumers' surplus from visiting all natural environment sites in south-east Queensland with which to compare the estimate derived. The estimate derived in Section 6 for forests was between $75 million and $118 million per annum.

7.4.4 Visitor management costs

Information on management budgets applied to visitor facilities and services in forests was obtained from DoE and DNR. The current budget for visitor management in National Parks in the DoE south-east Queensland region is $1.58 million. The Queensland Recreation Area Management Board spent $1.99 million in 1996 on management of the Fraser Island, Moreton Island and Green Island Recreation Areas (Green Island is not within the south-east Queensland region) (DoE 1996). Information is not available on the visitor management budgets for other National Parks in the south-east Queensland RFA region. The approximate amount spent on visitor management in National Parks in the south-east Queensland RFA region is up to $4 million annually.

Visitor management in State Forests is funded by DNR at $2.3 million for the DNR south-east Queensland region (Moreton, North Coast and Burnett) with a further $10,000 spent in the Central Region.

The total expenditure on visitor management in the public forests of the south-east Queensland RFA region therefore is up to $6.3 million. This is around 84 cents per visitor-day.

It has been suggested that current management budgets for National Parks and protected areas in Queensland fall below what would ideally be required for sustainable use of the areas in tourism and recreation (Driml and Common 1995, DoE 1997). Therefore a second approach to valuing management costs would be to use costs of 'adequate' management for sustainable use. Driml (1996) found that the current visitor management budget for the Wet Tropics WHA was 60 cents per visitor-day and that an adequate budget to provide for some infrastructure development, infrastructure maintenance, research and monitoring for sustainable use and adequate management presence in the field would equate to the order of $1.90 to $2.20 per visitor-day. There are no relevant estimates published for the south-east Queensland RFA region. It should however be noted that net benefits of the level estimated may not be sustainable if funds are not made available for adequate management.

8 Future economic values of tourism and recreation in State Forests and National Parks

The aim of this section is to make projections for tourism and recreation in forests to around the year 2020. The scene for future tourism and recreation in south-east Queensland forests is set by presenting the predicted trends in tourism and population growth which are expected to influence demand for visits to forests. These trends are presented in Sections 8.1 and 8.2. The projections are then applied to the current visitor numbers and economic values in Section 8.3, to provide projections to 2021. The potential economic impacts of a change in tenure are discussed in Section 8.4.

8.1 TRENDS IN TOURISM DEMAND

The future demand by tourists for visits to forests in south-east Queensland will be determined by the trends in tourism to and within Australia. Interest by tourists in visiting the natural environment attractions in forests may also be influenced by trends towards nature based and ecotourism, which are evident internationally and in Australia. This section commences with a discussion of demand projections for tourism as a whole, and potential influences on south-east Queensland and then turns to a brief consideration of trends towards tourism in the natural environment.

8.1.1 Trends in tourism for Australia

Forecasts of trends in international tourism to Australia and domestic tourism in Australia are made by the Tourism Forecasting Council, using econometric modelling. Prior to the recognition of the problems in Asian economies that have become evident in the second half of 1997, the number of overseas tourists to Australia was forecast to double between 1996 (4.2 million) and the year 2006. The predicted average annual increase of 7.8% would mean visitor numbers would grow to 6 million in the year 2000 and to 8.8 million by 2006 (ONT 1997b). In December 1997, revised forecasts were released. Growth is still expected but the predicted rates of 3.6% to 6.1% increase per year have been used, leading to forecasts of 5.9–7.5 million visitors from overseas in 2006 (Tourism Forecasting Council 1997). More recent press reports indicate considerable uncertainty about the potential total effects of a reduction in Asian tourism due to economic conditions in some Asian economies and the potential for Australia to be more attractive to tourists from Europe and the Americas due to a devaluation of the Australian dollar.

Domestic tourism is forecast to continue to increase steadily. The number of domestic visitor nights is expected to increase by an average of 1.9% per annum, from 252 million in 1996 to 302 million in 2005–6 (ONT 1997b).

8.1.2 Tourism trends in Queensland

Separate tourism forecasts are not available for Queensland, rather the QTTC monitors Queensland's performance against forecasts for Australia. The number of international visitors to Queensland for the year ended in March 1997 increased by 11.8%, above the average for Australia of 9.5% (QTTC 1997a). Domestic tourism increased by 6% in trips and 1% in visitor nights in the year to September 1996. The performance in visitor nights

is below the national forecasts. The QTTC comments that this growth was not as strong as for previous periods because of factors including uncertainty over election periods, a preference for shorter breaks (reducing visitor nights) and strong interstate competition (QTTC 1997a).

8.1.3 Trends in types of tourism

There are numerous reports that tourism which focuses on visiting and appreciating natural environments is an important component of global tourism and that the absolute number of visits are increasing annually (Boo 1990, Lindberg 1991), perhaps at a faster rate than tourism as a whole. It is however difficult to describe global trends in nature-based tourism because data are not currently collected to allow accurate monitoring of international or domestic tourism to natural environments (Filion, Foley & Jacquemot 1994).

For reasons of definition for study and to provide a basis for development of policy, various definitions of 'nature-based tourism' and 'ecotourism' have been developed. 'Nature-based' tourism is often used broadly to describe tourism that has visits to, and appreciation of, natural sites as a focus (Lindberg 1991, Valentine 1992).

Definitions of ecotourism have become increasingly tight, so that ecotourism is a subset of nature-based tourism. 'Ecotourism' as usually currently defined is considered to exhibit more than one of the following characteristics: focused specifically on enjoying and learning about nature, ecologically sustainable, socially and culturally appropriate, small scale, and providing a positive economic benefit to local regions (Boo 1990, Buckley 1994, Blamey 1995).

An Australian definition of ecotourism, as developed via a public consultation process, and which now anchors the National Ecotourism Strategy, is:

> Ecotourism is nature-based tourism that involves education and interpretation of the natural environment and is managed to be ecologically sustainable (Commonwealth Department of Tourism 1994, p. 3).

This definition has been adopted for use in the Queensland Ecotourism Plan (Department of Tourism, Small Business and Industry (DTSBI) 1997).

In trying to investigate the volume and trends of tourism to natural environments on a global scale, Filion, Foley & Jacquemot (1994) have made estimates of international travel 'to enjoy and appreciate nature'. They examined studies of tourist motivation and participation from North America, Latin America, Africa Oceania and Europe. From these, they estimated that:

- travel to enjoy and appreciate nature accounted for 40–60% of all international tourism
- wildlife-related travel accounts of 20–40% of all international travel.

If these proportions are constant over time and between markets, the absolute numbers of international tourists who travel to enjoy and appreciate nature will be growing annually.

The statistical information on ecotourism and nature–based tourism in Australia was recently reviewed by Blamey (1995). The Australian national survey of domestic tourism, the Domestic Tourism Monitor, was found not to provide sufficient information to allow identification of nature–based tourism. Some evidence of the popularity of natural environments for domestic tourists was provided by a 1994 Newspoll national survey, which found that 53.2% of respondents intended to visit a National Park or natural attraction, on a trip of at least one night away from home, in the next 12 months (Blamey

1995). A national survey conducted by Blamey and Braithwaite (1995) found that 66% of people would like to spend some of their holidays in the next twelve months 'increasing their understanding and appreciation of nature'.

According to DTSBI (1997), Queensland's natural features means that it has the potential to become one of the world's leading ecotourism destinations. Some of these features include:

- a diversity of natural attractions
- a wide range of undeveloped areas
- five out of 11 of Australia's WHAs, two of which are in south-east Queensland
- relatively good facilities
- well established transport and accommodation infrastructure.

Information from the International Visitor Survey (IVS) of visitors to Australia shows that in 1993, 50% of international visitors had visited 'National/State Parks/reserves/caves'. The IVS includes a list of sites in each state that are significant visitor destinations. Thirty-four of these were selected as featuring natural environment attractions. Blamey (1995) analysed visitor numbers to these sites from 1989–1993 and found that while visitor numbers had declined at 30% of these sites, visitor numbers had grown for the remaining 70%, with significant growth (15% or more) at 24% of the sites.

Anecdotal information and some published information suggest that visitor demand for the forest sites in south-east Queensland has grown in recent years. Due to the lack of accurate visitor-day statistics for National Parks and State Forests, it is not possible to say whether the growth in demand has come from tourists or south-east Queensland residents, or both, or whether the rate of growth in demand has been any different to the overall growth in tourism and population in the region. An example of significant growth in visitor use is the glow worm tours to Natural Bridge National Park, which attract mainly overseas tourists and which have grown from zero to almost 40,000 visitor-days per annum in the last four years. This is however an isolated example, and most other use appears to have increased more gradually. As noted earlier in the report, a number of tour operators in the south of the region suggested that they are interested in increasing their activities in State Forests where they could provide a four-wheel drive experience, there were less visitors, they could see contrasting vegetation in the form of sclerophyll forests and they had opportunities to see koalas and kangaroos. This may signal a trend to a greater demand for tourism in State Forests.

Visitor demand may not continue to grow if sites become known to be overcrowded or degraded. Experience from the USA suggests that with increasing visitor numbers, park facilities and conditions deteriorate unless adequate funding is provided to maintain facilities and the environment (see Appendix A). The conditions at some sites in south–east Queensland are currently thought to be at or over capacity for visitor use, as evidenced by the report on managing visitor impacts in the Great Sandy Region (DoE 1997). If crowding or degradation occurs at some sites, demand for other sites may increase. If it becomes known that sites in the region are crowded or degraded, tourism demand for the region as a whole may fall, or at least growth rates may fall. It has not been possible in the scope of this study to assess whether the National Parks and State Forests in south-east Queensland will be able to accommodate the projected increase in visitor numbers without negative impacts. To a large extent, the ability to accommodate increased visitor demand will depend on the funding made available for management.

Management actions may include placing a limit on visitor use of some sites, and this may cause demand to increase at other sites.

8.1.4 Trends used in this study

Tourists to south-east Queensland spend about one million visitor-days in forests, making 13% of all current visitor-days to forests. There is potential for growth in the future in the annual number of visitor–days to forests from two sources: growth in tourists to the region; and an increase in the propensity of tourists to seek out nature-based attractions. Both these influences are reflected in a range of projections adopted for this study.

Trends in tourism to south-east Queensland will be influenced by trends in overseas and domestic tourism, both of which show different patterns. Unfortunately there is insufficient information to split the estimates of the number of tourists to south-east Queensland further into overseas and domestic tourists. We do know that 116,000 international tourists are recorded as having visited the Gold Coast hinterland and mountains and 116,000 visited Fraser Island. According to the QVS, 23% of tourists staying in commercial accommodation in the south-east Queensland region are from overseas (QTTC 1997a). It could therefore be expected that domestic tourists are in the majority in visitors to forests.

We have therefore taken a conservative approach here, to project tourism growth at the projected domestic rate of 1.9% per annum. This should be considered conservative, even given the current effects of the Asian economic crisis on visitor numbers from that region.

