ECONOMIC VALUES OF TOURISM IN THE WET TROPICS WORLD HERITAGE AREA

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ACRONYMS AND ABBREVIATIONS

BTR	Bureau of Tourism Research
CGE	Computable General Equilibrium
EPA	Environmental Protection Agency
FNQ	Far North Queensland
GBR	Great Barrier Reef
GBRCA	Great Barrier Reef Catchment Area
GBRMPA	Great Barrier Reef Marine Park Authority
I-O	Input – Output Models
IVS	International Visitor Survey
MGM	Money Generation Model
NCST&T	National Centre for Studies in Travel and Tourism
NPWS	National Parks and Wildlife Service
NVS	National Visitor Survey
QTTC	Queensland Tourist and Travel Corporation
QVS	Queensland Visitor Survey
TA	Tourism Australia
TCM	Travel Cost Method
TNQ	Tropical North Queensland
TQ	Tourism Queensland
TRA	Tourism Research Australia
TTNQ	Tourism Tropical North Queensland
WHA	World Heritage Area/s
WTMA	Wet Tropics Management Authority
WTWHA	Wet Tropics World Heritage Area

EXECUTIVE SUMMARY

The economic value of protected areas, such as the Wet Tropics World Heritage Area (WTWHA) in Queensland, has been a focus of a considerable discussion in recent years. The most recent evaluation of Queensland's protected areas was undertaken by Driml in 1998. Specifically, the latest estimation of the value of the WTWHA was published by Driml in 1997. This estimation now requires updating and revising.

Following a review of methodologies that have been used to measure the economic value of protected areas this study adopted visitor expenditure generated by the WTWHA as the primary focus for measurement. To collect visitor data a Rainforest Visitor Survey instrument was designed and visitor interviews were conducted at four WTWHA locations (Lake Barrine, Mossman Gorge, Marrdja Boardwalk, and Skyrail) and at the Cairns Domestic Airport Terminal. A total of 861 valid surveys were collected representing both domestic and international visitors in the region. The Rainforest Visitor Survey focused on four key visitation factors: localities visited, rainforest conditional scenarios, visitor expenditure and socio-demographic profiles.

Visitors' direct expenditure was used to calculate the estimated direct economic contribution of tourism in the WTWHA. Second order estimated impacts using multipliers were not applied in this case. The estimates of economic contribution made in this research are based on an estimate of the amount of expenditure that visitors incurred on their visit to the region. Using data from a visitor survey undertaken for this study, the total annual visitor expenditure in the WTWHA study region was estimated to be $2 billion. This figure parallels the estimates made by Tourism Queensland using expenditure data collected by the National Visitor Survey which reported that the total domestic visitor expenditure for the region was $1.104 billion and The International Visitor Survey which estimated that international visitor expenditure was $852 million (Tourism Queensland, 2006).

This research estimates that the gross economic value of tourism directly generated by the WTWHA was $426 million. This figure represents an increase of $49 million over the last economic evaluation undertaken by Driml in 1997. This result is regarded by the research team as being conservative for several reasons. No substantial data was collected on expenditure by local residents and no physical counts were made of visitor entries to the park. In overall terms, the estimated expenditure generated by visitation to the WTWHA represents 21.8% of all tourism expenditure by tourists in the study region. For the purposes

of the research the estimated number of park visitors was based on research results reported in the Cooperative Research Centre for Tropical Rainforest Ecology and Management's comprehensive visitor studies in 2001/2002 (Bentrupperbaumer, 2002a, b, c). These visitor numbers were regarded by the current research team as an underestimate of total visitation.

The research found that visitors spent an average of 3.17 days in the WTWHA out of their average overall holiday time of 7.36 nights in the region. Respondents considered that experiencing nature, including visiting National Parks, was a very important part of their holiday experience. The demographics and other characteristics of the WTWHA visitors in this study are analogous to those found at the same locations and reported by Bentrupperbaumer in 2002 (a, b, c). Overall, these WTWHA visitors indicated a strong association to nature-based tourism.

This report found that there are numerous methodological factors that could improve future economic evaluations of the WTWHA including: more accurate estimates of visitor numbers to WTWHA locations; inclusion of estimates of the financial contribution of local residents; estimates of the multiplier impact; further investigation of the substitution and exclusion factors of WTWHA and other significant attractions in the TNQ region; and continued support for monitoring of visitor characteristics at WTWHA locations.

1.0 INTRODUCTION

1.1 BACKGROUND

A recent report by Bentrupperbaumer, O'Farrell and Reser (2004) emphasised the importance of the WTWHA rainforest as a resource for the Tropical North Queensland (TNQ) region's tourism industry. In earlier reports, Driml (2002, 1998, 1997a) highlighted the economic value of the WTWHA based on the tourism industry's direct contribution to the region and argued that it was essential that managers of protected areas have access to accurate economic data when developing management plans. For this reason, the economic contribution of protected areas such as the WTWHA have been the focus of considerable discussion within academia, industry, and management agencies both in Australia and overseas. The importance of establishing the economic contribution of these protected areas is well understood in terms of ensuring the sustainable use of such valuable natural resources (Driml, 1995, 1997a; Hornback and Eagles, 1999; Task Force on Economic Benefits of Protected Areas of the World Commission on Protected Areas (WCPA) of IUCN, 1998).

1.2 THE PROBLEM OF MEASURING ECONOMIC VALUES OF PROTECTED AREAS

Union (1998) noted that the failure to gather economic data on the usage of parks has resulted in an information blind spot where many natural areas are assigned a zero price. A consequence has been the destruction or degradation of many natural areas because their true economic worth has not been calculated or understood. To avoid this result, assessment of the economic value of natural areas is required. In the most recent research on the value of protected areas, researchers have expanded the definition of direct economic contribution to include ecosystem services such as carbon storage, oxygen generation, pest control provided by birds and water purification in water catchments. For example, a recent valuation of the northern boreal forests estimated their value in terms of ecosystem services to be $250 billion per year or about $160 per hectare (Pearce, 2006). In addition to ecosystem services, other uses such as tourism also add value to protected areas.

Because the value of natural areas is often underpriced, a number of tools have been developed by environmental economists to measure the value of wilderness conservation. While it is apparent that protected areas do have a value, it has been difficult to define this where the resource is available as a free or underpriced good. The term *free good* indicates

that the resource is freely available to users who are not charged for its use. In this circumstance, there is no market valuation of the protected area and other measures are needed to establish its value. Currently, entry to the WTWHA is free to non-commercial visitors while commercial visitors pay only a nominal entry fee. The lack of a market place where the price of entry will determine supply and demand creates a problem for managers particularly when they are responsible for multiple-use protected areas. The lack of economic indicators in a market creates difficulty in efforts to maximise the net economic benefit (defined as the sum of annual net benefits over a given planning period) of the resources without reducing non-market values of the resource. While tourism activities may sometimes be seen as being in conflict with the goals of nature conservation, they represent a major part of the economic market place value of National Parks and other protected areas. Estimating the contribution of natural areas is essential for the continued preservation and management of these natural areas and can be used as a powerful tool towards arguing for additional funds for park management. The lack of economic information can lead to the under-valuation of protected areas, which in turn can lead to unnecessary damage or even destruction.

1.3 THE LOCATION: WET TROPICS WORLD HERITAGE AREA

1.3.1 The Wet Tropics World Heritage Area

The Wet Tropics World Heritage Area (WTWHA), located between Black Mountain (near Cooktown) in the North and Paluma in the South, comprises an area of 894,420 hectares and includes National Parks, state forests, freehold (private) land as well as a number of leaseholds on public land. Figure 1 illustrates the areas encompassed by the WTWHA (see green shading). The Wet Tropics Management Authority (WTMA) is responsible for the protection of the WTWHA. WTMA is an independent government agency directly answering to both State and Federal Government. However, management of the WTWHA involves a variety of government agencies including the Environmental Protection Agency (EPA) and Queensland Parks and Wildlife Service (QPWS) as well as traditional owners and private landholders. The WTWHA was established under the Wet Tropics World Heritage Protection and Management Act 1993 in Queensland which provides the legal basis for the Wet Tropics Management Plan 1998 (WTMA, 2006). The management of the WTWHA is undertaken through a series of plans and strategies including the Wet Tropics Management Plan (1998), the Conservation Strategy (2004), the Nature Based Tourism Strategy (2000) and the

Walking Strategy (2001). The WTWHA is also incorporated into other regional planning regimes such as the Far North Queensland (FNQ) Regional Plan.