At the growth rate of 1.9% per annum, the 1 million tourists to forests would grow by 30% to 1.39 million in 2011 and by 57% to 1.67 million by 2021 (see Table 8.2). (The years of 2011 and 2021 have been selected to be consistent with south-east Queensland population growth projections presented in the next section).

8.2 TRENDS IN RECREATION DEMAND

The contemporary study of recreation demand in part of south–east Queensland being undertaken by DNR and other agencies (reported in Section 7.3), identified a strong demand for outdoor pursuits. This study is expected to be repeated in the future to gauge trends in demand for outdoor recreation. In the absence of trend information to date, it is difficult to be precise about changes in demand. Observation and anecdotal evidence leads to the conclusion that demand has increased over recent decades. This is most probably due to both an increase in the population of south-east Queensland plus an increase in the propensity of people to pursue outdoor activities.

Even if demand for outdoor recreation in south-east Queensland remains constant per capita, the projected increases in population in south-east Queensland will lead to increased demand for recreation in natural environment areas including forests. Population projections are discussed below. Of course, if sites become overcrowded or degraded, visitor use may fall, as noted earlier.

8.2.1 Population trends south–east Queensland

South-east Queensland's population is predicted to increase from 2.3 million to 3.7 million over the 25 year period between 1996 and 2021.

The projected population growth for the periods 1996 to 2011 and 1996 to 2021 for south-east Queensland was calculated using 1996 population figures along with relevant population projections (Local Government and Planning 1996). These figures are shown in Table 8.1 below.

Table 8.1 Population and growth, Statistical Divisions, medium growth scenario

Statistical Division	Population 1996	Projected Population 2011	% population growth 1996–2011	Projected population 2021	% population growth 1996–2021
Brisbane	1,520,650	1,943,300	28	2,203,430	45
Moreton	610,760	975,990	60	1,217,450	99
Wide–Bay/Burnett	228,770	311,940	36	369,340	61
South–east Queensland	2,360,180	3,231,230	37	3,790,220	61
Queensland	3,358,100	4,437,510	32	5,118,520	52

Source: Kinhill Economics; Local Government and Planning 1996.

Table 8.1 shows that within south-east Queensland, the Moreton division is projected to have a total growth in population of 99% by 2021. This estimate is considerably larger than those for Brisbane and Wide-Bay/Burnett divisions and for Queensland as a whole. Brisbane division is projected to have the lowest population growth for the periods 1996 to 2011 and 1996 to 2021. Population growth in Wide-Bay/Burnett division is projected to mirror that of the entire south-east Queensland region, which itself is projected to have a 61% population increase by the year 2021. This compares with a population growth of 52% for the entire State for the same period.

8.3 PROJECTIONS TO 2021.

The terms of reference for this study require that projections of economic values of forests be made to the year 2020. Forecasts over this length of time will always be contentious, especially when there are influences acting upon tourism and recreation in forests that may have opposite effects. While all evidence points to a growth in population in the south-east Queensland region and a continued growth in tourism, and perhaps increasing popularity of natural environment sites for tourism and recreation, the potential for overcrowding and damage to sites may reduce demand, or at least reduce the rate of growth in demand. The carrying capacity of the key high use sites could be a limiting factor to future growth in visitor use of forests. The future projections made here therefore incorporate sensitivity analysis to simulate different rates of growth in demand.

8.3.1 Steady state growth

The first set of projections is a ‘steady state’ rate of growth based on the projected population growth in south–east Queensland and the projected rate of growth of domestic tourism. The arguments for using these rates were made above. These rates are likely to give a realistic baseline for the future demand for tourism and recreation in forests. Future

projections of tourism growth were reported in Section 8.1, and the predicted medium growth rate for the population of south-east Queensland, was reported in Section 8.2. As shown in Table 8.2, visitor–days to forests may increase by one third by 2011 and by 60% by the year 2021.

Table 8.2 Future projections of visitor days

	1997	% growth	2011	% growth	2021
TOURISTS TO SOUTH–EAST QUEENSLAND					
Visitor days	1,056,000	30	1,373,000	57	1,658,000
LOCAL RESIDENTS					
Visitor days	6,604,000	37	9,047,000	57	10,368,000
ALL VISITORS					
Visitor days	7,660,000	36	10,402,000	57	12,026,000

Source: Kinhill Economics.

The same rates of increase were applied to the expenditure estimates, resulting in projections of total expenditure in 1997 dollars of $263 million in 2011 and $308 million in 2021. It can be confidently predicted that, provided sites are managed appropriately, annual expenditure on tourism and recreation in forests will increase over time. That the majority of visitor use comes from residents of south-east Queensland means that despite the vagaries of tourism demand, demand from local residents and their consequent expenditure will increase. These projections do not take into account any changes in relative prices that may occur.

The Net Present Value (NPV) of total expenditure from 1997 to 2021 was calculated as the sum of total expenditure in each year as projected, discounted at 6% per annum. The NPV of expenditure is estimated to be $5,420 million.

Table 8.3 Future projections of expenditure, 1997 dollars

	1997 ($ m)	% growth	2011 ($ m)	% growth	2021 ($ m)	NPV * ($ m)
TOURISTS TO SOUTH–EAST QUEENSLAND						
Expenditure	79	30	103	57	124	
LOCAL RESIDENTS						
Expenditure	117	37	160	57	184	
ALL VISITORS						
Expenditure	196	34	263	57	308	5,420

* *Discounted at 6% per annum.*

Source: Kinhill Economics.

If the average consumers' surplus per visitor remains constant, consumers surplus values are projected to grow to between $118 million and $185 million in the year 2021. The NPV for the period 1997 to 2021 is estimated at between $2,074 million and $3,263 million.

If conditions remain viable for tourism and recreation to grow at the rates projected, the contribution of tourism and recreation in south-east Queensland forests, in terms of expenditure and net economic benefits will be considerable.

Table 8.4 Future projections of consumers' surplus, 1997 dollars

	1997 ($ m)	(%) growth	2011 ($ m)	(%) growth	2021 ($ m)	NPV * ($ m)
Low estimate	75	36	102	57	118	2,074
High estimate	118	36	160	57	185	3,263

* *Discounted at 6% per annum.*

Source: Kinhill Economics.

8.3.2 Sensitivity analysis

Sensitivity analysis was undertaken in order to illustrate the possible effects of potential trends in different directions of:

- an increasing propensity to undertake both tourism and recreation in natural environment sites;
- a reduction in demand due to limits, overcrowding and environmental damage.

Despite the anecdotal evidence that tourism to natural environments is increasing at a faster rate than tourism in general, we have no useful information on trends that can be used in our projections. We have therefore generated a scenario to illustrate the possible effects of demand for tourism and recreation in forests growing at a greater rate than the 'steady state' growth rate, by increasing the growth rates projected by 0.5% per annum. This is termed the 'nature preferred' scenario.

Another scenario was generated to illustrate the potential effect of overcrowding and environmental damage reducing demand. In this case it is the rate of growth of demand that is reduced. Demand still increases under this scenario, but more slowly. The underlying 'steady state' growth rates are reduced by 0.5% per annum. This scenario is termed the 'overuse effect'.

It is emphasised that these scenarios are illustrative only. They are not based on observations for south-east Queensland, as would be preferable. Table 8.5 summarises the results of projections of visitor-days, expenditure and consumers' surplus under the 'steady state', 'nature preferred' and 'overuse effects' scenarios.

It can be noted that the NPVs of expenditure and consumers' surplus are considerably different at the end of the period (see Table 8.6). Any actions which can be taken to increase the rate of growth to the 'nature preferred' scenario as illustrated will confer economic benefits, at a 5–6% increase over the 'steady state' NPV. Similarly any actions that can avoid an 'overuse effect' as illustrated will generate economic benefits. The overuse effect scenario represents a loss of benefits compared with the steady state of 5–6%. Actions to enhance benefits or avoid losses may include tenure change from State Forest to National Park, which will have some costs associated. The issue of tenure change is discussed in the following section.

Table 8.5 Future scenarios

Scenario	1997 million	(%) growth	2011 million	(%) growth	2021 million	NPV * million
STEADY STATE GROWTH						
Visitor–days	7.6	36	10.4	57	12.0	
Expenditure	196	34	263	57	308	5,420
Consumers' surplus (low)	75	36	102	57	118	2,074
Consumers' surplus (high)	118	36	160	57	185	3,263
NATURE PREFERRED						
Visitor–days	7.6	41	10.8	73	13.3	
Expenditure	196	40	275	74	341	5,739
Consumers' surplus (low)	75	41	106	73	130	2,182
Consumers' surplus (high)	118	41	166	73	204	3,433

Table 8.5 (continued)

Scenario	1997 million	(%) growth	2011 million	(%) growth	2021 million	NPV * million
OVERUSE EFFECT						
Visitor–days	7.6	26	9.7	42	10.8	
Expenditure	196	25	244	41	277	5,091
Consumers' surplus (low)	75	26	95	42	107	1,948
Consumers' surplus (high)	118	26	149	42	168	3,084

* *Discounted at 6% per annum.*

Source: Kinhill Economics.

Table 8.6 Differences in Net Present Values

	Steady state growth	Nature preferred	(%) increase over Steady State	Overuse effect	(%) decrease from Steady State
Expenditure	5,420	5,739	6.0	5,091	–6.0
Consumers' surplus (low)	2,074	2,182	5.2	1,948	–6.0
Consumers' surplus (high)	3,263	3,433	8.2	3,084	–5.4

Source: Kinhill Economics.

8.4 IMPACTS OF A CHANGE IN TENURE

The question arises, in the context of the RFA process of whether there would be net economic benefits arising from tourism and recreation associated with a change in tenure or management of State Forests, away from logging, and towards tourism and recreation. The potential impacts, on tourism and recreation only, of a change in tenure from State

Forest to National Park are explored here. The following discussion addresses the question for the south-east Queensland forests as a whole, in order to give an overall impression of the net impacts of a change in tenure. A more accurate result would be gained by addressing potential changes on a case by case basis.

This discussion is based on the assumption that some State Forest sites, but not all, would be attractive to visitors and that cessation of logging would make more such sites available for tourism and recreation. Forests are not homogenous and some sites will be more attractive than others for tourism and recreation.

Economic impacts on tourism and recreation values of a change in tenure from State Forest to National Park are likely to go in two directions:

- negative impacts will occur as some uses will be no longer permitted
- positive impacts may occur as a change in tenure and management approach increases the supply of sites attractive to the remaining permitted uses.

Negative impacts will occur immediately with a change in tenure. Positive impacts may occur in the future as demand increases. If current popular sites have limited capacity to absorb such demand, there could be positive benefits in making more sites available for the type of tourism and recreation favoured by the majority of visitors, that is in National Park type settings. As not all forests are homogenous, the ability to create additional visitor sites of similar attractiveness will be limited. We do not have enough information on site capacity and characteristics to conclude whether positive impacts will outweigh negative impacts.

The negative effects of a loss of activities not permitted or preferred under National Park tenure are relatively small, as the number of visitor-days spent in these activities is only 2% of all visitor-days to forests. It has been possible to quantify in dollar terms the expenditure and consumers' surplus forgone if those activities were no longer allowed.

It is proposed that there would be positive economic impacts of providing more areas for tourism and recreation of the type preferred by 98% of visitors to forests. The projected growth of 57% in visitor-days by 2021 is likely to place strains on current popular sites. This may well mean that the supply of visitor-day capacity may not meet projected demand. Any action that prevents a shortfall in supply will have positive economic impacts. We have estimated that only a small fall in visitor-days would need to be avoided for the overall net impacts to be positive. The reasoning and data used to reach these conclusions follows.

Reduction of opportunities and attractions

Recreation and tourism opportunities would be reduced with a change in tenure because some activities permitted in State Forests are not permitted in National Parks. The only activities that occur in State Forests that are expressly prohibited in National Parks are those which involve taking domestic animals into the Parks. Therefore horse riding and visiting with pets are not permitted in National Parks.

Opportunities for the use of recreational vehicles may be reduced with a change in tenure from State Forest to National Park. The use of recreational vehicles in the form of four–wheel drive vehicles, mountain bikes and trail bikes is allowed in parts of both State Forests and National Parks, subject to conditions for use determined on an individual forest or park basis. In no cases are the vehicles permitted to be driven off roads or tracks. Recreational vehicle use is catered for to a greater extent in State Forests. The system of logging roads and tracks in State Forests provides a facility for recreational

vehicle driving. In National Parks, vehicles must remain on roads and these are generally much less extensive[8].

It is the potential reduction of access to the type of driving opportunities provided by logging roads that is of issue if tenure were to change from State Forest to National Park. It is likely that roads and tracks in National Parks would be closed as a matter of policy to promote conservation and also for financial reasons. The cost of maintaining logging tracks in State Forests is met directly or indirectly from the proceeds of logging. Tracks are kept open by virtue of regular use by logging trucks and related vehicles. If the activity and funding from logging were not available, the cost of maintaining access for visitor use would have to be found from government budgets or user pays schemes.

Information on the number of visitor-days spent in State Forests in the activities of horse riding, four-wheel driving, mountain bike riding and trail bike riding was recently compiled by DNR and made available for this study. This group of activities has been termed 'indicator' recreation uses.

The number of independent visitor-days identified as spent in active pursuits is 185,000. In addition, 4,000 visitor days were provided on commercial tours, which included horse riding or four-wheel driving. To place the indicator use of State Forests into perspective, these 189,000 visitor-days make up 10% of visitor-days to State Forests and only 2% of all visitor-days to forests. The majority of visitor-days to State Forests were spent in activities equivalent to those permitted in National Parks and which would not be affected negatively by a change in tenure.

The 185,000 independent visitor-days were distributed between the indicator uses as shown in Table 8.7, which also shows the number of State Forests in which these activities occur. Detailed information on the activities by individual State Forest is held by DNR.

Table 8.7 Indicator uses of State Forests

	Horse riding	4WD driving	Mountain bike riding	Trail bike riding	Total
Number of visitor–days pre annum*	38,310	72,220	58,930	15,610	185,000

Source: DNR and Kinhill Economics.

A total of 35 tour operators were identified as visiting State Forests and these operators carry passengers for 4,000 visitor-days. Eleven of these operators visit State Forests exclusively. This group includes the eight operators who provide horse riding tours. These operators would not be able to provide horse riding in the event of a tenure change in the State Forests in which they currently operate. A number of commercial operators provided information that they visit State Forests to provide a four-wheel drive experience as part of their tours. The extent to which they could continue to provide this activity in the event of a tenure change would depend upon the management regime adopted for the particular site.

A worst case scenario of loss of recreation opportunities in the event of a tenure change would be if all the 185,000 independent visitor-days and 4,000 visitor-days on commercial tours were ceased. This is obviously an extreme example. The economic impact of the

[8] A large amount of 4WD beach driving is associated with National Parks adjacent to beaches, but beach areas driven on are generally not actually within the National Parks.

loss of opportunities would be the loss of expenditure and consumers' surplus associated with the cessation of 189,000 visitor-days.

Expenditure associated with the 189,000 visitor-days has been estimated at $7.259 million per annum (see Table 8.8). This is 3.7% of the total expenditure associated with visiting forests.

Table 8.8 Expenditure associated with indicator uses in State Forests

	Number of visitor–days	Average expenditure per visitor–day ($)	($)
Horse riders	38,310	63	2,414,000
Other indicator activities	146,690	30	4,403,000
Visitors on commercial tours	4,000	124	442,000
Total			**7,259,000**

Source: Kinhill Economics.

It can be assumed that the worst case scenario loss of recreational opportunities would lead to a total loss of consumers' surplus for the 189,000 visitor-days. The data on active visitor-days to forests has been matched against the Category 1 and Category 2 forests. The loss of consumers' surplus is estimated at $1,532,000 to $1,603,000

It may be assumed that these losses will continue into the future. The Net Present Value of future losses are calculated by projecting a growth rate equal to the steady state growth, and discounting at 6% per annum.

The worst case scenario of loss of economic values associated with indicator use tourism and recreation in State Forests is shown on Table 8.9. The impacts are extremely small in terms of the total NPV for expenditure and consumers' surplus from forests.

Table 8.9 Worst case scenario impacts of a change in tenure

	1997 ($ m)	NPV to 2021 ($ m)	(%) of total NPV for forests to 2021
Expenditure	7.3	200.0	3.7
Consumers' surplus (low)	1.5	42.3	2.0
Consumers' surplus (high)	1.6	44.3	1.4

** Percentage of net economic benefits.*

Source: Kinhill Economics.

Enhancement of opportunities and attractions

The vast majority of visitors to forests in south-east Queensland, 98%, chose to undertake 'passive' type recreation which is permitted in National Parks and provided for in many sites in State Forests. There are 5.8 million visitor-days to National Parks compared with 1.8 million visitor-days to State Forests. Furthermore, more than 1.6 million of the 1.8 million visitors to State Forests engage in passive type recreation and tourism that would not be negatively affected by a change in tenure from State Forest to National Park. Seventy-three tour operators run tours that visit National Parks in south-

east Queensland, and together carry 343,000 visitor–days per annum. This is 99% of commercial passenger days to forests in south-east Queensland.

It is projected that demand for visits to forests will increase by up to 57% by 2021. These 'steady state growth' projections assume that supply will meet demand, in that there are no limits on the capacity of National Parks and State Forests to absorb the growth and no losses to environmental quality or amenity will occur. The vast majority of demand will be for National Park type settings.

We have also discussed the possibility that supply will not meet demand, if sites become overcrowded or degraded or if limits have to be placed on visitor-days to popular sites. This is represented by the 'overuse effect' scenario. If existing sites are likely to become overcrowded, a positive economic impact can arise from providing additional sites to augment supply. We do not have enough information to judge whether the existing National Park and State Forest sites will be able to absorb the projected demand. We do have some published and anecdotal information that some National Park and State Forest sites are at or near capacity at peak use times of the year. The overcrowding of sites is a real possibility given the expected increase in population and tourism.

A positive economic impact could also occur if a change in tenure from State Forest to National Park leads to an increase in demand greater than otherwise. This is represented by the 'nature preferred' scenario.

Therefore, for a change in tenure to cause a positive economic impact, it would need to either:

- prevent an otherwise expected fall below the projected 'steady state' growth in visitor-days, or
- cause an increase above the expected projected 'steady state' growth in visitor-days.

Of course a change in tenure will not necessarily change a site into one that is as attractive as an existing National Park. A change in tenure will not change a dry sclerophyll forest, for example, into a rainforest. Nor will a change in tenure improve location relative to population centres. But a change in tenure might make an area more attractive to the proportion of visitors who value knowledge that a forest is not subject to logging. We have no specific information on how important this issue is to visitors.

Any change in the number of visitor-days will directly change expenditure, as expenditure per visitor-day is likely to remain constant in real terms. A change in tenure from State Forest to National Park may have a more complex effect on consumers' surplus. Not only may the number of visitor-days increase, but the willingness to pay per visitor day may increase. That is, the willingness to pay for some forests may move from willingness to pay for Category 2 forests, towards willingness to pay for Category 1 forests.

Willingness to pay to visit forests may increase with a change in tenure if visitors prefer to visit National Parks, because they think they will enjoy a better experience. Visitors may see National Park status as signalling that there is something special about the area that they may enjoy. The fact that three quarters of visitors to south-east Queensland forests chose to visit National Parks supports this proposition. It is possible that the higher the conservation status, the more attractive areas may appear to nature-oriented potential visitors.

Visitors may also be willing to pay more to visit forests with a higher conservation status if they experience more non-use values when visiting National Parks. It is not known to what extent the willingness to pay demonstrated by visitors (as measured by TCM studies

used for this analysis) includes any elements of non-use values (existence, bequest, option and quasi-option values, see Box 1) for forests. If there is an element of non-use value included in willingness to pay for visits, then a change to a greater conservation tenure should increase willingness to pay.

The observations that can be made at this stage are that the level of conservation afforded by tenure, and the perceptions of the attractiveness of the site conferred by tenure, are amongst the elements that influence willingness to pay for direct use for tourism and recreation. It is possible that willingness to pay will increase for some sites if tenure is changed from State Forest to National Park. The extent of the increase cannot be ascertained for south-east Queensland forests, given that no original research was undertaken on this issue for this study.

Box 1 Non–use values

A change in tenure from State Forest to National Park would increase the conservation protection of the forest natural environment, by preventing logging and other potentially impacting uses such as bringing of domestic animals into the forest. It is generally understood that the greater the level of protection afforded natural environments the greater the willingness of the population to pay for the benefits of conservation. The benefits of conservation include that suite of benefits recognised as 'non–use benefits'. People do not have to directly visit natural areas to experience these values. These 'non-use' values include:

- existence value—arising from knowing that natural environments exist
- bequest value—arising from knowing that natural environments are being conserved for future generations
- option value—arising from keeping open the option of visiting natural environments in the future
- quasi-option value—arising from keeping open the option of future economic use of the natural environment, particularly the use of genetic information (Munasinghe 1993).

These values are considered to be in addition to any direct use values, such as from tourism and recreation. While non-use values can be significant in deciding land use allocation, and should be recognised in economic analysis, the measurement of these broader values is not the subject of this study.

Net impacts

In terms of impacts on economic values associated with visiting forests, if a change in tenure means that a loss in visitor-days will be prevented, the economic value associated with the extra visitor–days generated is the positive economic impact.