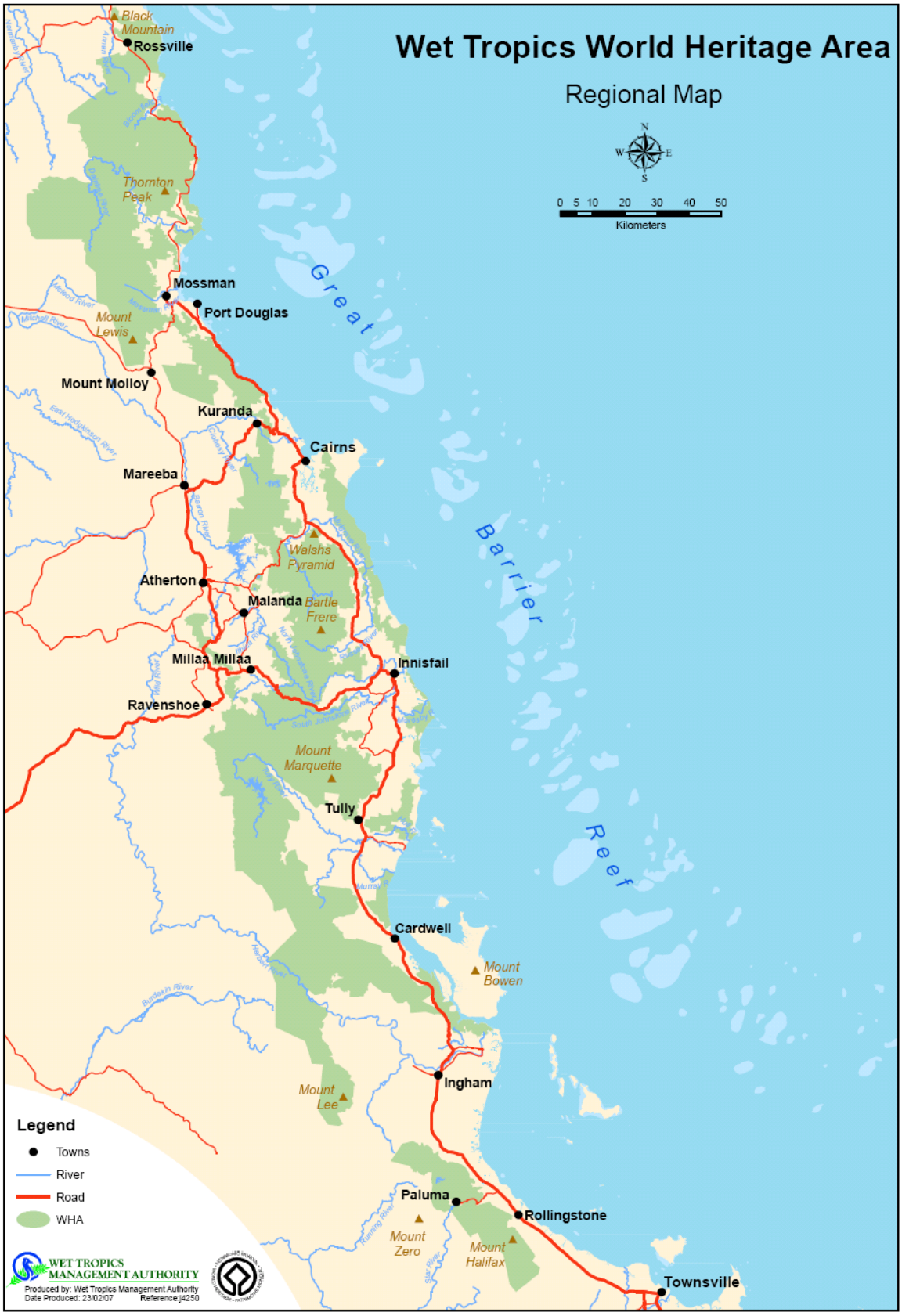

Figure 1: Map of WTWHA Region

1.3.2 Tourism in the Wet Tropics World Heritage Area

The Wet Tropics World Heritage Area has 180 visitor sites, 94 of which have infrastructure (Bentrupperbaumer, O'Farrell and Reser, 2004), and a number of commercial tourist attractions situated in close proximity to the WTWHA. The range of nature-based attractions and activities located within the WTWHA include interpretive tours, walking tracks, swimming, bird watching, camping, as well as day and overnight tours offered by various tour operators. Locations that attract the highest numbers of visitors are the Daintree, Mossman Gorge, Kuranda and the Barron Gorge National Park, the Atherton Tablelands, Palmerston, and Mission Beach.

In 2001/2002, the Cooperative Research Centre for Tropical Rainforest Ecology and Management located at James Cook University in Cairns, Australia, conducted a study of visitation patterns in the WTWHA. The study included the collection of 2780 visitor surveys at 10 major visitor sites, behaviour observations; an inventory of site layout, design, infrastructure and signage; vehicle/visitor monitoring; and a 12 month traffic count (Bentrupperbaumer and Reser, 2002). The results of the study indicated that an estimated 4.65 million visits were made to the WTWHA, with 75% of visits made to 15 locations, including those where the visitor studies were conducted (Bentrupperbaumer, O'Farrell and Reser, 2004).

1.4 OBJECTIVES

The last estimation of the economic value of tourism and recreation within WTWHA was undertaken by Driml in 1997. However, the WTWHA was also included in Driml's estimation of all of Queensland's protected areas in 1998. This estimation requires updating, using more recent calculations of visitor expenditure and visitor numbers, in order to provide management authorities and other agencies with present-day expenditure estimates of this protected area. The research used both primary and secondary data to achieve the following objectives:

1. Update estimates of the economic contribution of tourism within the WHA,
2. Discuss methods and/or models by which the economic contribution of tourism within the WTWHA may be estimated on an ongoing basis,
3. Provide an overview of the profile of visitor in the WTWHA, and
4. Use as a baseline for future estimations of economic valuation of the WTWHA.

1.5 MEASURING THE ECONOMIC VALUE OF TOURISM IN PROTECTED AREAS

1.5.1 Introduction

The studies reviewed in the following section aim to illustrate the diversity of methodologies and approaches that may be used to measure the economic value of tourism in natural areas. Analyses of the value of natural attractions such as protected areas can be undertaken in a number of ways depending on the size of the region, the type of data available and the approach used. In calculating the value of tourism, some researchers have surveyed visitors to identify expenditure incurred either while on a visit to a National Park or for the trip as a whole. In other circumstances, researchers have used supply measures, including industry figures for sales, etc. Where there are no direct measures of tourism's economic contribution to the area such as occurs where entry fees are not charged, the Travel Cost Method (TCM) may be used (Mules, Faulks, Stoeckl and Cegielski, 2005). Travel cost is a surrogate market approach where expenditure in an associated market, in this case the market for travel, is used to estimate the value of the resource. Travel cost is used in situations where there is no commercial accommodation in a region, no entrance fees are charged and/or where there are no commercial tourism activities within the park. The simplest version of TCM is used to generate an estimate of consumer surplus attributed to the use of a protected area by users including tourists. For example, Driml (2002)

reported on the use of the travel cost method – based on trip generation function and demand function, used with the aim of measuring the economic benefits of tourists accessing the WTWHA. In this report, however, Driml also noted that there are no theoretically agreed methods of measuring and apportioning costs in this method, and thus, assumptions must be made on estimating various components. As noted by Stoekl and Mules (2006), the Travel Cost method has a number of theoretical and practical problems, particularly in the estimation of the cost of travel from the visitor's point of origin to the destination. Another popular method that has been developed for measuring the economic benefits of National Parks in the United States is the Money Generation Model (MGM). Designed specifically to measure the economic benefits of parks on local communities, the MGM is not suitable for use on a region or state-wide basis (Buultjens and Luckie, 2004). In the following section, a range of approaches used to value protected areas is reviewed for the purpose of this study.

1.5.2 Valuing Australia's World Heritage Areas: The Total Economic Value Method

Driml (1994) was one of the first researchers to review the economic value of tourism in Australian World Heritage Areas. Her approach was to collect data on the costs of private travel and purchases made within WHA's, payments made for tours, accommodation etc., consumed inside the WHA's but purchased elsewhere, as well as an estimate of spending on accommodation and services in areas adjacent to the WHA which is directly attributable to WHA. The latter was calculated based on visitor number data and regional tourism visitor expenditure data drawn from reports by the National Centre for Studies in Travel and Tourism (NCSTandT, 1992) and the Queensland Tourist and Travel Corporation (QTTC, 1991). The results found an annual expenditure of $776 million for the Great Barrier Reef, and $377 for the WTWHA, representing gross expenditure from direct use by tourism and recreation, not including multipliers (Driml, 1994).

Driml's (1997a) research on sustainable tourism in the WTWHA included a discussion on the economic impact of tourism. The total gross expenditure of visitors was estimated to be $443 million. When multipliers were used, this figure was revised upward to $753 million. These calculations were based on estimates of WTWHA visitor numbers made by Manidis Roberts and Taylor (1994). Driml's report acknowledged that there was some uncertainty about the accuracy of estimates of visitor numbers and days spent in the WTWHA. Economic data was drawn from Queensland Tourist and Travel Corporation's 1994 visitor data, with the assumption that visitors spent two days in the region in addition to their average estimated 1.4 days in the WTWHA.

In 1998, the WTWHA was included in Driml's report on the economic values of Queensland's protected areas. Driml's (1998) approach was based on the concept of '*total economic value'*, which incorporates "a range of values placed by humans on goods and services from natural environments" (Driml, 1998). From this, Driml established that the value of protected areas in relation to tourism and recreation could be measured using the *net economic benefits* by focusing on the indicators of economic activity in the area. This report concluded that total direct visitor expenditure associated with the overall protected areas in Queensland was estimated at being between $602 and $858 million dollars per year (Driml, 1998).

Driml noted that there were some limitations in using the total economic value method, the most significant of which was the availability of visitor numbers and daily expenditure. As a consequence, Driml focused on a number of tourism variables, including visitor use days, expenditure on access, expenditure on accommodation, commercial tour operator visitor data and the cost of managing the protected areas. While the result of Driml's (1997a) report established a baseline for estimating the value of protected areas in Queensland, she recommended that future studies would benefit from better estimates of visitor numbers in protected areas and the conduct of surveys at individual sites.

1.5.3 Valuing the Great Barrier Reef Marine Park: The Tourism Satellite Model

Another example of establishing estimates of the economic value of protected areas was that reported by Access Economics Pty. Ltd. (2005) when they measured the economic and financial value of the Great Barrier Reef Marine Park (GBRMP). This economic accounting study related to the period 2004 to 2005 and sought to capture all of the market-related activity flows for tourism, commercial fishing, and cultural and recreational activities within the Great Barrier Reef Catchment Area (GBRCA). The study used the Tourism Satellite Account (TSA) model, using input and output tables, to analyse data for international and domestic visitors for Australia, Queensland and tourism regions within Queensland. The advantage of this approach is that figures can be linked to the National ABS data and results can be given on a range of geographic scales such as Australia-wide, for the State of Queensland, and for local regions within the GBRCA.

Further, this approach was able to adjust the visitor data to take into account airline fares and prepaid package expenditure on accommodation, airfares and tours. The data used included the number of visits, number of visitor nights, expenditure and expenditure per visitor night for visits to the GBRCA, in Queensland and Australia overall. Whilst the aim of the report

was to determine all travel-related expenditure that can be attributed to the GBRCA, the study also included TSA airfare expenditure by GBRCA residents on overseas trips, and before and after domestic overnight trips (excluding payments for accommodation, etc. that was not attributable to the GBRCA) based on the assumption that GBRCA residents travelled in and out of the Cairns international airport.

The results of the Access Economics Pty. Ltd. (2005) study revealed a number of trends including increasing value-added contributions as the geographic area expanded, largely as a result of the contribution of long distance travel costs and airfares. The contribution of tourism to the GBRCA was estimated to be $2.18 billion, while GBRCA-related tourism to Queensland was valued at $2.25 billion and to Australia was valued at $2.47 billion. In comparison, the results given here are very different to the results provided by Hassall and Associates Pty. Ltd. (2001) who also calculated the total direct economic value of the GBR and reported a value of $407 million, and a total economic impact of $736 million in turnover (using data from marine park tourism operators and expenditure data from Tourism Queensland). These are generally not accounted for in most studies of the economic values of National Parks, as the necessary data is often missing or hard to collect. Both of these reports highlight the impact that the addition of expenditure of tourists travelling into the area can make on the final economic valuation of the natural area.

1.5.4 Valuing Tourism in National Parks: A Case Study Approach

Another method of assessing the economic value of recreation and tourism in National Parks was developed by Carlsen and Wood (2004), and funded by the Sustainable Tourism Cooperative Research Centre (STCRC). The report was commissioned to provide data on the value of natural areas for tourism and recreation that could be used by management authorities in Western Australia. Unlike the studies previously discussed, a case study approach was adopted and visitor expenditure surveys were conducted to estimate the average expenditure per visitor per day. To scale this up to calculate total tourism expenditure, average visitor expenditure was multiplied by total visitor numbers and by the average length of stay. The value of the expenditure in the park was estimated by calculating how much of the total expenditure was directly attributable to the parks. Multipliers were not used, as according to Carlsen and Wood (2004), more often than not, they are used incorrectly; they are based on assumptions relating to additional outputs, household consumption factors and demand and supply relationships; and their use often leads to inflated values.

1.5.5 Limitations of Reviewed Studies

It is generally understood that any research of this nature incorporates a number of limitations. The limitations of the studies summarised above included:

- The source of the data was an important consideration in calculating the estimates. Where data is dated it may need to be scaled-up to generate contemporary estimates.
- Data may also come from a wide variety of sources and there is always the possibility that the methodologies used may be different and thus not fully compatible.
- Data may also fail to consider the value of assets or non-market activities that have imputed market values that cannot be readily estimated.
- Many of the studies also made a series of assumptions where data was missing. Examples include the value of interstate imports for tourism as a share of each industry that contains a tourism component scaled up from 1996-97 using a common multiplier.
- There is considerable scope for errors to occur when adjustments are made for missing data.

1.5.6 Summary of Reviewed Studies

The studies reviewed here clearly highlight the diversity of methodologies and approaches that may be used to measure the economic value of tourism in natural areas. Whilst all studies use data on visitor expenditure, this data may be either out-of-date, based on small sample sizes or be estimated where visitor sites are unsupervised. Moreover, while some studies take into account travel costs, others do not, leading to a wide range of values given to the same site, and arguably an underestimation of the value of the site in some cases. Other studies provided attribution and substitution factors that could provide stronger support for the continued preservation of the resource, or the natural area under scrutiny. Finally, some authors chose methodologies that attempted to capture the non-market measures of the value of natural areas.

These examples indicate that there are numerous limitations arising from the calculation of estimated economic or financial value of tourism in protected areas. What is clear is that a proportion of the estimated value may be derived from manipulation of existing data or ‘educated’ assumptions are necessary in calculating some of these variables. The older the data is and the more up-scaling that is required, the less accurate the estimates are likely to be. A brief overview of the methods previously discussed (see Table 1) shows the extent of

the use of estimated values in such calculations. While it is understood that each of the studies have reported the limitations and difficulties experienced in obtaining accurate figures, particularly for visitor expenditure, the overview clearly highlights this dilemma.

Table 1: Overview of Previous Methods, Calculations and Data Sources

Author	Area	Methodology and Estimate Calculations	Data Sources, Estimates and Assumptions
Driml (1994)	WTWHA	• Total Direct expenditure • Multiplier effect • $377 million	• Estimate of visitor numbers/days (NCST and T, 1992) • Assumption of 2 extra days spent in area • Visitor expenditure estimate from QTTC (1991) data • Multiplier effect – 1.7, based on Great Barrier Reef economic value (Driml, 1987)
Driml (1997)	WTWHA	• Gross Regional expenditure • Multiplier effect • $443 million (before multiplier) • $753 million (with multiplier)	• Estimate of visitor numbers/days based on Manidis Roberts Consultants Visitor Survey (1993) • Estimate of visitor expenditure based on QTTC's 1994 data
Driml (1998)	All of Queensland Protected Areas (including the WTWHA)	• Total Direct expenditure • Mid range $602 - $858 million • Total Output effects • Mid range $1023 - $1458 million	• Estimates of visitor numbers from the Department of Environment • Commercial tour operators survey • Resorts survey • Accommodation expenditure from QVS (conducted by the Bureau of Tourism Research, 1997)
Hassall and Associates (2001)	Great Barrier Reef Marine Park	• Direct Economic Value • $407 million • $736 million turnover	• Financial data from Marine Park tourism operators • Expenditure data from Tourism Queensland
Driml (2002)	WTWHA	• Travel Cost Method based on Trip Generation Function and Demand Function • Total Consumer Surplus = • $83 - $166 million (1994 prices) • $100 - $200 million (2002 prices)	• On-Site Visitor Survey • Estimates of travel costs • Estimate of visitor numbers/days in WTWHA (Manidis Roberts Consultants Visitor Survey (1993)

Author	Area	Methodology and Estimate Calculations	Data Sources, Estimates and Assumptions
Access Economics Pty Ltd (2005)	Great Barrier Reef Marine Park	▪ Tourism Satellite Model ▪ $2.18 billion – total tourism direct contributions of value added for GBRCA	• Concentrates on national accounts-based flows; value added, gross product and employment; tourism, commercial fishing, an cultural and recreational activity • Tourism Research Australia (TRA) data scaled for consistency with the Tourism Satellite Accounts from September, 2004 • TRA estimated expenditure within tourism regions in 2003 • Australian Bureau of Statistics Arrivals and Departures data published in March, 2005
Carlsen and Wood (2004)	National Parks in Western Australia	• Direct Attributable Expenditure value • Substitution value	• On-site Visitor Expenditure Survey • Protected area visitor numbers from area managers' reports

2.0 METHODOLOGY

2.1 OVERVIEW

The primary aim of the *Economic Values of Tourism in the WTWHA* project was designed to produce a revised estimate of the economic contribution of tourism in the WTWHA. The second aim of the research was to develop a profile of visitors that included visitor demographics and spending patterns. The final aim was to test responses to a series of scenario questions to identify behaviour changes if some of the experiences visitors participated in while in the study area were not available.

2.2 METHODOLOGY ADOPTED IN THIS RESEARCH

After reviewing a range of approaches (see Section 1.5), it became clear that with the resources available for this project, the most suitable approach and the one that would yield the most useful results for the WTMA and the tourism industry was to measure the contribution that tourism in the WTWHA makes to the total tourism expenditure in the Far North Queensland (FNQ) region centred in Cairns. Consequently, the key concepts used in this research were:

1. Total visitor expenditure,
2. Economic contribution, and
3. The substitution factor.

To measure economic contribution, a survey instrument was developed to capture total holiday expenditure by visitors and to measure how many visits, and for what time, were made to the WTWHA parks. Two factors were calculated from this data. First, the *contribution factor* was calculated – this is an estimation of the amount of individual expenditure generated from visits to National Parks, marine parks and forests in the study region. This was derived from an estimation, based on survey results, of the proportion of total time that was spent by respondents in visiting National Parks.

Second, in order to identify the overall significance of parks in the respondent's decision to visit the study region, the *substitution factor value* of the parks was estimated. This used a scenario question that asked respondents to state their likely destination choice if that particular resource (National Parks) did not exist. The *substitution factor value* provides an estimate of the amount of new or retained tourist expenditure that could be assigned to the

park that would otherwise not have occurred. This is important, because to accurately estimate the value of a particular resource, as opposed to a destination or region, it is necessary to know the expenditures that are associated solely with that resource, i.e. the expenditure which would be lost if that resource was no longer available. The type of information required to determine this includes whether the trip's only purpose was to visit the destination or whether it was combined with other destinations, and what other attractions were visited during the trip as well as what proportion of the trip was dedicated to the resource of interest. Finally, the substitution factor value allows researchers to determine if tourists would chose alternative destinations if the resource was not available.

2.2 RAINFOREST EVALUATION SURVEY

A Rainforest Evaluation Survey (see Appendix A) was developed to collect four data sets. The first section of the instrument collected information on visitor demographics, trip planning methods, decision-making, and travel patterns. The second part collected data relating to rainforest visitation patterns, including details of WTWHA locations visited, time spent at locations, and values of rainforest visitation. For ease of measurement in the survey and in subsequent analysis, the WTWHA was divided into 8 regions based on key towns/cities and local tourism authority boundaries. In the third section of the survey respondents were asked a series of questions on their expenditure. Finally, a series of scenario questions were asked to enable an estimation of the substitution factor for visiting protected areas to be made.

Initially, the rainforest survey included budget and expenditure questions asking visitors to report on individual expenditure items. A pilot test of this self-administered rainforest survey was conducted on 30 respondents. Comments from the respondents indicated that they had experienced difficulty remembering the amounts they had spent on individual items such as accommodation, food and beverage, transportation and souvenirs. As a consequence, the final survey was restructured with questions asking visitors to indicate the total amount they had budgeted for their trip, number of adults and children in the travel party; and, if the trip was a packaged holiday, what types of expenditure was included; and what they had spent on accommodation only. Visitor nights, both in the TNQ region as well as for their overall holiday, were also included in the revised survey.

2.3 PROCEDURES

A team of experienced researchers conducted surveys at specific locations situated both within and outside of the WTWHA. The surveys were conducted between 9am and 5pm, on weekdays and weekends, between March and June 2006. A convenience sampling approach was used at each location. With the exception of the Cairns Domestic Airport terminal, interviewers only approached visitors at the conclusion of their activity. This procedure ensured that the visitor had actually experienced the rainforest location, and that the interview process did not influence their experience at the site. Additionally, the researchers were aware that regionally-based visitors (that is, TNQ local residents) also frequented the various survey locations. If respondents replied that they originated from TNQ region, they were asked if this trip was for recreation or holiday purposes, if the response was 'yes', then they were included in study. Overall, only 25 TNQ residents were included in the survey.

2.4 LIMITATIONS

As with any research of this nature a number of limitations were encountered that may have had some impact on either the accuracy of the findings or the ability to generalise the findings to other localities. Limitations affecting this research are identified as follows.

Impact of Cyclone Larry

Interviews were conducted shortly after Tropical Cyclone Larry (a severe Category 5 cyclone) impacted on the TNQ region on March 20, 2006, causing extensive damage to the area's rainforests, infrastructure, facilities and roads.

Multipliers

Multipliers calculated by Input-Output (I-O) models were not estimated for this report. While used extensively to establish the income and employment effects of specific sectors such as tourism, I-O models have a number of limitations including restrictive assumptions that made them unsuitable for estimating the economic impacts of tourism (Dwyer, Forsyth, Spurr and Ho, 2004). Factors that affect tourism including the impact of changes in government fiscal policy, exchange rate movements and factor supply constraints are difficult to incorporate into I-O modelling. In recent years there has been a shift towards Computable General Equilibrium (CGE) modelling which allows representation of the overall economy and aspects of activity such as tax receipts, imports, exports and outputs of specific industries. While

CGE models incorporate I-O calculations they also allow for government spending and taxing as well as allow for external factors such as exchange rate movements.

Estimating Travel Expenses

It is often difficult to disaggregate out-of-study region expenses incurred by visitors. Examples include airfares, commissions paid to travel agents in generating regions and purchase of clothing, equipment, etc. specifically used for their holiday. With the advent of Low Cost Carriers and their pricing policies, it became even more difficult to disaggregate airfares from total holiday expenditure. Moreover, respondents on packaged tours are unlikely to know the cost of the airfare component of their tour package. As a consequence, the estimates of economic contribution calculated for the current research are based on national economic contribution, and not regional economic contribution (which would take into account only the out-of-region expenses directly attributable to visiting the study region).