To have a positive net effect of a change in tenure, the increase in economic values of visitor-days promoted by the change must be greater than the loss of economic values of indicator recreation opportunities. We have calculated a worst case scenario of a loss in expenditure of $200 million NPV, and a loss of consumers surplus of $42.3–$44.3 million NPV for indicator recreation.

This loss is 3.7% of the projected steady state NPV of expenditure and 2.0% to 1.4% of the projected steady state NPV of consumers' surplus. These are very small proportions of the projected NPVs.

Therefore, for positive net economic impacts to occur with a change in tenure, it would be necessary for the change in tenure to at least:

- prevent an expected fall in the projected ‘steady state’ NPV of expenditure by around 3.7% and a fall in NPV of consumers’ surplus of less than 2%, or
- cause an increase over the expected projected ‘steady state’ NPV of expenditure by around 3.7% and an increase in NPV of consumers’ surplus of less than 2%.

The losses with the worst case scenario are small relative to total expenditure and consumers’ surplus. Because there may be real problems with sufficient future capacity to cater for visitors, it is considered that positive impacts of a change in tenure may well occur. We do not have sufficient information to be conclusive about whether positive impacts are likely to be sufficient to offset the negative impacts of the worst case scenario of loss of indicator use opportunities.

Appendix A

Environmental impacts of tourism and recreation

INTRODUCTION

The purpose of this appendix is to present the results of a literature review of the environmental impacts of tourism and recreation in forests, by type of activity.

Tourism and recreation in forests have the potential to cause impacts to the natural environment of forests. The severity of impacts experienced is a function of the type of activity, the intensity of use, the vulnerability of particular forest types or areas to impacts and the effectiveness of management actions taken to minimise impacts.

Tourism and recreation have the potential to cause biophysical impacts which affect the ecological carrying capacity of forests as well as impacts which affect the social or psychological carrying capacity of forests. Forest management approaches to addressing the amenity aspects of recreational use include providing a range of different recreational settings and maintaining the integrity of these settings. This review concentrates on ecological impacts and does not include issues of crowding or potential homogenisation of experiences. This review addresses on-site impacts only. It should be acknowledged however, that tourism and recreational use of forests has an 'ecological footprint' which extends beyond the forest and includes impacts of transport and accommodation and services consumed in association with visits to forests.

A comprehensive review of studies on ecological impacts of recreation and tourism in Australia, particularly addressing impacts in forests, has recently been completed by Sun and Walsh (1997) of the Bureau of Resource Sciences. This review has been undertaken as part of the national RFA program. The review by Sun and Walsh drew on sources including a literature review of tourism in tropical forests published by one of the authors of this report (Driml 1996) and Driml was a reviewer of the Sun and Walsh report. For the sake of efficiency, the Sun and Walsh report is used as the basis of this review. It is complemented by some other studies where relevant.

Sun and Walsh addressed only ecological impacts of tourism and recreation on-site in forests. They found that for Australia as a whole, there are a limited number of studies that attempt to quantify the relationships between degree of recreational use and environmental impact. They note that the majority of studies that have been undertaken are field studies and there are few examples of the experimental studies that they consider to provide superior information.

To quote Sun and Walsh (1997):

> The results of these limited studies and some observations indicate that the most common recreational and tourist activities (such as bush walking, camping, horse-riding) can, if not well managed, adversely affect the natural values of forests. Overall they can affect the forests and other recreational sites physically and biologically. Physical effects include track formation, soil loss and/or compaction and an increase in fire frequency. Littering and water pollution are also seen as impacts associated with bush walking and camping. Biological effects include causing damage to vegetation, increasing risk of Myrtle wilt disease and the spread of the soil pathogen *Phytophthora cinnamomi*, as well as assisting weed dispersal (p1).

In their concluding comments, Sun and Walsh state:

> The degree of ecological impacts appear to vary with the level of use, type of recreational activity, site specific vegetation, climate and edaphic factors as well as their interactions. While the process of how these factors influence the impacts remains unclear, the degree of impacts generally increase with the level of recreation and tourism use, although some overseas studies showed that this correlation becomes less strong once the impacts reach thresholds of particular environments (p28).

The approach taken in this review is to identify the types of tourism and recreational activities that may be relevant for the south-east Queensland RFA and to present the relevant information from Sun and Walsh and other sources according to uses. The structure of this Appendix is that the overview of findings of Sun and Walsh are summarised, the range of different types of tourism and recreation activities in the south-east Queensland region are identified and the potential ecological impacts by type of activity in south-east Queensland are described. Brief summaries of issues arising in the Great Sandy Region, and in the USA on public lands are also included.

8.5 TOURISM AND RECREATION ACTIVITIES IN NATIONAL PARKS AND STATE FORESTS

Tourism and recreation is permitted in both State Forests and National Parks. In both State Forests and National Parks, access for tourism and recreation is controlled with some areas being unavailable, some activities requiring permits, and use of particular sites being encouraged by the provision of road access and facilities. Tourism and recreation in State Forests is managed by the Department of Natural Resources and in National Parks it is managed by the Department of the Environment. As a broad principle, National Parks are managed primarily for nature conservation but where possible cater for nature based tourism while State Forests are managed for multiple uses including nature based recreation (DoE and DNR 1997).

There are some state-wide policies of the management agencies which govern tourism and recreation, including specification of which activities require a permit, and the complete prohibition of some activities. Managers of National Parks and State Forests however have a degree of discretion in determining what activities will be allowed in a particular forest area and the conditions under which the activity will be allowed. Therefore, there are only some hard and fast differences between activities permitted on land of different tenures. More detail on management agencies' polices and regulations on various activities will be provided in another study being prepared by the management agencies for the RFA. The following is a broad overview of which activities are allowed in State Forests and National Parks.

Not permitted in either State Forests or National Parks is driving off-road. This extends to use of trail bikes and mountain bikes. Driving on roads and unsealed tracks is an 'as of right' use in some areas of State Forests and National Parks. Driving on some beaches is also an 'as of right' use. In all these cases however, access could be closed for management purposes. All commercial tour operators are required to have a permit and permit conditions specify areas where driving, including by 4WD vehicle, is permitted. In State Forests, driving on sealed and unsealed roads which are part of facilities made available to the general public does not require a permit. Permission is required to drive on other roads and tracks, including logging tracks and fire breaks. In some areas, this is only given to members of recreational vehicle clubs (these drivers are likely to be experienced and disciplined) and in some places access is controlled by locked gates (access may be denied in wet weather, etc.). The logging tracks in State Forests provide a recreation resource not available in National Parks, which have fewer roads and tracks. There are however considerable areas of beaches within and adjacent to south-east Queensland National Parks, which are a well used resource for 4WD driving. In National Parks, there are also sealed roads and unsealed tracks that provide access for the general public. There is no requirement for permits to drive on these roads.

There are some recreational and tourism activities permitted in State Forests that are not permitted in National Parks. These include activities which involve bringing of animals onto the site, and so horse riding or camel riding and bringing of pets onto National Parks is not permitted (with the possible exception of guide dogs). Commercial tours featuring horse riding operate in a number of State Forests and recreational horse riding by individuals and recreational clubs is permitted in some areas of State Forests under permit. Dogs restrained on a leash are allowed in State Forests and dogs are allowed in some State Forest camping areas.

Mountain bike riding occurs in some areas of State Forests and National Parks, under permit. Trail bike riding is permitted on designated tracks in some State Forests, under permit.

Camping is allowed at designated sites in State Forests and National Parks. Bush camping is allowed on some State Forests under permit. Walkers are generally encouraged to keep to tracks, but bushwalking clubs may use routes not used by the general public.

There is known to be illegal use in State Forests and National Parks which involves people visiting areas which are designated not open to tourism and recreation and undertaking activities that require a permit, without a permit. The extent of this is not documented. Visitor behaviour which is not sensitive to the environment is another source of 'uncontrolled' use.

A change in tenure from State Forest to National Park, would reduce the range of recreational experiences available for visitors. Conversely, such a tenure change may make conditions more conducive for passive recreation and tourism including ecotourism. A change of tenure from State Forest to National Park would exclude horse riding and dogs and reduce opportunities for driving, including 4WD driving, and walking if roads currently being kept open for logging are not maintained or are closed. A change in management of State Forests to reduce logging may also reduce the opportunities for recreation if roads are no longer kept open.

8.6 ENVIRONMENTAL IMPACTS OF TOURISM AND RECREATION ACTIVITIES

This section presents information on potential environmental impacts of tourism and recreation according to type of activity. The application of management to reduce impacts is a significant determinant of the potential extent of impacts. Some management approaches were discussed briefly above and further approaches are included in this discussion.

8.6.1 Passive recreation requiring facilities

Passive recreation requiring facilities includes; driving on made roads for sightseeing and to access facilities; spending time at day use areas and using parking spaces, picnic sites, BBQs, and toilets; walking on made tracks; camping in camping areas; and swimming in lakes, rivers and swimming holes. The impacts of these activities fall into two time periods, the construction of facilities and ongoing use of facilities. The provision of facilities makes visits more comfortable for those who prefer facilities, provides opportunities for education of visitors and also attempts to contain visitors and restrict impacts to 'hardened' areas. The construction of facilities obviously has an impact in that vegetation and habitat is removed. Soil becomes compacted and water flows may be changed. There is a trade-off in hardening sites according to design that will minimise impact against allowing visitors more unrestricted access where they may make numerous tracks and damage vegetation incrementally. The provision of facilities may attract more visitors.

People and vehicles can introduce weeds, insects and pathogens such as *Phytophthora cinnamomi*. The ongoing presence of people at sites may cause litter. People may feed animals, and rubbish left in bins may be scavenged by animals. If certain native animal species are able to adapt to the presence of people, they may increase in numbers to the detriment of other species. The greatest impact of people walking in natural environments is made with the initial trampling of vegetation and soil. Walking on made tracks is therefore likely to have little extra impact. The tracks themselves may cause impacts if not well designed as continuing erosion may result.

8.6.2 Commercial tours

In south-east Queensland, commercial tours include coach tours and 4WD tours that feature guided walks and flora and fauna observation, horse riding tours and active adventure including

mountain bike riding and abseiling. Tour operators generally comment that they are able to control the behaviour of their clients and that the potential for impacts arising from uncaring behaviour is minimised. Operators also comment that they care for the sites that they rely upon for their income.

The tours featuring 4WD driving generally include only a short period of 4WD driving, all on formed tracks in State Forests. Horse riding tours are only conducted in State Forests, as are mountain bike tours. Abseiling and rock climbing is conducted in some National Parks also. See below for a discussion of 4WD driving, horse riding and other activities.

The majority of commercial tours are coach tours and 4WD tours that visit the sites with facilities, including lookouts, walking tracks and day use areas, also visited by independent visitors. To the extent that there are any environmental impacts being experienced at any of these sites, commercial tours will not be the only source of impact. There is no published information about environmental impacts at any sites in south-east Queensland forests.