Severe Weather Conditions

The survey conducted at Skyrail (see Section 2.5 for detailed description of location) occurred during the crossing of Cyclone Monica through Cape York Peninsula (north of the Cairns region) and only a short time after Cyclone Larry had buffeted the region. The cyclone brought heavy rains to the Cairns and overall TNQ region, with substantial flooding in all areas, thereby limiting vehicular and pedestrian access to some rainforest locations. Additionally, cold and wet weather conditions (not conducive to outdoor rainforest activities) were noted during interviewing at Lake Barrine. Overall, these adverse weather conditions may have impacted on the rainforest visitation time periods and types of visitor experiences at rainforest locations during that time; as well as altering visitors' perceptions and satisfaction during their stay in the region.

Seasonality

Interviewing was conducted during the beginning of the peak tourism season for Tropical North Queensland. While this period ensures that visitor numbers from all tourist markets were at their highest, the sample does not include low and shoulder times, and therefore may not be an entirely representative sample of visitors to the region.

Sample Frame

The researchers acknowledge that the TNQ region attracts visitors from many different countries, of which not all are able to communicate in the English language. However, only English-speaking visitors were interviewed for the study due to logistical difficulties in

attempting to administer multi-language survey instruments. As a consequence the sample may have limited ability to be generalised over the whole visitor population.

Survey Period

The findings of this research are based only on a portion of the year 2006. As a result the data represents only a sample of the annual park visitors and may not adequately reflect seasonality (e.g. wet vs. dry season visitation, winter vs. summer) or identify significant market sectors (e.g. Japanese visitors – see section below). Sample data is an imperfect measure and may result in some errors.

WTWHA Visitor Numbers

A major issue that remains unresolved is the development of an accurate estimation of total visitor numbers to the protected area. Neither the Environmental Protection Agency nor the Wet Tropics Management Authority was able to give the researchers an accurate estimation of park visitor numbers. The most recent work on visitor numbers was undertaken by Bentrupperbaumer, O'Farrell and Reser (2004) who estimated that the WTWHA received 4.65 million visits per year. Given the absence of other reliable visitor numbers, the estimates developed by Bentrupperbaumer et.al. (2004), along with the number of locations per visitor found in the current research were used for calculating the estimates of the economic value of the WTWHA. The calculation of visitor numbers used in this report is outlined in section 4.2.2. It is important that these calculations are viewed with the cautionary note that either an overestimation or underestimation of visitor numbers may reflect similar results for the estimated economic value of the WTWHA.

The Japanese Visitor Market

This research was unable to capture visitor patterns of Japanese tour group members (which may have some effect on the estimation of the economic value of the WTWHA). Japanese visitors generally spend less time in TNQ (4.5 nights versus 7 nights for other international visitors sampled in this research) (see Tourism Queensland, 2005b); however, they account for 30% of total international visitors to the region (Tourism Queensland, 2005b).

Regional Tourism Data extracted from Tourism Queensland (2006)

The current report refers to Tourism Queensland's (2006) "Tropical North Queensland Region – Regional Update 2005" report both in the background of the study and as a comparison for the calculations for the current estimates of the value of tourism in the WTWHA. As such, it is necessary to acknowledge the limitations that exist in the Tourism Queensland's reported data. The limitations section of the Tourism Queensland report is reproduced in Appendix B.

2.5 LOCATIONS

A number of factors were considered when selecting the locations for interviewing visitors for the Rainforest Evaluation Survey. This included taking into account the aspects of previous visitor studies undertaken by Bentrupperbaumer (2002 a, b, c) at Lake Barrine, Mossman Gorge, and Marrdja Boardwalk. Consequently, the key criteria for selecting the survey locations for the current project included:

- Sites located both within and outside of the WTWHA,
- WTWHA locations that were popular domestic and international tourist attractions, offering a diverse range of activities and natural features,
- Sites visited by most market sectors that visit TNQ,
- Sites where tourists would have the time to complete a 10-15 min survey, and
- Sites that were accessible within the limits of time and budget for the project.

As a result, five locations were selected as being suitable for interviewing visitors. These were:

- Lake Barrine,
- Mossman Gorge,
- Marrdja Boardwalk,
- Skyrail, and
- Cairns Domestic Airport Terminal.

Lake Barrine

Figure 2: Lake Barrine – Tea House's Souvenir Shop Entrance and Interpretation Area
(Photograph Source: Fay Falco-Mammone, 2006)

Lake Barrine is a volcanic crater lake located on the Atherton Tablelands, and is approximately 60 kms from Cairns. The Lake Barrine Tea House (see Figure 2) is situated on the lake's edge and offers visitors facilities such as café/restaurant, souvenirs and a small interpretive centre. The Tea House is famous for its Devonshire Teas and its tranquil lakeside setting. The location has a car park, toilets, and picnic areas/shelters. Lake Barrine's main attractions are the WTWHA rainforest, a wildlife boat cruise on the lake, and a 5-minute walk to see the 1100-year-old Twin Kauri Pines. Visitors may also undertake the Lake Barrine Circuit Walk, which is 5 kms in length and takes approximately 2 hours to complete. Lake Barrine is included in many packaged tours mainly originating from Cairns, and is visited by domestic (including TNQ regional) and international tourists.

Lake Barrine's visitor characteristics as identified by Bentrupperbaumer (2002a) included:

- Use of the location primarily by Australian visitors and local residents,
- Visitors mainly aged between 30 to 39 years old,
- Obtained information about site from previous visits and word-of-mouth,
- Visited Lake Barrine to see natural features and scenery, and
- Spent between one and two hours on-site, visiting the teahouse and taking short walks.

Mossman Gorge

Figure 3: Mossman Gorge
(Photograph Source: Fay Falco-Mammone, 2005)

Mossman Gorge is situated 84kms north of Cairns. The Mossman River winds through dense rainforest within the Daintree National Park. The area is the traditional home of the Kuku Yalanji Aboriginal people who operate the Kuku Yalanji Dreamtime Walks as well as an art gallery near the Gorge. Visitors can take a 3km self-guided walk around the river, which includes a suspension bridge and opportunities to view native birds, tropical rainforests and giant strangler fig trees. Mossman Gorge is a designated day use area, with public toilets and picnic tables close to the river and is a popular swimming location (see Figure 3), especially for local residents. The area is frequented by domestic and international drive tourists, as well as visitors on tour buses/packaged tours. The key Mossman Gorge visitor characteristics as reported by Bentrupperbaumer (2002c) were:

- An important location for overseas visitors, and for locals during the wet season,
- Visitors mainly aged between 20 and 29 years old,
- Access is by private and hired vehicles and coaches,
- Information about the location is gained largely from word-of-mouth, previous visits, and travel guides/books,
- Visitors travel to Mossman Gorge to see and experience its natural features,
- Spend less time altogether at the site as compared to other WTWHA sites - usually doing a short walk, photography, and swimming.

Marrdja Boardwalk

Marrdja Boardwalk is situated within the Daintree National Park, on the Daintree-Cape Tribulation Road, a popular coastal tourist route between Cairns and Cooktown. The location offers a 1.1 kilometre circular boardwalk which takes taking approximately 30 minutes to walk and is considered to be an ‘easy walk’. Marrdja Boardwalk is wheelchair accessible, and a car park is provided at the location. The boardwalk allows visitors to experience beach/coastal mangroves, tropical rainforest and native wildlife. The location is visited by domestic and international drive tourists as well as tour buses/coaches who include Marrdja Boardwalk in their itinerary. Bentrupperbaumer (2002b) indicated that key visitor characteristics for this location were:

- Importance of location to domestic/national and international visitors,
- Visitors aged between 20 and 29 years old,
- Access primarily by hire cars and coach tours,
- Information sources were mainly word-of-mouth, road signs, and travel guides/books,
- Visit location to see natural features and scenery, and to experience the Wet Tropics,
- Visitors spend from half to one hour at the site.

Skyrail

The Skyrail Rainforest Cableway, spanning 7.5kms over WTWHA rainforest between Cairns and Kuranda, allows visitors to view the rainforest in a unique way. Skyrail attracts all visitor types who are holidaying in the region. They include domestic and international self-drive tourists, visitors on tour buses (mainly from Cairns city) and other packaged tours. Skyrail is situated 15 minutes outside of the Cairns Central Business District (CBD) and is easily accessible by road using private or public transport from the city and the Northern Beaches. The Skyrail Rainforest Cableway uses six-person gondola cabins to carry visitors above the rainforest canopy, viewing scenic panoramas of the coastline and the WTWHA rainforest along the way. During the journey, two stations offer interpretive rainforest experiences. Red Peak station has a rainforest boardwalk with interpretive signage and is staffed by an environmental officer who runs 20-minute interpretive walks (see Figure 4). At the Barron Falls station, there is a rainforest interpretation centre, lookouts over the Barron Falls, and an area historical display. The Kuranda Terminal is located in Kuranda village, where visitors shop, visit cafes and restaurants or visit other tourist attractions in the village. The Skyrail experience takes approximately 90 minutes one way or 2.5 hours return; however, visitors may take as much time as they desire for the experience. Additionally, Skyrail offers a number of packages with nearby attractions such as the Kuranda Scenic Railway, Tjapukai Aboriginal Cultural Park, the Rainforestation in Kuranda, and the Kuranda Wildlife Experience (Skyrail Rainforest Cableway, 2006).

Figure 4: Skyrail's Environmental Officer, Lance Milne, gives guests an interpretive talk on the WTWHA rainforest
(Photograph Source: Duncan Watts, 2006)

Cairns Airport Domestic Terminal

The departure lounge at the Cairns airport's Domestic Terminal (see Figure 5) is an excellent site of interviewing both domestic and international visitors travelling within Australia or transferring between international and domestic flights. The Cairns airport services a number of domestic and regional airlines, including Qantas, Macair, Virgin Blue, Jetstar and Qantas Link. These airlines link Cairns with all of the Australian capital cities, most of the regional centres, as well as the Great Barrier Reef islands and Alice Springs/Uluru in Central Australia.

Figure 5: Cairns Domestic Airport – Departure Lounge

(Photograph Source: Cairns Port Authority, 2007)

3.0 RESULTS

3.1 RAINFOREST VISITATION AND EXPENDITURE

3.1.1 Introduction

The key objective of the Rainforest Visitor Survey was to estimate the economic value of tourism in the WTWHA. Several factors were used in calculating these estimates, including:

- Rainforest Visitation factors – these included the WTWHA locations visited, time spent at these locations, and the importance of visiting protected areas;
- Rainforest Scenarios – these included overall alternative travel destinations, alternative destinations if the rainforest were not designated as the WTWHA, and if rainforests did not exist in the region;
- Expenditure factors – these included the number of nights spent in the Cairns region, number of nights spent away from home during this holiday, and the number of adults and children included in the budget for this trip; and,
- Holiday expenditure factors – including the amount budgeted by respondents for their holiday, expenditure on holiday package and accommodation, and if respondents used a package tour to the WTWHA locations and the cost of this package tour.

The results are presented as a total sample as well as by location in the following section.

3.1.2 Respondents by Location

A total of 861 valid surveys were collected from the various locations (See Table 2). The sample included 604 visitors (70.2%) interviewed at WTWHA locations, and 257 visitors (29.8%) who were interviewed at the Cairns airport. The sample represented almost equal groups of national (48.7%) and international visitors (51.2%) and consisted of 42.2% male and 57.8% female visitors.

Table 2: Locations and Sample

Location	**Number of Surveys**	***Percentage of Sample***
Cairns Airport Domestic Terminal	257	*29.8*
Mossman Gorge	219	*25.4*
Skyrail	170	*19.7*
Marrdja Boardwalk	131	*15.2*
Lake Barrine	84	*9.8*
Total	861	*100.0*

3.2 RAINFOREST VISITOR PROFILES

3.2.1 Introduction

The Rainforest Evaluation Survey included questions that enabled the composition of a comprehensive rainforest visitor profile. The questions included first visit, age groups, origin, occupation and income, travel party, transportation, and accommodation. The results are presented as a total sample, and by location in the following section. Specific data from the Skyrail location (a commercial enterprise) is not presented in the tables for reasons of commercial confidentiality.

For the majority of visitors (66.3%) this was their first visit to the Cairns region, while 33.7% said they had previously visited the region. Slightly over half of the domestic respondents (55.1%) said they had previously visited the region, while the majority of international respondents (86.4%) said they had not previously visited TNQ.

3.2.2 Age Groups

The age of visitors was recorded in groups, as listed in Table 3. The dominant age groups were between 20-29 years old and 50-59 years old, representing 48.9% of the total visitor sample. The data for each location shows some differences in visitor age groups. Lake Barrine recorded the higher percentages of visitors representing the older age groups, (25.3% being over 60 years old), while Marrdja Boardwalk had much younger visitors with 56.3% of respondents being under the age of 30 years.

Table 3: Age Groups and Age Groups by Locations

Age Groups	***Total Respondents***		***Percentage of Respondents Per Locations***			
	Frequency	***Percentage***	***Lake Barrine***	***Mossman Gorge***	***Marrdja Boardwalk***	***Airport***
	n = 832		***n = 83***	***n = 208***	***n = 128***	***n = 252***
Under 20 years	32	*3.8*	*2.4*	*1.9*	*4.7*	*4.0*
20 – 29 years	238	*28.6*	*19.3*	*24.0*	*51.6*	*25.4*
30 – 39 years	130	*15.6*	*13.3*	*14.4*	*14.1*	*15.9*
40 – 49 years	125	*15.0*	*13.3*	*18.8*	*9.4*	*14.3*
50 – 59 years	169	*20.3*	*26.5*	*24.0*	*13.3*	*20.5*
60 – 65 years	70	*8.4*	*9.6*	*9.6*	*3.9*	*6.2*
Over 65 years	68	*8.2*	*15.7*	*7.2*	*3.1*	*5.0*

3.2.3 Visitor Origin

The origins of visitors were recoded into regional and state groups for domestic visitors, and country groups for international visitors. As shown in Table 4, the ratio of international visitors (51.3%) to domestic visitors (48.7%) was almost even. International visitors originated mainly from the United Kingdom (34.1%), North America (30.5%), Europe – excluding Germany (14.3%) and Germany (10.0%). The domestic visitors were mainly from New South Wales (35.3%), Victoria (22.7%), and Other Queensland – representing all areas of Queensland other than TNQ (21.9%).

Table 4: Visitor Origin

Location	**Frequency**	***Percentage of Domestic/International***	***Percentage of Total Responses***
Domestic			
New South Wales	140	*35.3*	*17.2*
Victoria	90	*22.7*	*11.0*
Other Queensland	87	*21.9*	*10.7*
South Australia	26	*6.5*	*3.2*
Tropical North Queensland	25	*6.3*	*3.1*
Western Australia	14	*3.5*	*1.7*
Tasmania	13	*3.3*	*1.6*
Northern Territory	2	*0.5*	*0.2*
Total Domestic	***397***	***100.0***	***48.7***
International			
United Kingdom	143	*34.1*	*17.5*
North America	128	*30.5*	*15.7*
Europe (excluding Germany)	60	*14.3*	*7.4*
Germany	42	*10.0*	*5.1*
New Zealand	24	*5.7*	*2.9*
Asia	17	*4.1*	*2.1*
Other countries	5	*1.2*	*0.6*
Total International	***419***	***100.0***	***51.3***
Total Visitors	**816**	**-**	***100.0***

Visitors' place of origin was recorded according to the survey locations, with the results shown in Table 5. Each location appeared to have slightly different proportions of visitors from both domestic and international origins. Lake Barrine was mainly visit by international respondents from the United Kingdom (45.5%) and Europe (excluding Germany, 22.7%); while domestic visitors showed relatively even numbers from most of the Australian States.

International visitors to Mossman Gorge were more varied, including the United Kingdom (32.0%), North America (28.0%), Europe (14.7%), Germany (16.0%), and New Zealand (9.3%). Marrdja Boardwalk had similar percentages of international visitors. This location also had the highest percentage of domestic visitors from Western Australia (10.6%) and Tasmania (2.1%).

Domestic visitors surveyed at the Cairns Airport Domestic Terminal were mainly from New South Wales (30.1%), Other Queensland (26.3%), and Victoria (24.8%). International visitors at this location mainly originated from the United Kingdom (36.8%) and North America (32.5%).

Table 5: Visitor Origins by Locations

Location	***Percentage of Respondents per Locations***			
	Lake Barrine	***Mossman Gorge***	***Marrdja Boardwalk***	***Airport***
Domestic	***n = 53***	***n = 134***	***n = 47***	***n = 133***
New South Wales	*22.6*	*39.6*	*44.7*	*30.1*
Victoria	*18.9*	*26.1*	*19.1*	*24.8*
Other Queensland	*20.8*	*17.9*	*19.1*	*26.3*
South Australia	*13.2*	*10.4*	-	*1.5*
Tropical North Queensland	*18.9*	*0.7*	*4.3*	*8.3*
Western Australia	*1.9*	*3.7*	*10.6*	*1.5*
Tasmania	*1.9*	*1.5*	*2.1*	*1.5*
Northern Territory	*1.9*	-	-	*0.8*
International	***n = 22***	***n = 75***	***n = 79***	***n = 114***
United Kingdom	*45.5*	*32.0*	*27.8*	*36.8*
North America	*9.1*	*28.0*	*32.9*	*32.5*
Europe (excluding Germany)	*22.7*	*14.7*	*17.7*	*11.4*
Germany	*9.1*	*16.0*	*16.5*	*8.8*
New Zealand	*9.1*	*9.3*	*1.3*	*8.8*
Asia	*4.5*	-	*2.5*	-
Other countries	-	-	*1.3*	*1.8*

3.2.4 Occupation and Income

The main occupations of visitors were professionals (27.6%), retired/semi-retired (15.3%), students (11.7%) and self-employed people (10.2%) as displayed in Table 6. The occupation of visitors by location revealed a number of variations, shown in bold in Table 6. Lake Barrine represented the highest incidence of retired/semi-retired visitors. Mossman Gorge

recorded higher percentages of visitors who were employed as managers and the service industry, but fewer students. Marrdja Boardwalk was visited by lower percentages of retired/semi-retired visitors and those employed as managers.

Table 6: Occupation and Occupation by Locations

Occupation	***Total Respondents***		***Percentage of Respondents per Locations***			
	Frequency	***Percentage***	***Lake Barrine***	***Mossman Gorge***	***Marrdja Boardwalk***	***Airport***
	n = 837		***n = 84***	***n = 211***	***n = 128***	***n = 252***
Professional	231	*27.6*	*13.1*	*28.0*	*38.3*	*26.2*
Retired/Semi-Retired	128	*15.3*	***26.2***	*15.2*	***7.8***	*17.5*
Student	98	*11.7*	*9.5*	***6.2***	*14.1*	*12.7*
Self-employed	85	*10.2*	*10.7*	*11.8*	*9.4*	*12.3*
Management	70	*8.4*	*8.3*	***10.4***	***4.7***	*6.3*
Office/Clerical	60	*7.2*	*8.3*	*8.1*	*7.0*	*6.3*
Public Service	47	*5.6*	*8.3*	*2.4*	*4.7*	*6.7*
Service Industry	40	*4.8*	*4.8*	***7.1***	*4.7*	*2.4*
Tradesperson	23	*2.7*	*3.6*	*3.3*	*1.6*	*3.6*
Retail	14	*1.7*	*1.2*	*1.9*	*1.6*	*2.4*
Manual/Factory Worker	13	*1.6*	-	*2.4*	-	*0.4*
Other – home duties	12	*1.0*	*2.4*	*1.9*	*0.8*	*0.4*
Other – unspecified	12	*1.4*	*1.2*	*0.5*	*2.3*	*2.4*
Other – unemployed, traveller, volunteer, missionary	8	*1.0*	*2.4*	*0.9*	*1.6*	*0.4*

As shown in Table 7, visitors' incomes varied across the different income brackets with no particular dominant group. Further analysis of visitors' income was conducted by cross-tabulating income with occupations. The results indicated that occupation levels were typical for the income related to the occupation. For example, visitors who reported their occupation as either self-employed, professional or management tended to have higher incomes, generally over $40,000 per year. Conversely, the visitors whose occupation was listed as being a student had incomes generally under $30,000 per year. The retired/semi-retired visitors had varying income levels, with the majority falling between the under $20,000 to $80,000 per year brackets.

Table 7: Income and Income by Locations

Income	*Total Respondents*		*Percentage of Respondents per Locations*			
	Frequency	***Percentage***	***Lake Barrine***	***Mossman Gorge***	***Marrdja Boardwalk***	***Airport***
	n = 712		***n = 66***	***n = 188***	***n = 112***	***n = 212***
Under $20,000	81	*11.4*	*12.1*	*6.9*	*14.3*	*13.7*
$20,000 - 39,000	75	*10.5*	*16.7*	*9.0*	*14.3*	*9.4*
$40,000 - 59,000	127	*17.8*	*22.7*	*14.9*	*17.9*	*16.0*
$60,000 - 79,000	105	*14.7*	*10.6*	*15.4*	*12.5*	*17.5*
$80,000 - $99,000	90	*12.6*	*10.6*	*13.8*	*15.2*	*10.4*
$100,000 - 149,000	132	*18.5*	*19.7*	*21.8*	*11.6*	*22.2*
$150,000 and over	102	*14.3*	*7.6*	*18.1*	*14.3*	*10.8*

3.2.5 Travel Party and Transportation

As listed in Table 8, slightly over half of the visitors were travelling as couples (50.7%). Other visitors travelled with friends (17.5%), with family (14.6%) or alone (10.3%).