Where commercial tours focus on viewing wildlife, there is potential for impacts on the wildlife to occur. Examples from North Queensland include the spotlighting of arboreal mammals, the impacts of which are currently being researched and observation of the Golden Bower Bird which is believed to have reduced breeding success (Driml 1996).

In south-east Queensland, in recent years, the viewing of glow worms has become very popular, especially amongst tourists from Japan staying at the Gold Coast. The most popular site is Natural Bridge National Park, where a limit on visitor numbers has been implemented. While the environmental impact of viewing is unknown, this limit was set as a precaution and to prevent crowding. Other glow worm sites have been discovered at Curtis Falls on Mt Tamborine and on private property.

Other tours which feature wildlife viewing are viewing and hand feeding crimson rosellas and other parrots and birds at Springbrook, Binna Burra and O'Reilleys. The impacts, if any, of feeding are unknown.

8.6.3 Bush walking

The potential effects of trampling on vegetation is one of the most studied aspects of the impacts of tourism and recreation, with many studies having been conducted overseas and some studies in Australia. Most of the studies refer to trampling in areas with no pre-existing trails and some studies include the effects of camping on pristine sites. This research is relevant to an understanding of processes that occur from the time an area is first trampled until an established track is formed.

The experience from a long period of study in mountain areas in the United States by Cole (Sun and Walsh 1997) is that there is a curvilinear relationship between the number of times and area is walked on and impact on vegetation and soil. That is, the first few passes have relatively the greatest impact. This relationship was confirmed for sites in temperate and tropical grasslands in Queensland (Sun and Liddle 1993). If plants are damaged or removed from tracks altogether, and soil is compacted, the potential for soil erosion increases. Studies quoted in Sun and Walsh illustrate that the vulnerability of vegetation varies with type of vegetation. The implications of these findings are that if an area that is not currently used becomes used, for walking or camping, it may take relatively few uses before an impact is evident and the area becomes potentially susceptible to erosion. Although most visitor use of forests in south-east Queensland appears to be concentrated in already made facilities, this research has implications for areas that may be opened up by bushwalking clubs etc.

There is little published information about what happens once trails have been established. A study by Graham (1994) considered the environmental impacts of already formed trails in the Wet Tropics WHA in North Queensland. Trails on four soil types on the Atherton Tablelands were studied for; bulk density, surface (water) infiltration rates, root occurrence, soil microbial activity, earthworm occurrence, and soil seed banks. Comparisons were made between the trails and the adjacent rainforest sites, the four soil types and cut and uncut trail surfaces. The study found some differences between forest and trail sites and amongst soil types, but that 'the significance of these differences suggests that well designed and maintained walking tracks do not cause important problems in the adjacent physical and biological systems of the rainforests of the Atherton Tablelands' (Graham 1994, p. 1). The differences found were: increased bulk densities, decreased infiltration rates, lower near-surface fine root concentration and increased microbial activity on most trails as compared to forest sites. Graham includes a number of recommendations for planning, construction and management of trails to minimise impacts. It is emphasised that the study sites were all located on the Atherton Tablelands and that different conditions may prevail at the steeper and higher rainfall sites of the ranges.

While Graham's findings are reassuring for the Atherton Tablelands, the impacts of trails will vary with soil type, rainfall, slope, vegetation and intensity of use. Very severe impacts of soil erosion on trails can be observed in the Blue Mountains where trails occur in sandstone, on steep slopes in heavily used areas. It has been noted that 'walking is a major environmental hazard to sensitive alpine vegetation even at low levels of visitation' (ESD WG 1991, p.16).

Other types of impacts of bushwalking arise from penetration of forest areas not usually visited. Fisher and Stanton (1991) have commented on the potential for bushwalkers to introduce pathogens to isolated areas.

8.6.4 Horse riding

Horse riding is not permitted in National Parks in Queensland. The potential impacts of horses in natural environments including forests are summarised by Buckley and Pannell (1990) as trampling of vegetation and soil on trails and in holding paddocks, impacts of manure and bacteria on waterways, and the spread of weed seeds in manure and in fodder if carried. Sun and Walsh (1997) report that the Victorian Land Conservation Council have listed the potential effects of horse riding as: spreading of weeds, reductions in water quality, overgrazing at specific sites, track establishment and track braiding (the creation of extra tracks alongside existing tracks as waterlogged or eroded areas are avoided).

Sun and Walsh (1977) report the findings of several studies conducted in the particularly fragile alpine and sub alpine areas in Tasmania. Here the horse riding is not restricted to formed tracks and the studies investigated impacts on pre existing trails and areas without pre existing trails. Studies on pre existing trails in two types of closed forest, two types of open forest and moorland found that horse riding did generally cause soil loss of 35 to 397 cm^2 per 1 metre width of track. The loss was attributed to soil erosion and compaction (Whinan and Comfort 1996 quoted in Sun and Walsh 1997). On the Tasmanian Central Plateau, a study compared impacts of horse riding on vegetation types of shrub land, grassland, fen land and heath land, with no pre-existing tracks. The study revealed that the passage of 20 to 30 horses had substantial effects on soils and damage was most pronounced on the shrub land vegetation (Whinan et al 1994 quoted in Sun and Walsh 1997).

The Fraser Implementation Unit (FIU) (1994) notes that horses can also damage archaeological sites as well as impact on native vegetation. Both horses and camels on Fraser Island can have an impact on native vegetation through grazing, introducing non-local plants, and ringbarking native trees.

8.6.5 4WD driving

There is a fundamental difference between 4WD driving on already made tracks and off-road driving. Off road driving has a reputation for causing considerable damage to areas that may have been pristine. Buckley and Parnell (1990, p. 26) say that vehicles used off-road can cause 'severe and extensive vegetation damage'. Impacts include the formation of new tracks, the braiding of existing tracks, raising of dust, compaction of soil and erosion. Areas most susceptible to this activity in Australia are desert areas and beaches. Impacts of 4WD driving in arid areas have been described as follows:

> …the compaction of soil, damage to vegetation, changes to runoff patterns and disturbance to dry river beds caused by four wheel drive vehicles may disturb the fine balance of ecosystems in these areas. These effects may compound around a particular site with the result that irreversible damage can be done even though visitation may be extremely low (ESD WG 1991, p.20)

Sun and Walsh (1997) report that the WA Department of Conservation and Land Management regard the impacts of off road vehicle driving and rallying to be potentially significant, particularly in regard to the spread of forest pathogens and soil degradation. The same authors report that the Victorian Land Conservation Council have listed the potential effects of off-road driving as 'changes in vegetation, introduction and facilitation of spread of weeds, disruption of habitat and alteration of drainage patterns, stimulation of soil erosion, increased dust, visual impacts, the increased probability of refuse material being left and accidental or deliberate fire lighting' (Sun and Walsh 1997, p.13).

Driving in forests off road or on tracks allows visitors to access greater areas of forests than would otherwise be the case. This may allow the spread of weeds and pathogens, bring greater fire risk and threaten wildlife through road kills and shooting (Buckley and Pannell 1990). A one year study in the Northern Territory investigated whether tourist cars were a source of weeds to Kakadu National Park. Cars were found to carry up to 789 seeds of fifteen species. Those weed species carried by cars were found at three times as many sites in the park as species that were not (Lonsdale and Lane 1994, quoted in Sun and Walsh 1997).

In south-east Queensland, 4WD driving in State Forests is restricted to made tracks including tracks for logging trucks and fire breaks. Having said this, 4WD driving may have the effect of keeping some tracks open for longer than would otherwise be the case. Driving on tracks may cause dust to coat vegetation along the track, soil compaction and soil erosion. Rally driving would increase these hazards for short periods.

The Department of Natural Resources manages access to tracks in some areas by requiring permits. Locked gates may be used to restrict access. Permission may be restricted to members of 4WD clubs. The DNR takes weather conditions into account when issuing permits, in order to prevent access when areas are susceptible to erosion.

8.6.6 Camping

The FIU (1994) express some concerns over 'bush camping' on Fraser Island as there is the potential for sensitive areas to be disturbed. Forming new tracks in these sensitive areas also diminishes the wilderness experience. Fire hazards may also arise as a direct result of camping in wilderness areas.

8.7 VISITOR IMPACTS IN THE GREAT SANDY REGION

In a progress report by DoE (1997) regarding visitor expectations and visitor impacts in the Great Sandy Region, a number of tourism related issues have been assessed. In the Great Sandy

Region, over half the sites reported are showing evidence of physical impacts beyond acceptable limits. For example:

- out of 26 routes, seven are being used below capacity, eight are being used to capacity, and eleven are being used above capacity with four of these being used at least 50% over capacity;
- out of 13 lakes, only one is being used below capacity, two are being used to capacity, seven are being used above capacity, and three are being used at least 50% over capacity;
- out of four barge landings, one is being is being used below capacity, one is being used to capacity, and two are being used above capacity;
- out of the 16 formal and informal camping areas, four are being used below capacity, four are being used to capacity, three are being used above capacity, and five are being used more than 50% above capacity. None of the eight of the overused sites have facilities.

The environment on Fraser Island in particular is reported to be in a very poor condition in places as a result of increasing visitor numbers.

PROBLEMS FACED BY USA STATE AND NATIONAL PARK MANAGERS

Several reports published by the General Accounting Office (GAO) of the United States (US) focus on a number of park units across America. In the majority of reports discussing management issues, the same points arose (GAO, 1995, 1991a, 1991b). First, there appears to be a serious funding shortage for both state parks and national parks, and second, visitor numbers are continually on the rise, adding to the funding crisis. Both these factors are considered to be the major contributing factors to the deterioration of the quality of parks across the US. In 1995 the annual number of visitors to the national and state parks system was 270 million visitors. This figure was more than 20% higher than the 1985 figures. In the same year, a $4 billion (US) maintenance backlog existed, which had risen from $1.9 billion in 1988. Funding shortages and increased visitor numbers are seriously affecting the park's ability to keep pace with visitor needs.

The Forest’s Service’s funding and staffing levels are insufficient to cater for the increase in recreational demand. Operating costs of parks has increased significantly as visitor numbers have augmented, and because of funding inefficiencies, health and safety issues have arisen and site damage has occurred. These problems could result in the loss of some recreational sites and facilities unless resolved.

Lack of funding has meant that necessary maintenance work such as repairing campfire pits, painting restrooms, and replacing broken or rotted parking barriers has not been carried out. Contributing to this maintenance backlog is the public demand for modernised sites, increased usage of existing sites, and the problems of aging sites. The huge increase in visitor days has accelerated the wear and tear of some facilities, which in turn has resulted in more frequent maintenance and repair jobs. In addition, there is now a call for sites to be renovated to cater for people with disabilities.

As mentioned, overuse of recreational sites has led to issues of health and safety. At a number if sites, untrimmed tree limbs, leaking toilets, cracked and crumbling fire pits, broken picnic tables and benches, exposed tree roots and eroded paths have been observed as a direct result of overuse.