Table 8: Travel Party

Travel Party	**Frequency (n = 834)**	***Percentage***
Couple (Partner/Spouse)	423	*50.7*
Friends	146	*17.5*
Family (Adults and Children)	122	*14.6*
Alone	86	*10.3*
Relatives	44	*5.3*
Club/Tour Group	13	*1.6*

Three aspects of transportation were measured in the Rainforest Evaluation Survey. These were transportation to the Cairns/TNQ region, transport within the Cairns region, and mode of transport used to travel to the location where the surveys were conducted. The results are presented in Table 9. The dominant modes of transportation to access the Cairns region are air travel (68.7%), followed by private/rented vehicle (21.6%). Visitors tended to use private/rented vehicles (58.7%) to travel around the Cairns region, as well as various types of bus/coach travel (27.4%). Similarly, private/rented vehicles (54.1%) and bus/coach (35.2%) were also used to travel to the survey location.

Table 9: Transport to/within Region and to Survey Location

Transport	To Cairns Region (n = 854)		Around Cairns Region (n = 857)		To Survey Location (n = 852)	
	Frequency	***Percentage***	**Frequency**	***Percentage***	**Frequency**	***Percentage***
Private vehicle	108	*12.6*	187	*21.8*	461	*54.1*
Rented vehicle	77	*9.0*	-	-		
-Rented Campervan/ Caravan	-	-	33	*3.9*	-	-
-Rented Car/4WD	-	-	283	*33.0*	-	-
Total Private/Rented Vehicle	**185**	***21.6***	**503**	***58.7***	**461**	***54.1***
Bus/Coach	68	*8.0*	-	-	31	*3.6*
-Packaged Bus/Coach Tour	-	-	220	*25.7*	269	*31.6*
-Hotel/Shuttle Bus	-	-	11	*1.3*	-	-
-Other Bus	-	-	3	*0.4*	-	-
Total Bus/Coach	**68**	***8.0***	**234**	***27.4***	**300**	***35.2***
Air	**587**	***68.7***	-	-	13	*1.5*
Walking/Bicycle	-	-	33	*3.9*	2	*0.2*
Taxi	-	-	19	*2.2*	62	*7.3*
Rail	9	*1.1*	2	*0.2*	4	*0.5*
Other	5	*0.6*	10	*1.2*	10	*1.2*

The mode of transport used to travel to the survey location and the location where the survey was undertaken were crosstabulated to gain insight into what transport visitors used to get to the WTWHA locations. Table 10 displays the results for the frequencies and percentages of responses within the survey location.

Two key modes of transportation were used to access the survey locations within the WTWHA. Lake Barrine, Mossman Gorge and Marrdja Boardwalk were mainly accessed using private/rented vehicle and packaged tour bus/coach. The Skyrail visitors used different forms of transport to access the location, with packaged tour bus/coach being the most frequently used, followed by private/rented vehicle, and other local types of bus/coach transport.

Table 10: Transport to Location by Survey Locations

Transport to Location		Survey Locations			
		Lake Barrine	**Mossman Gorge**	**Marrdja Boardwalk**	**Airport**
Private/Rented vehicle	Frequency	53	200	78	106
	% of Location	*63.1*	*92.2*	*60.0*	*42.2*
Packaged Tour Bus/coach	Frequency	29	16	51	50
	% of Location	*34.5*	*7.4*	*39.2*	*19.9*
Taxi	Frequency	-	-	-	55
	% of Location	-	-	-	*21.9*
Bus – shuttle/city/accom.	Frequency	-	-	-	20
	% of Location	-	-	-	*8.0*
Air	Frequency	-	-	-	13
	% of Location	-	-	-	*5.2*
Rail	Frequency	1	-	-	-
	% of Location	*1.2*	-	-	-
Bicycle/Walking	Frequency	-	-	-	1
	% of Location	-	-	-	*0.4*
Other	Frequency	1	1	1	6
	% of Location	*1.2*	*0.5*	*0.8*	*2.4*
Total	**Frequency**	**84**	**217**	**130**	**251**

3.2.6 Accommodation

Visitors stayed in a variety of accommodation types during their stay in the Cairns region, as shown in Table 11. The main types of accommodation used were hotel/motel (25.2%), holiday apartment/unit/house (20.0%), resort (19.8%) and backpacker hostel (14.9%).

The highest percentages of visitors staying with friends and/or relatives were recorded at Lake Barrine (19.0%) and the Airport (12.2%). Mossman Gorge visitors recorded the highest percentage of visitors staying at a Caravan Park/Cabin (10.3%). Visitors at Marrdja Boardwalk had significantly higher percentages staying at backpacker hostels (31.7%) and camping (11.9%).

Table 11: Accommodation by Locations

Accommodation	*Total Respondents*		*Percentage of Respondents per Locations*			
	Frequency	***Percentage***	***Lake Barrine***	***Mossman Gorge***	***Marrdja Boardwalk***	***Airport***
	n = 833		***n = 79***	***n = 213***	***n = 126***	***n = 246***
Hotel/Motel	210	*25.2*	*26.6*	*20.2*	***9.5***	*28.5*
Holiday Apartment/Unit/House	167	*20.0*	*19.0*	*25.8*	*14.3*	*19.9*
Resort	165	*19.8*	*13.9*	*27.2*	*18.3*	*17.9*
Backpacker Hostel	124	*14.9*	*8.9*	*7.5*	***31.7***	*14.6*
Friends/Relatives	70	*8.4*	***19.0***	*4.7*	*4.8*	***12.2***
Caravan Park/Cabin	50	*6.0*	*6.3*	***10.3***	*6.3*	*4.1*
Camping	34	*4.1*	*5.1*	*2.8*	***11.9***	*2.4*
Bed and Breakfast	13	*1.6*	*1.3*	*1.4*	*3.2*	*0.4*

3.2.7 Satisfaction and Recommendations

The majority of visitors indicated they were either satisfied (39.6%) or very satisfied (55.3%) with their visit to the TNQ region. Additionally, the vast majority of visitors (93.6%) indicated they would recommend the region to prospective visitors.

3.2.8 Information Sources

The survey included a list of information sources that visitors have used to find out information about the TNQ region. The most popular sources of information (see Table12) were tourist guide books/maps/brochures (29.3%), the Internet (25.1%), and friends/family (17.7%). Additionally, travel agents (10.2%) and visitor information centres (9.0%) were alternative sources of information for visitors. The responses for individual locations revealed that visitors at the Airport tended to use more varied information sources than those used by visitors at the other locations. In particular, visitors from this location had the highest percentages for information from accommodation/tourist staff (2.4%).

Table 12: Information Sources and Information by Locations

Information	*Total Respondents*		*Percentage of Respondents per Locations*			
	Frequency	***Percentage***	***Lake Barrine***	***Mossman Gorge***	***Marrdja Boardwalk***	***Airport***
	n = 840		***n = 79***	***n = 216***	***n = 128***	***n = 251***
Tourist Guide Books/ Maps/ Brochures	246	*29.3*	*26.6*	*32.4*	*35.9*	*23.9*
Internet	211	*25.1*	*27.8*	*26.9*	*22.7*	*23.1*
Friends/Family	149	*17.7*	*22.8*	*17.6*	*16.4*	*21.5*
Travel Agent	86	*10.2*	*5.1*	*5.1*	*8.6*	*12.0*
Visitor Information Centres	76	*9.0*	*8.9*	*11.6*	*11.7*	*7.6*
Advertisements	19	*2.3*	*3.8*	*2.3*	*0.8*	*3.2*
Word-of-Mouth – Various	19	*2.3*	*2.5*	*1.9*	*1.6*	*2.8*
Accommodation/Tourism Staff	15	*1.8*	-	-	*0.8*	*2.4*
TV Documentary/Documentary	10	*1.2*	*1.3*	*1.4*	-	*1.6*
Previous Visits	9	*1.1*	*1.3*	*0.9*	*1.6*	*2.0*

3.2.9 Trip Planning

Visitors were asked to indicate from a pre-determined list which approach they had taken to plan their trip to the TNQ region. As shown in Table 13, the three main approaches that visitors took in planning their trip were:

- selecting an already organised package tour (26.8%),
- planning some of their itinerary before starting their trip (26.5%), and
- making plans and decisions on a day-to-day basis (21.8%).

Table 13: Planning Approach

Planning Approach	**Frequency (n = 841)**	***Percentage***
I organised most of my itinerary **before I started** the trip	225	*26.8*
I had planned **some of my itinerary** before I started the trip	223	*26.5*
Most of my plans and decisions are made from **day-to-day**	183	*21.8*
I chose an **already organised** package tour	108	*12.8*
I used information I obtained **upon arrival** to plan most of my itinerary	102	*12.1*

Planning approaches varied significantly at two locations. The differences are shown in bold in Table 14. The Airport recorded higher percentages of visitors than at other locations, for those who had chosen an already organised package tour (15.4%).

Table 14: Planning Approach by Locations

Planning Approach	*Percentage of Respondents per Locations*			
	Lake Barrine	***Mossman Gorge***	***Marrdja Boardwalk***	***Airport***
	n = 80	***n = 216***	***n = 129***	***n = 247***
I organised most of my itinerary **before I started** the trip	*28.8*	*25.0*	*17.1*	*31.2*
I had planned **some of my itinerary** before I started the trip	*26.3*	*28.7*	*30.2*	*22.3*
Most of my plans and decisions are made from **day to day**	*23.8*	*27.8*	*25.6*	*19.4*
I chose an **already organised** package tour	*8.8*	*4.6*	*8.5*	***15.4***
I used information I obtained **upon arrival** to plan most of my itinerary	*12.5*	*13.9*	*18.6*	*11.7*

3.2.10 Holiday Decision-Making

The Rainforest Evaluation Survey asked visitors to indicate how important certain features of the TNQ region were to them when making their decision to visit the region. The features were measured on a 5 point Likert scale using 1 = Very Important, 2 = Important, 3 = Neither Important/Unimportant, 4 = Unimportant, and 5 = Not Important At All. The results are displayed in Table 15. with the mean for each feature and percentage of total responses for each feature's rating, ordered from most important to least important.

The *most important* features were:

- Visiting the Great Barrier Reef (M = 1.69)
- Visiting the rainforest (M = 1.69)
- Experiencing the natural environment (M = 1.93)
- Rest and relaxation (M = 1.94)
- Seeing Australian wildlife (M = 2.06)
- Climate (M = 2.11)

The *least important* features were:

- Shopping (M = 3.42)
- Visiting friends and relatives (M = 3.43)
- Special Event (M = 3.63)
- Business (M = 4.20)
- Conference or meeting (M = 4.27)

Table 15: Features in Decision to Visit Region

Features	***n* =**	**Mean**	***Very Important***	***Important***	***Neither Important/ Unimportant***	***Unimportant***	***Not Important At All***
Visit the Great Barrier Reef	*809*	**1.69**	*60.6*	*23.4*	*8.0*	*2.8*	*5.2*
Visit the rainforest	*827*	**1.69**	*50.4*	*37.0*	*8.6*	*1.1*	*2.9*
Experience the natural environment	*806*	**1.93**	*35.0*	*45.4*	*14.0*	*2.7*	*2.9*
Rest and relax	*818*	**1.94**	*39.1*	*38.2*	*15.2*	*5.1*	*2.4*
See Australian wildlife	*800*	**2.06**	*24.4*	*27.1*	*20.9*	*3.5*	*4.1*
Climate	*812*	**2.11**	*30.7*	*40.0*	*20.6*	*5.3*	*3.4*
Visit islands and/or beaches	*793*	**2.22**	*25.6*	*42.9*	*20.6*	*5.8*	*5.2*
Snorkelling and diving	*800*	**2.34**	***34.0***	***27.4***	*18.8*	***10.0***	***9.9***
The price matched my budget	*801*	**2.40**	*20.3*	*38.5*	*27.8*	*7.4*	*6.0*
Experience Aboriginal culture	*794*	**2.80**	*12.3*	*27.0*	*36.8*	*16.1*	*7.8*
Experience the outback	*795*	**2.83**	*14.2*	*29.1*	*30.7*	*11.6*	*14.5*
Spend time with my family	*790*	**2.89**	*28.2*	*17.6*	*17.7*	*10.1*	*26.3*
Meet new people	*794*	**2.89**	*9.7*	*28.3*	*36.9*	*13.4*	*11.7*
Go shopping	*793*	**3.42**	*6.1*	*16.3*	*32.0*	***20.4***	***25.2***
Visiting friends and relatives	*779*	**3.43**	***15.0***	***15.1***	*19.6*	*12.2*	*38.0*
Special event	*782*	**3.63**	*7.0*	*10.6*	*20.1*	*16.5*	*35.8*
Business	*780*	**4.20**	*4.0*	*3.1*	*20.4*	*14.5*	*58.1*
Conference or meeting	*782*	**4.27**	*3.7*	*3.1*	*17.5*	*13.8*	*61.9*

The mean responses for the decision-making features were reviewed for each location. These are listed in Table 16 in the same order as the previous table, that is, from most important to least important. The important features for visitors varied somewhat for each location. The rainforest was of the highest importance for visitors at Lake Barrine (M = 1.60), followed by Mossman Gorge (M = 1.53), and Marrdja Boardwalk (1.42).

Visitors at the Airport had slightly different responses to all of the other locations. The features in their decision to travel to the TNQ region, in order of importance (from most important to those of lesser importance), were rest and relaxation (M = 1.85), visiting the Great Barrier Reef (M = 1.92), visiting the rainforest (M = 2.06), and the climate (M = 2.08). These features are consistent with the key features that tourists associated with the TNQ region, identified in the TNQ Snapshot (TQ, 2006).

Table 16: Features by Location

Features	Mean Rating by Location*			
	Lake Barrine	**Mossman Gorge**	**Marrdja Boardwalk**	**Airport**
Visit the Great Barrier Reef	1.77	1.81	1.45	1.92
Visit the rainforest	1.60	1.53	1.42	2.06
Experience the natural environment	1.73	1.78	1.72	2.17
Rest and relax	1.75	1.80	2.02	1.85
See Australian wildlife	1.96	2.10	1.68	2.31
Climate	1.97	1.97	2.24	2.08
Visit islands and/or beaches	2.07	2.13	2.05	2.34
Snorkelling and diving	2.54	2.59	1.97	2.39
The price matched my budget	2.08	2.37	2.56	2.40
Experience Aboriginal culture	2.80	2.97	2.51	2.99
Experience the outback	2.61	2.92	2.64	3.01
Spend time with my family	2.64	2.67	3.29	3.04
Meet new people	2.69	2.99	2.61	3.02
Go shopping	3.32	3.56	3.64	3.32
Visiting friends and relatives	2.96	3.41	3.72	3.50
Special Event	3.70	3.61	3.80	3.65
Business	4.10	4.26	4.42	4.01
Conference or meeting	4.13	4.34	4.49	4.15

** Based on rating scale where 1 = Very Important, 2 = Important, 3 = Neither Important/Unimportant, 4 = Unimportant, and 5 = Not Important At All.*

3.2.11 WTWHA Locations Visited

Visitors were asked to indicate which of the 8 WTWHA regions they had already visited and those that they intended to visit. The results are shown as frequency of responses for each regional location in Table 17.

The locations with the highest frequencies for visitation were Kuranda (n = 466), Mossman Gorge (n = 344), Daintree (n = 331), Atherton Tablelands (n = 289) and Cape Tribulation (n = 286). The Daintree (n = 216) and Cape Tribulation (n = 229) were places where the highest numbers of respondents intended to visit.

Table 17: WTWHA Location Visitation

Locations	Frequency		
	Have Visited	**Intend to Visit**	**Total Have/Intend**
	n = 717	**n = 412**	**n = 793**
Kuranda	466	138	604
Mossman Gorge	344	159	503
Daintree	331	216	547
Atherton Tablelands rainforest areas	289	131	420
Cape Tribulation	286	229	515
Mission Beach/Tully/Cardwell	179	109	288
Innisfail/Wooroonooran/Palmerston	161	84	245
Paluma (near Townsville)	42	98	140

3.2.12 Time Spent at WTWHA Locations

Visitors were asked to indicate the time they had spent or intended to spend at each location in either hours or days. The results were grouped for ease of analysis and are shown in Table 18. It is interesting to note that some visitors thought it necessary to acknowledge simply driving/passing through these locations. This may be an indication that they while they did not stop at these locations, they recognised them as WTWHA designated areas.

The results revealed that there were locations where visitors tended to stay for short periods only and locations where they either stayed for a day or overnight (shown in bold in Table 18). In Kuranda, most visitors tended to stay between 6 and 12 hours (40.2%), but others also spent less time there (4 to 5 hours 26.7%, 1 to 3 hours 27.2%). The majority of visitors

spent 1 to 3 hours (65.0%) at Mossman Gorge. This is compatible with the amount of time that packaged tour bus/coach visitors stop at that location.

The length of time that visitors spent at Daintree, Innisfail/Wooroonooran/Palmerston and Paluma appears to be bimodal, with similar percentages spending either 1 to 3 hours or 6 to 12 hours at those locations. Visitors tended to spend longer lengths of time (6 to 12 hours, or more than 12 hours) at locations on the Atherton Tablelands, Cape Tribulation, and Mission Beach/Tully/Cardwell. Additionally, in the Innisfail/Wooroonooran/Palmerston area visitors tended to drive/pass through (14.8%) but not stop. This result corresponds with the major tour routes that pass through those locations giving access to either Cairns (Bruce Highway) or the Atherton Tablelands (Palmerston Highway).

Table 18: Time at WTWHA Locations

Time at Locations		WTWHA Locations								
		Kuranda	Mossman Gorge	Daintree	Atherton Tablelands	Cape Tribulation	Mission Beach /Tully/Cardwell	Innisfail/ Wooroonooran/ Palmerston	Paluma	Total*
1 - 3 hours (Less than ½ Day)	Frequency	103	191	91	47	54	17	38	7	548
	% of Location	***27.2***	***65.0***	***29.1***	*19.6*	*17.7*	*12.1*	***31.1***	***25.9***	*30.1*
4 - 5 hours (½ day)	Frequency	101	56	52	26	36	12	15	1	299
	% of Location	***26.7***	*19.0*	*16.6*	*10.8*	*11.8*	*8.6*	*12.3*	*3.7*	*16.4*
6 - 12 hours (More than ½ day, Less than 1 day)	Frequency	152	36	122	100	121	46	39	12	628
	% of Location	***40.2***	*12.2*	***39.0***	***41.7***	***39.7***	***32.9***	***32.0***	***44.4***	*34.5*
More than 12 hours (1 day or more)	Frequency	21	7	41	66	94	60	12	4	305
	% of Location	*5.6*	*2.4*	*13.1*	***27.5***	***30.8***	***42.9***	*9.8*	*14.8*	*16.8*
Drove/passed through	Frequency	1	4	7	1	0	5	18	3	39
	% of Location	*0.3*	*1.4*	*2.2*	*0.4*	*0.0*	*3.6*	*14.8*	*11.1*	*2.1*
Total*		378	294	313	240	305	140	122	27	1819

** Totals higher than N = 861 due to multiple responses allowed for this question.*

The total time spent at WTWHA locations was calculated and the results are displayed in Table 19. The time periods appear to be bimodal, with 30.1% of visitors staying in WTWHA locations for 1 to 3 hours and 34.5% of visitors staying for 6 to 12 hours. These results correspond with the transportation used to visit those locations. The shorter time periods generally indicates that these visitors were members of packaged tours and time is limited at

each location. The longer periods of time at the locations indicated that the respondents were likely to be independent travellers who are not usually on a tight schedule.

Table 19: Total Time Spent at WTWHA Locations

Time	**Frequency (n = 549)**	***Percentage***
1 – 3 hours (Less than ½ day)	**548**	*30.1*
4 – 5 hours (½ day)	299	*16.4*
6 – 12 hours (More than ½ day, Less than 1 day)	**628**	*34.5*
More than 12 hours (1 day or more)	305	*16.8*
Drove/Passed through location	39	*2.1*
Total Responses	**1819***	***100.0***

**Total is higher than n = 549 due to combination of responses from each location.*

3.2.13 Importance of Visiting National Parks

Respondents were asked to indicate the level of importance they placed on visiting National Parks while they were on holidays. As shown in Table 20 almost half of the respondents (49.6%) indicated that it was important for them to visit National Parks and a further 20.2% said it was very important, which is reflected in the mean for total responses (M = 2.20).

Table 20: Importance of Visiting National Parks and Importance by Locations

Level of Importance	**Total Respondents**		***Percentage of Respondents per Locations***			
	Frequency	***Percentage***	***Lake Barrine***	***Mossman Gorge***	***Marrdja Boardwalk***	***Airport***
	n = 792		***n = 80***	***n = 197***	***n = 125***	***n = 234***
Very Important	160	*20.2*	*21.3*	*25.4*	*28.0*	*13.7*
Important	393	*49.6*	*47.5*	*54.8*	*52.8*	*45.3*
Neither Important/Unimportant	181	*22.9*	*23.8*	*15.7*	*17.6*	*28.6*
Unimportant	40	*5.1*	*2.5*	*3.6*	*1.6*	*8.1*
Not at All Important	18	*2.3*	*5.0*	*0.5*	*-*	*4.3*
Mean	***2.20***		***2.23***	***1.99***	***1.93***	***2.29***

Overall, 22.9% of respondents said it was neither important/unimportant to visit National Parks. The mean results for each of the locations showed there were relatively similar levels of importance indicated by respondents for visiting National Parks.

There was very little difference in the mean level of importance placed on visiting National Parks for domestic visitors (M = 2.22) compared to international visitors (M = 2.16). However, closer analysis of specific domestic and international markets revealed some interesting results. As shown in Table 21, domestic visitors from New South Wales and Other Queensland had slightly higher means than visitors from Victoria, while international visitors from Germany and Europe placed higher levels of importance in visiting National Parks than those from other overseas origins.