Due to funding shortages, many proposed projects are no longer planned to go ahead. These projects include developing new campsites, picnic areas, information and visitor centres, boat ramps, parking facilities, walking trails, roads, and interpretive sites. At existing sites, funding shortages and has meant that campsites and information centres have closed, interpretive programs have been cut, and nature walks and guided tours discontinued.

In wilderness areas, conditions differ considerably. Some areas are perceived to be in relatively good condition and others are not. Many wilderness areas show signs of overuse, particularly on

trails and bridges, and around popular camping sites. There are also problems of conflicting activities in certain areas, and this adversely affects visitors' opportunities to thoroughly enjoy the wilderness areas. A further problem of overuse is that the sense of solitude and primitive recreational experiences have been reduced or lost for some.

Overcoming problems

> Throughout much of the 1980s, because of limited resources the Forest Service could not maintain recreational sites and areas to establish standards. Accordingly, it had to defer much maintenance, reconstruction, and new construction work from year to year…insufficient funding and staffing were the primary causes of their backlogs of unmet needs (GAO, 1991b).

One of the ways in which the Forest Service has attempted to overcome the problems of funding and staff shortages, is through the 'The National Recreation Strategy'. This strategy was introduced in 1988 and attempted to seek funding from the public and private groups in order to share the expense of maintaining and upgrading facilities. A cost share program was devised under the strategy in which the Forest Service matches any contribution made by an outside organisation, whether it be donations of money, materials, or labour. The effectiveness of the scheme tends to vary across parks, but has had some considerable benefits in some areas.

The Forest Service has considered reducing the number of sites and areas of access. However, this would mean accepting the loss of federal investment in parks and creating dissatisfaction among user groups. It was also thought that restricting the number of sites available would add pressure to the sites remaining open, in which case they would become overused, and would deteriorate at a faster pace.

Another alternative to the funding shortage is to lower the site standards so that the work required can realistically be achieved work given the available resources. However, this would result in a loss of the public's enjoyment of wilderness and recreational areas and would undermine the Forest Service's commitment to providing facilities for the disabled.

Costs involved in running state parks and national parks

In the United States, the state parks generally place a greater emphasis on visitor services while national parks give a higher priority to conserving natural resources. The state parks reviewed were found to operate at a lower visitor and lower overall cost than national parks, but cost more per acre to manage due to fewer staff and smaller areas. State parks also generated less revenue through user pays systems than national parks, but generally recovered a higher proportion of their operating costs.

All of the state parks and national parks reviewed spent 30–40% of their funds on visitor services, resource stewardship, operations and maintenance, and administration (GAO, 1997). More specifically, funds were spent on providing campsites and visitor centres, monitoring and protecting resources, and maintaining park facilities and structures. While similar activities could be undertaken in both the state parks and national parks, the national parks generally had a better range of facilities. This could help explain the reason why more visitors chose to recreate in national parks rather than in state parks.

In most of the cases, state parks, whose emphasis was on visitor services, showed a lower cost per visitor than national parks. However, national parks generated more revenue than state parks even though both charged similar camping and entrance fees. This difference was primarily due to the variations in actual visitor numbers. National parks generally saw more visitors than state parks. But, since the state parks had lower operating costs, they were able to recapture a higher percentage of their operating costs through visitor fees than could national parks.

Appendix B

Kenilworth and Springbrook focus group workshops

This Appendix contains the background papers sent to participants in the focus groups held in Kenilworth and Springbrook and to tour operators who visit the Springbrook area. It also contains a full record of contributions made by participants in the workshops and made in writing by the Springbrook tour operators.

Tourism and Recreation in SEQ Forests Study

Kenilworth Tourism and Recreation Focus Group Workshop

Background Paper

The Commonwealth and Queensland Governments are undertaking a Comprehensive Regional Assessment of forests in South East Queensland which will lead to a Regional Forest Agreement. The Agreement will determine which areas of native forest areas will be managed primarily for conservation and which areas will be managed for multiple use, including timber and tourism and recreation.

The Comprehensive Regional Assessment will consider current and future tourism and recreational use of forests. Kinhill Economics is currently undertaking a study of the economic value of tourism and recreation in the South East Queensland forests, for input to this assessment. This study will also explore what steps and conditions are necessary to increase the economic benefits of forest-based tourism.

As part of this study, Kinhill Economics is running case studies in a number of locations where forest based tourism and recreation is occurring and has potential to expand. The upper Mary Valley, with Kenilworth as its heart, has been chosen as one focus group location because of the area's potential for increased forest-based tourism and its proximity to a major tourism destination, the Sunshine Coast. The case study area is defined by the area covered by the Mary Valley Enterprise and Tourism Association (MVEATA) and includes the following forests: Jimna, Kenilworth, Mapleton, Imbil and Amamoor State Forests, and Conondale Range National Park. Tourism and recreation use spans across National Park and State Forest tenures. The major focus of the Workshop will be on the core of this area, in particular the town of Kenilworth and Kenilworth State Forest (with Charlie Moreland and Booloumba Creek State Forest Parks).

The purpose of the focus group is to discuss the current linkages between the forests and the tourism-related businesses in the area and identify the future needs and concerns of the community and the tourism industry in relation to forest use.

The major outcome that we seek to achieve is a clear picture of the upper Mary Valley's reliance on the forests of the area for recreational and tourism use and the importance of this use to the economies of the area, now and in the future.

To achieve this outcome by the end of the focus group meeting, we will discuss the following issues, in plenary sessions or group discussions:

- How much does your group/business currently rely on the use of the forests of the area (income/employment/activities)?
- Are your needs currently being met by the way the forests are managed and by the facilities provided?
- What are your concerns and suggestions for the future management of the forests?

- How would a change from the current situation to a situation where all the forests of the area are managed as National Parks affect your group/business?
- What is your vision for forest-based tourism in the upper Mary Valley in 2020?

Information on business links will be explored in this focus group and through a brief survey being undertaken of businesses in the Kenilworth area. This survey will be explained at the meeting.

A brief description of forest management and issues follows.

Forest Management Issues in the upper Mary Valley

Forests in the upper Mary Valley include National Parks and State Forests. The Conondale Range National Park is managed for conservation values and passive recreation. There are currently four commercial tour operators who at times conduct tours in the National Park. The emphasis of these tours is sightseeing and learning about the forest.

The State Forests include native forests managed for timber, plantation forests and areas of State Forest and State Forest Parks managed for recreation. The recreation permitted in the State Forests includes passive recreation and active recreation including, bushwalking, 4WD driving, horse riding, mountain bike riding, hang gliding, outdoor education and husky dog training. There are currently eight commercial tour operators who at times conduct tours in the State Forests. Activities include sightseeing and learning about the forest, walking, horse riding and 4WD training.

Recreation facilities are provided in the State Forest Parks and these facilities are used by people from in the local area and from the south-east Queensland region (with Brisbane predominating) and by tourists to the Sunshine Coast. Active recreation in the State Forests uses roads and trails throughout the forests. The facilities in Charlie Moreland and Booloumba Creek State Forest Parks are in the process of reaching capacity, for example at Easter. A choice in the future will be between expanding capacity or limiting use. The only class of accommodation close to the forest is camping.

The issues of a possible change in tenure is whether a change to more National Park will expand or restrict different types of tourism and recreation. An issue for management of the State Forests, if tenure doesn't change, is whether to expand current areas for recreation/tourism use or find additional areas that may be suitable and possibly restrict areas management for timber.

A further issue is funding of management to provide the ideal level and mix of facilities for recreation/tourism.

Kenilworth Focus Group Workshop

8.7.1 Initial points raised in discussion

Following the introductory discussion of the project, the participants were given a chance to describe the existing forest situation in the Kenilworth and Upper Mary Valley areas, and to ask questions regarding the project. This initial discussion raised the following points and concerns.

- It is important to find a balance between the National Parks and private property.
- Make sure that the forests are available for multiple uses, and not locked into a single use. This was a particular concern of the Australian Trail Horse Riding Association (ATHRA).
- Forests should not be locked into a single use, as forest use changes over time.
- If an area is locked up, then how can spending money managing the area be justified?
- There is concern is that the use of forests has been taken to the extreme. It has become logging versus conservation.
- Forests should not become too expensive to use.
- The conservation movement has arisen from the exploitation of forests for profit.
- International visitors perceptions of the forests should be maintained. Presently, overseas visitors enjoy visiting the State Forests and National Parks because of their scenic beauty and ecological diversity.
- Forests should be a place for families to visit.
- Good access to the forests from Brisbane and the Sunshine Coast must remain, currently some visitors are dissatisfied that access into the wilderness areas has ceased.
- Part of the State forest budget is allocated to road maintenance.
- Tour operators and recreational groups must continue to have access to the forests.
- If forest areas cannot be accessed, then people do not understand why they should be protected. On the other hand, these areas need to be protected so that they can remain undisturbed by humans.
- It is important to restrict access to wilderness areas in order to control traffic and introduced species.
- Old growth areas need to be retained.
- Not all trees should be preserved, some of the older, dying trees should be cut down to allow new growth.
- 5 to 6 years after logging has occurred, many visitors cannot tell which areas have been logged in the past, although the locals can.
- While 120,000 visitors come to the Kenilworth region annually, very few of them can distinguish between State Forests and National Parks.
- It is important to conserve the surrounding forests and streams, as they are an important feature of the Kenilworth area, and they are necessary for the survival of life systems.
- Kenilworth and the Upper Mary Valley boasts some of the best horse riding trails in Australia.

Points raised in group discussion

Local businesses

Question 1

- Tell people of places to visit in the town of Kenilworth.
  - Park
  - Art gallery
  - Using an alternative route to get there which takes them through the town
  - Encourage Brisbane people come further north of the camp grounds.
- Kenilworth not on many tourist maps—*Sunshine Coast Daily* ignores the area.
- Similar situation in Imbil.
- The forests keep local people employed—timber and tourism.
- Museum relies on word of mouth advertising, hoping to attract more tourists.
- Tourist operators drive straight though the town.
- Campers are not encouraged to stop in the town.
- Forests contribute to the area but they are NOT the only attraction.
- Some businesses rely solely on visitors—others only partly.
- Local businesses need to be featured on maps—takings have nearly doubled for some businesses when this has occurred in the past.

Question 4

- Need to encourage a broad cross-section of people to visit.
  - Need different accommodation or a range of accommodation facilities.
- Some public transport
- Better roads.
- Not to encourage too much tourism.
  - Rubbish
  - Water quality.
- Tourist numbers should be limited.
- Forest management is important—funding is important.
- Kenilworth and Imbil should be located on all the tourist maps.
- Forestry has to change its attitude regarding local businesses advertising in the camping grounds.
- The fact that the town is evolving at a steady pace, is a good thing.

- While forest based tourism is a valued contributor of income in the region, it is not the major contributor.
- Want more local workers to live locally.
- Forest to employ more people for forestry (tourism) management.

Recreational users

Question 1

- Bring your own equipment (tents etc).
- Major camp:
  - Supplies in Kenilworth
  - Petrol in Kenilworth.
- Group camp—5 days, Little Yabba.
- Day rides:
  - Laundries
  - Services
  - Supplies
  - Local tourism visits.
- Amamoor residents suggested planned maps/itineraries for recreational visits.

Question 2

- Well managed resource, good facilities, therefore increasingly popular.
- South-east Queensland has good media exposure.
- People respect the rules and care for the bush:
- Only minor abusers.
- Good for bird watching.
- Unable to comment on National Parks.
- Camping ground becoming packed during holiday periods.
- To expand might increase people, but spoil the sites—are more parks the answer?
- Camp sites keep people concentrated, but away from campsites there are fewer people.
- Too much exposure will spoil the area- the right balance exists now.

Question 3

- Good as it is now—well managed.
- Increasing the number of camping grounds would be an alternative to expanding the existing camping grounds.
- Do not want much change.

- Horse riders do not want extension of National Parks unless the usage by recreational groups is taken into account:
  - could increase the amount of National Parks, but make allowances for ‘soft’ uses (not 4WDs or trail bikes).
- Why are horse riders not allowed in Qld National Parks?
  - Hikers can do as much damage short cutting.
  - Horse riders and hikers can be restrained by appropriate paths, etc.
- Desirable to increase camping grounds on the actual river—Little Yabba Creek rest area.
- Want to see a proper balance in the forested areas in the future, based on sound management, preservation, recreational needs.
- Future management should be more interactive and educational so people are aware of the potential impact on the resource.
- Roads in the forests:
  - dirt tracks restrain amount of usage
  - increased usage will degrade the roads, and will become more expensive to maintain.

Question 4

- More recreation areas and managed facilities in existing managed forest areas.
- Do NOT want more National Parks.
- Do want more tourist operators to bring people into the forests.
- Need an increase in promotion to encourage visitors to use the tour operations currently available, in a controlled way.
- If National Parks are increased, more controlled access for hikers, trekkers and horse riders, should be given. The forests should not be completely locked away.
- Greater promotion of the forests and conditions of use:
  - Attract more people in a sensible way.
- Promotion of the entire Mary Valley region, not just Kenilworth.

Tourist operators

Question 1 & Question 2

- Poor planning for recreational use.
- Opportunities exist for improved camping facilities:
  - rotating camp sites to minimise impacts.
- Need for cooperation and coordination between government departments.
- Locking away National Parks meant a loss of control for DNR who manage recreation in State Forests.
- Forest based tourism:

  - Forests have been here for a long time and as long as they are managed correctly, they will remain.
- Continuation of selective logging is essential for forest based tourism.
- Forest based tourism promoted, with one authority managing it.
- More tourists encouraged, but managed correctly.
- Substantial increase in tourism with improved servicing and managing of the area.
- Ecological and economical sustainability allowing greater access to the community. That is, the disabled, young and elderly.
- Local tourist businesses rely on the State Forests 75–100%.
- The presence of the forests gives the overall atmosphere of the area.

Question 3 & Question 4

- Forests are assessable by everyone, National Parks are restricted.
- Employment—there is an indirect link between logging and tourism.
- Without the logging industry, roads would be not kept in the condition that they are currently in.
- Are there enough facilities at places like Charlie Moreland and Booloumba camping grounds?
  - BBQs, chopped wood, showers, etc.
  - At Christmas and Easter especially, these grounds are overcrowded with tourists.
- Possibility of building a resort in the State forest for educational awareness.
- No access to the Conondale National Park.
- Management of State Forests has improved recently by locking up forest areas.
- Loss of employment in the logging industry.
- State Forests are an alternative source of employment for export plants.

Forest Managers

Question 1

- Their employment is wholly dependent on the State Forests.
- Everyone else also depends on the forests for resources such as paper.
- All the Mary Valley and coastal residents depend on the forests for good water quality and supplies.
- 200,000 visitors per annum—all or part recreational users.
- There is an increase in visitors to Kenilworth (6%) as coastal population increases.
- This in turn increases employment in local businesses and increases their trade.

Question 2

- Areas are managed for different recreational activities.
- Sites during the Christmas and Easter periods are overloaded.

- Everyone wants more tourism but it needs to be sustainable.
- It should be kept in mind that the level of ‘natural’ experience by the visitors changes with the level of use.
- Conflicts between different groups of users can also affect the level of experience.

Question 3

- Threats to employment are a big concern.
- Local concerns over National Parks being locked up.
- There is currently a lack of public consultation on forest management issues.
- If further timber resources are lost through the locking up of forests, where will supplies come from?
  - Importation of timber from tropical rainforests overseas.
- This affects the balance of payments.
- Education about forest management needs to start in primary schools.

Question 4

- Half of the group said ‘Status Quo’.
- Half of the group said ‘Utilise the National Parks’.
- Maintain the balance of forest use and conservation by subtle modification of natural processes.

SPRINGBROOK FOCUS GROUP WORKSHOP

Initial points raised in discussion

Following the introductory discussion of the project, the participants were given a chance to describe the existing forest situation in the Springbrook area, and to ask questions regarding the project. This initial discussion raised the following points and concerns.

- Approximately 90% of businesses in Springbrook rely on tourism.
- All the tourists come to Springbrook for the National Park. The businesses are totally reliant on it.
- More money should be spent on running the National Park.
- Facilities do need to be upgraded—essential to cater for increasing numbers of tourists.
- Gold Coast Visitor Bureau seems to generate revenue for the Gold Coast only. It has only managed to increase the number of daytrippers to the mountain, who do not stay overnight and spend their money in Springbrook.
- The view held by the participants is that the GCCC is against an increase in tourism in the Springbrook area.
- Need more publicity for Springbrook.
- Need public education. There are as many local people on the Gold Coast who do not know about Springbrook as there are visitors.

- Traffic concerns. The roads to Springbrook are not capable of carrying the amounts of visitors projected to the region.
- Anything over 38 ft (34 passenger bus) has to use the back road.
- The government is not prepared to spend any money to upgrade the roads.
- The Main Roads Department has advisory signs up about the roads that act as a deterrent for visitors.
- Tourists say the mountain is nice but they will not come back again because of the roads.
- In the last few years quite a few plans for the area have been proposed by local councils. Are they coordinated and/or going ahead?
- These plans tend to pop up around election times, then die off again once elections are over.
- Rangers—understaffed, need to employ more.
- In peak times, rangers do not have the ability to run enough programs for the tourists.
- Possible user pays programs could be run by rangers.
- However, it could be a difficult job for the rangers, as they have other responsibilities.
- Day pass for access to the National Park—difficult to police.
- Could sell the passes through the local businesses.
- A quality Information Centre could sell passes as well as other tourist information.
- Constructing a toll-gate at the entrance to Springbrook, similar to the one at Mt Kosciusko could be the answer.
- If a user pays system is introduced, it is very important to keep the money in the local area.
- There is so much to see up here at night—need to accommodate this.
- State forests and other council land offer good opportunities for recreation etc, which could take the pressure of national parks. However, nothing is presently being done.
- Upgrade facilities through the ROSS.
- Springbrook National Park is perceived to be financially well off, but this is untrue. After bills are paid from the budget allowance, there is hardly any money left to actually run the park.
- What about the money from the Telstra sale? None given to national parks.
- Springbrook is getting more visitors and is under more pressure to provide adequate facilities. Therefore, they must receive funds accordingly. Imagine running the park on $400,000 rather than $30,000.
- The National Park's aim is to maintain biodiversity and to provide for recreation—must achieve a balance.
- Tracks closed to 4WD vehicles to prevent erosion on steep terrain. To use 4WDs in other areas of the Gold Coast Hinterland, you have to be in a 4WD club, with a permit. Walking on tracks through the Springbrook National Park is still permitted though.
- Logging is not really an issue in this area.
- An improved power supply would be appreciated.

8.7.2 Points raised in group discussions

Group 1

Question 1

- Forests in general are important, not just the national parks.
- The rural landscape also plays an important role in attracting visitors to the region.
- 95% of the tourist industry feeds off the forests.

Question 2

- The dead end road must stay, do not make a through road.
- Resource quality is very high—pristine forests.
- Facilities are spread out which is good.
- Signs helps spread out the tourists.
- New camp ground on ‘the settlement’ is vital.
- Tourism will increase but we need to control it.
- Improve tracks through self guided walks and self guided drives.

Question 3

- Too many people could cause overcrowding and environmental damage.
- Develop alternative picnic areas and recreational facilities:
  - Numinbah State Forest
  - Hinze Dam
  - Council land for horse riding.
- No logging in the Numinbah State Forest because of tourism and water quality.
- More recreation in state forests.
- More resources for national parks and forestry.
- People do not know about Springbrook.

Question 4

- Create awareness to bring more visitors, but control damage from rampant tourism.
- Create a visitor centre.
- Increase funding and staffing levels.
- Promote Springbrook as more than a daytrip option.
- Develop strategy for ‘the settlement’:
  - Camping
  - Horse trails
  - Bike trails.

- Need to spend 2 nights at Springbrook to really appreciate it.
- Tourism bureau should promote Springbrook accommodation facilities.

Group 2

Question 1

- Total reliance on forests for tourism.
- Grazing, nurseries etc, are also reliant on the forests for shelter, windbreaks, good water fall etc.
- Cash flows through the businesses.
- The school indirectly relies on tourism.

Question 2

- More rangers are required.
- More camping facilities required.
- Upgrade existing camping facilities.
- More walking tracks (under the ROSS).
- An information centre with opening hours catering for demand.
- The council facilities are inadequate.
- More picnic areas.
- 4WD/motorbikes would cause erosion in the national park.
  - ROSS land for active recreation since tracks already exist.
- Need evening eating establishments.
  - Council is restricting hours of operation on the existing eating facilities.
  - People staying on the mountain have to travel to the coast for an evening meal.

Question 3

- Current management is good given the available resources.
- In the water catchment area, only limited activity can be undertaken—GCCC view.
- Conflict between GCCC and residents over private development on private land.
- Council has a negative attitude towards development of the area.
- Water experts support managed development in the catchment area.

Question 4

- ROSS fully operational by 2020.
- Various site possibilities for a skyrail.
- Electric buses for local transport around the mountain.
- Various development possibilities at the base of the skyrail.

- Walking track from Natural Bridge, to Springbrook, to Tallebudgera, by 2001 as an alternative to a road.
- Tourist information and education movies to promote the area.
- Identify trees with tags on the walking tracks (self education).

Group 3

Question 1

- Tea-rooms rely on forests 100%.
- Visitors are attracted by the forests first, gallery second.
- Return visitors are introduced initially to the area by the forests.
- No passing trade—due to the no through road.
- Broad spectrum of visitor types.
- Accessible and interesting to all age groups.
- Businesses not getting enough people through their doors.
- Lack of information signs to and within the parks.
- More signs at the bottom of the mountain telling visitors what is available before they arrive.
- Gold Coast locals need to know of Springbrook's existence.
- Need to get councils on side.
- Water catchment considerations.
- Better roads.
- Are there enough business attractions? (as opposed to natural attractions).
- At peak times, facilities are inadequate.
- No conflict over present levels of visitors, 95% of the time Springbrook businesses could do with more.
- No further employment opportunities exist with the current situation. Need more visitors to create more employment.
- No media coverage for tourist information.

Question 2

- The parks are reasonably endowed with facilities.
- They are looking good given the limited resources.
- Toilets, etc., improved since 1979.
- More camping facilities needed. The area is limited—what about 'the settlement'?
- World Heritage aspect is not promoted, or even noticed?
- Need more rangers, and they need more funding.
- Need a fully staffed information centre—possibly at Wumburra.

Question 4

- A walk over the top of the forest rather than in it:
  - cable cars
  - skyrail.
- A skyrail could come to Springbrook without touching the national park.
- Careful control of development.
- Finite number of residents.
- At the same time, relax stifling of low profile accommodation and businesses:
  - Small, inconspicuous cabins, etc.
- With full population, a small convenience shopping centre would follow.
- No one wants open slather development. Locals want everyone to enjoy the beauty and peace of the area.
- Increase facilities without destroying the area.
- Expansion of tourist based facilities should be given to the existing businesses first.
- Better technology to minimise the impact of increased tourism. Everything from composting toilets to a skyrail.
- A gradual increase in visitors should enable the National Park to absorb the effects.
- User pays—the funds raised should stay in Springbrook.

SPRINGBROOK TOUR OPERATORS SURVEY

Points raised by tour operators

Question 1

- Guided tours through the National Park rainforests, both day and night. The forests are extremely important to our business
- Promotion of the area is almost non-existent to local and international visitors. The forests are an important drawcard for passengers when deciding on a tour but the lack of knowledge, particularly on the part of interstate and international visitors, of such icons as Natural Bridge inhibits their decision to visit.
- Our business relies fully on State Forests and National Parks as we strongly believe in eco-tourism. The forest environment is essential to our business, not only for the immediate pleasure of our customers but also for the ongoing preservation of flora and fauna to ensure that our business has a secure future.
- 40% of our tourists attend our glow-worm tour and forest walk day-tour. These tours are increasing in both numbers and popularity due to the interest in eco-tourism.
- Although our business concentrates on the rope sports (abseiling, climbing), a large part also involves bushwalking. Our reliance on existing facilities is minimal—everything is packed in and packed out. A main facility utilised is track-work.

- Most customers are Japanese and I don't think they realise that they are going to a rainforest to see the glow-worms. Once they realise on the drive-out they love it. It's great that they get out of the 'surfers area' and see some of the hinterland. They promise to tell their friends and to return. The Japanese stay on the Gold Coast only for a short-time (2-5 days) and within this time they want to see the real Australia. The desires of the individual can be met by a charter tour. Generally, set optional tours do not offer the customer to experience Australian native flora and fauna. The demand is growing—as much as doubling within a year. Customers want to be able to enter an area which is not man-made and is not crowded with hundreds of other people using and abusing the natural beauty of the site

Question 2

- The facilities seem adequate for our purposes. Tracks and park facilities such as toilets and tables are good. Facilities are generally adequate for able bodied people but those for disable people are very limited. For example, at Natural Bridge, accessible toilets have been provided but the entrance to the track, sealed and wide, is restricted by steps. Also, there is a need for off-road tracks for 4WD similar to O'Reilly's to show people a bit more of the forest and especially for the disabled.
- Access to and from the plateau could be improved. The Springbrook/Mudgeeraba road is totally inaccessible to full-size coaches. The Numinbah/Springbrook access road is very narrow for coaches as well. Generally, a need for accessible coach parking areas—presently there is a lack of a large all-weather facility capable of holding a full coach load. Certain roads on the mountain (ie access to Best of All Lookout) could also be improved to allow easier coach access. In general, roads are narrow and poorly maintained. Many customers comment on how dangerous it seems getting to and from the parks.
- Ongoing security problems in car parks necessitate a need for stronger ranger presence. These problems do not create a good image for tourists, especially overseas ones. The signage stating that thieves operate in the car parks should be taken down.
- The basic facilities present do not cover our tourists needs or quantity
- Need a fence above Purlingbrook Falls as people climb onto the rocks above to look over them. With increased numbers of people, there must be increased safety measures (warning signs etc). Also signs indicating what to do in emergencies along with the provision of first aid kits. Rubbish bins should be returned to NPs and picnic areas as people simply throw the rubbish into the bush. There should also be lighting in the car parks (Natural Bridge and Boschell Park) and an upgrade for the toilets.
- Commercial activity permit holders pay a $1.15 per head they take into the National Parks while unorganised groups do not have to pay anything. For this money the permit holder expects an improved site (parking, toilets, walking tracks, protective shelters, lighting etc). However, it seems the unorganised groups who use the areas soon destroy any improvements the DoE make. When you consider this, why does a visitor who pays money to a tour group (with a permit) also have to pay the admission fee to the park when any other private visitor doesn't? It seems rules and regulations are very strict for the permit holder and it does not balance with the lack of restraint shown by the public
- Our main problem is access rights. Specialising in adventure pursuits, we find that the GC Hinterland is limited in its range of sites for abseiling/climbing. National Parks are notorious for excluding such activities. Furthermore, information about adequate sites in State Forests is difficult to obtain.

Question 3

- Commercial operators, although bringing large numbers of people, have the greatest ability to control and educate those visitors. We can, in fact, be an extension of the park ranger. There needs to be a change of attitude within the respective government departments so commercial operators are not seen as a cause of the problem but rather a solution to it.
- The Workplace, Health and Safety Act is restricting conditions for park rangers to make reasonable decisions. The level of restrictions on safety and environment issues is increasing so rapidly that NPs will lose their original purpose—to provide an opportunity for the average person to experience the natural wonders of our flora and fauna
- With regard to wheelchair access, there is a belief by rangers that access levels be in line with disabled access building codes. However, many of those in wheelchairs believe that mothers with children in prams are more disadvantaged than themselves.
- The development of only a few major areas will lead to overcrowding. Alternative sights need to be developed.
- Only the major tourist companies are aware of and abide by forestry regulations. Small companies, locals and domestic tourists either aren't made aware of or just don't abide the regulations and restrictions. There are large bus companies that drop off up to 60 people in NPs who are not guided as the companies hold no permits and avoid the NP fee. Need to have all tour operators entering Springbrook paying a fee, not just our tours that are guided and do no damage whatsoever.
- Commercial activity permits are currently being rejected due to unreasonable safety concerns and possible staffing shortages. If its compulsory for us to hold shared public liability policies to cover the NPs we should have the right to conduct small scale adventurous tours to these places
- These areas do support a large tourist population. However, most people stick to short walks and parks. It is good to set aside remote areas for paid tourism usage—e.g. for tours such as ours (Backtracks 4WD tours)
- Some areas should be expanded with more walking tracks—some people would like to do more challenging walks (longer).
- Rules and regulations are becoming tighter for permitted operators but this does not help to improve protection of the area when it is the public who do not walk on paths, who litter, who shine torches on the glow-worms etc. Even when an area is overcrowded, things can run smoothly if everyone follows rules clearly set out. At Natural Bridge signs need to be put up showing the direction of the walking track. Overcrowding at Natural Bridge may be able to be solved by a toll gate before entering the cave or operating hours and a full time ranger between these hours—money collected from admission fees could pay for this.
- All users should be treated equally—adventure activities run by reputable and experienced operators should have as much right to resources as the bus trip using the picnic area only. Access is a growing concern. There is an increasing reluctance of land-use managers to allow adventure recreation as a valid land-use—probably mostly because of legal concerns.
- Issues of loving the forest to death are real, although it seems increasing usage is limited to a few areas.

Question 4

- Due to the narrow roads, in the Springbrook plateau, no buses over 5 tonnes should be allowed.
- Upgrading the Numinbah/Springbrook road in the medium to long-term would be beneficial to all sections of the community and a priority for group tourism.
- Create a micro rainforest area within the forest to bring the forest to the people. The forest will still be in its natural environment, but is consolidated into a large walk-through display that could be experienced in 15-20 minutes—many people want the experience without having to experience it!
- Current fees are insufficient and unworkable. Fees should be levied on tax scales because these areas are available to all Australians—small contributions from everyone would give the resources to manage and protect these areas far better without penalising those who share and care for them the most.
- Every individual visiting NPs or SFs should pay a fee just like the guided tour operators ($1.15/person). This money could be used for better facilities in the area
- User pays should be equitable; i.e not just levied at commercial operators and on the understanding that cost-structures of different end-user companies vary (e.g bus load of day trippers v. group of 4 climbers)
- Commercial operators should be prepared to invest in the future of a destination (forest) if they intend to make money out of it. We would be prepared to pay an annual operator fee—if the fee went directly into local infrastructure and if it was applied to every commercial operator, not just tours.
- Vision for wheelchair access to most of the major attractions in the SB area. not just the picnic areas. Also all activity should be restricted to small group numbers.
- The number of tourists in organised tours and tourists travelling independently is quickly increasing so rules, regulations and safety measures must be put into place and enforced now.
- The environment should be as it is now—with little extra development or population.
- As ecotourism grows, there is the concern that over development will occur and this usually favours larger, 'commercial' operators allowing greater numbers through rather than the smaller, more intimate experience offered by businesses such as ours (Vertical Reality)
- Would like to adventure recreation boosted rather than the traditional sightseeing style of development.
- I believe that in 2000, 50% of our customers will spend a part of their day visiting a National Park. With a more aggressive campaign promoting the National Parks surrounding the Gold Coast, we could double again the number of customers wishing to enter the peaceful hinterland in the next year. An information centre at Springbrook with native animals on display in their habitat and a ranger giving informative talks in them will open up everyone's eyes. Also, a gate to let customers where a ranger tells you the rules before you enter and are left to walk at your own pace.
- I don't like the idea of the area becoming too overpopulated as I think it loses its appeal. I would love for hinterland to become a valuable tourist area for the Gold Coast, but to have many smaller areas so that no one area is too crowded at any time.

8.8 FEEDBACK

All participants of the Focus Group workshop were sent a copy of the meeting record and invited to provide further comments if they wished. Only one participant replied. An edited version of the comments follows:

1. Tour coach access is not as restricted as implied at the meeting. Coaches seating up to 57 people use the front road from Mudgeeraba.
2. A skyrail to Springbrook is now a distinct possibility. A proposal has now been made for a Naturelink between Mudgeeraba and Purlingbrook Falls, subject to an EIS.

The participant opposes a National Park tax of any kind. An information kiosk is suggested, with profits from book sales etc, going to the National Park.

Appendix C

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