The mean responses for other demographic characteristics of visitors revealed very little difference between males and females (see Table 21). However, there were some differences in the levels of importance by age groups. The under 20 year old and 40-49 year old age groups placed slightly lower levels of importance in visiting National Parks while on holidays than other age groups.

Table 21: Mean Level of Importance for Visiting National Parks by Demographics

Visitor Demographics		**Frequency**	**Mean**
Origin: Domestic	New South Wales	127	2.20
	Other Queensland	82	2.23
	Victoria	82	2.38
Origin: International	Germany	41	1.71
	Europe (excluding Germany)	57	2.05
	New Zealand	23	2.17
	North America	122	2.19
	UK/Ireland	134	2.33
Gender	Females	484	2.19
	Males	353	2.21
Age Groups	Under 20 years	32	2.52
	20 – 29 years	238	2.19
	30 – 39 years	130	2.16
	40 – 49 years	125	2.30
	50 – 59 years	169	2.17
	60 – 65 years	70	2.05
	Over 65 years	68	2.13

3.2.14 Holiday Scenarios

The Rainforest Evaluation Survey included several scenario questions that provided a deeper understanding of visitors' profiles and patterns of rainforest visitation. Additionally, some of these questions served as a basis for substitution factors. First, visitors were asked to list three other destinations they considered travelling to on this holiday. Next, visitors were asked if they would still visit the rainforests if they were not designated as WTWHA. Finally, visitors were asked to indicate their intentions to visit the region if there were no rainforests, and where else would they travel to if they did visit the TNQ region.

Other Destinations Considered

Respondents listed a large number of destinations as alternative locations considered for their holiday. Analysis of the results revealed two trends in the data. Firstly, many of the destinations appeared to have similar characteristics, and as such, were grouped into similar categories for ease of analysis. For example, groups of destinations were structured on the basis of either having similar tourism destination characteristics, such as islands located in the Asia-Pacific region were grouped as "Asia-Pacific Islands (see Table 22) and islands in Australia were grouped as "Australian Islands". A consequence of this grouping method was that one respondent could give up to three responses, since they were given the opportunity to provide up to three different destinations. For example, if a visitor responded with Bali, Fiji, and Samoa, these responses represented a frequency of 3 under the grouping of "Asia-Pacific Islands". This method of analysis was considered appropriate since each of the destinations were essentially different, despite being located in the same region. Secondly, a considerable number of respondents may have misunderstood the question and responded with destinations within TNQ that they were considering to visit while in the region. Because there is no way of confirming that this was indeed the case, the results were grouped as a separate group named "Tropical North Queensland".

The results are shown in Table 22. Overall, 78.8% of the respondents specified destinations within Australia, with Sydney (9.6%), Islands (5.7%), and Central Australia (5.0%) having the highest number of responses. The remaining 21.2% of responses were for overseas destinations, – Asia-Pacific Islands (5.9%), Asia (4.7%) and New Zealand (4.1%).

Locations in TNQ (21.8%) were the dominant destinations considered by respondents, followed by Sydney (9.6%). The next most popular destinations considered by respondents were grouped as Asia-Pacific islands (5.9%) and included locations such as Samoa, Fiji, Bali, Cook Islands, Hawaii, Guam, New Caledonia and Vanuatu. Islands located on the

Queensland coast (namely the Whitsundays; Fraser, Green, Fitzroy, Dunk, Hamilton and Lizard Islands) accounted for a further 5.7% of responses. Additionally, 5.0% of responses were for locations in Central Australia such as Alice Springs and Uluru.

Table 22: Other Destinations Considered

Destination	**Locations**	**Frequency (n = 661)**	***Percentage of Responses***
Tropical North Queensland (TNQ)	Region from Ingham to Cairns, including Atherton Tablelands, and West to Chillagoe	373	*21.8*
Sydney	"Sydney"	164	*9.6*
Asia-Pacific Islands	Samoa, Fiji, Bali, Cook Islands, Hawaii, Guam, New Caledonia, Vanuatu	101	*5.9*
Australian Islands	Whitsundays, Fraser Is., Green Is., Fitzroy Is., Dunk Is., Hamilton Is., Lizard Is.	97	*5.7*
Central Australia	Alice Springs, Uluru	85	*5.0*
Asia	China, Japan, Vietnam, Cambodia, Thailand, Korea, Nepal, Sri Lanka	81	*4.7*
Brisbane	"Brisbane"	73	*4.3*
Melbourne	"Melbourne"	70	*4.1*
New Zealand	"New Zealand", Auckland,	70	*4.1*
South East Queensland	Gold Coast, Sunshine Coast (incl. Noosa, Hervey Bay), Toowoomba	61	*3.6*
Western Australia	Exmouth, Broome, Kimberly's, Ningaloo Reef	54	*3.2*
Great Barrier Reef	"Great Barrier Reef"	50	*2.9*
New South Wales	Blue Mountains, Byron Bay, Newcastle	44	*2.6*
Cape York Peninsula	Cape York, Cooktown, Gulf of Carpentaria	44	*2.6*
North America	USA, Canada, Alaska	44	*2.6*
Darwin	"Darwin"	40	*2.3*
Perth	"Perth"	38	*2.2*
Europe/United Kingdom	France, Spain, Italy, Greece, Mediterranean, Scandinavia, Russia, Germany, Baltic countries	37	*2.2*
Townsville – Mackay Region	Townsville, Bowen, Mackay/Sarina	29	*1.7*
Northern Territory	Kakadu, Gove, Nhulunbuy	25	*1.5*
Tasmania	"Tasmania"	20	*1.2*
Adelaide	"Adelaide"	17	*1.0*
Victoria	Grampians, Murray River, Dandenong Ranges, Wilson's Promontory	11	*0.6*
Other Islands	Caribbean, Maldives, Mauritius, Tahiti, Dominican Republic	11	*0.6*
Africa and Middle East	Africa, Egypt, Tanzania	11	*0.6*
Central and Western Queensland	Rockhampton, Longreach, Charters Towers, Emerald, Biloela, Carnarvon Gorge	9	*0.5*
South America	Chile, Peru, Brazil	8	*0.5*
Other Queensland		3	*0.2*
South Australia	Victor Harbour	3	*0.2*
Hobart	"Hobart"	3	*0.2*
Other	Other destinations/Unidentifiable destinations	38	*2.2*
Total Responses		**1714***	***100.0***

** Total responses higher than n = 661 due to multiple responses allowed for the question.*

The three other destinations considered by the respondents were investigated further by identifying the 10 destinations with the highest responses (excluding TNQ) nominated by domestic and international visitors respectively. The domestic visitors' most popular destination considered for holidays were Asia-Pacific islands. Otherwise, all other destinations were located within Australia as listed below:

Domestic Visitors – Other Destinations (N = 288):

1. Asia-Pacific Islands (n = 62)
2. Western Australia (n = 34)
3. Cape York Peninsula/Gulf of Carpentaria (n = 31)
4. Great Barrier Reef (n = 29)
5. Australian Islands (n = 29)
6. South East Queensland (n = 25)
7. Townsville – Mackay region (n = 21)
8. Darwin (n = 18)
9. Northern Territory (n = 17)
10. New South Wales (n = 16)

International visitors, on the other hand, indicated they had considered a variety of destinations both within Australia and overseas. As shown in the list below, the most popular locations, namely Sydney, Australian islands, and Central Australia are iconic destinations for international tourists visiting Australia. Alternatively, Asia is a significant destination situated on the transition routes from both Europe and North America to Australia; therefore, it would be understandable for international tourists to consider this as an alternative or complementary destination while visiting Australia.

International Visitors – Other Destinations (N = 247):

1. Sydney (n = 106)
2. Asia (n = 53)
3. Australian islands (n = 51)
4. Central Australia (n = 47)
5. Brisbane (n = 43)
6. New Zealand (n = 42)
7. Melbourne (n = 42)
8. North America (n = 31)
9. South East Queensland (n = 25)
10. New South Wales (n = 23)

3.2.15 Rainforest Scenarios

The results for the three different rainforest scenario questions are presented in Table 23. The majority of respondents (82.9%) said they would still visit the rainforests even if they were not designated as World Heritage Areas. A significant proportion of visitors (68.9%) said they would still visit the Cairns region if there were no rainforests anywhere in the area, while a further 17.9% said they were unsure about visiting the area.

Additionally, respondents who said that they would not visit the region (n = 111) were asked where they would travel for their holidays instead of the Cairns region. The results revealed that 36.9% of respondents said they would travel elsewhere in Queensland, 34.2% would travel to another Australian state, and a further 19.8% said they would travel to another country. These results are comparable with the list of other destinations that visitors had considered travelling to for their holiday (see Table 8) where the highest responses were for destinations within Australia.

Table 23: Rainforest Scenarios

Scenarios	**n =**	**Yes**		**No**		**Unsure**	
		Frequency	***Percentage***	**Frequency**	***Percentage***	**Frequency**	***Percentage***
If rainforests not designated WTWHA, would you still visit?	826	685	*82.9*	32	*3.9*	109	*13.2*
If no rainforests in TNQ, would you still visit?	839	578	*68.9*	**111**	*13.2*	150	*17.9*
If not visit TNQ, where would you go on holidays:	**111**						
• Travel elsewhere in Queensland		41	*36.9*				
• Trave to Cairns region anyway		8	*7.2*				
• Travel to another Australian state		38	*34.2*				
• Travel to another country		22	*19.8*				
• Stay at home		2	*1.8*				

3.3 EXPENDITURE FACTORS

3.3.1 Visitor Nights

Visitors were asked to indicate exactly how many nights they had spent in the Cairns region (i.e. length of stay). Overall, the average amount of time visitors spent in the Cairns region was 7.36 nights.

The visitor nights were then grouped for easier analysis (see Table 24). The majority of visitors spent from 1 – 3 nights (20.5%) to 8 – 14 nights (20.6%) in the Cairns region. The visitor nights spent in the region, viewed according to the survey locations, revealed some variations in visitors' length of stay (see Table 24). The Lake Barrine visitors tended to spend more nights in the region with 40% staying 8 – 14 nights and a further 12.0% staying 15 – 21 nights. The visitors at the Cairns Airport tended to stay for 4 – 5 nights (31.8%) or 6 – 7 nights (24.%).

Table 24: Nights in Cairns Region

Nights	***Total Respondents****		***Percentage of Respondents per Locations***			
	Frequency	***Percentage***	***Lake Barrine***	***Mossman Gorge***	***Marrdja Boardwalk***	***Airport***
	n = 840		***n = 75***	***n = 213***	***n = 124***	***n = 233***
1 – 3 nights	166	*20.5*	*6.7*	***20.2***	*10.5*	***22.7***
4 – 5 nights	232	*28.6*	*18.7*	*19.2*	***24.2***	***31.8***
6 – 7 nights	193	*23.8*	*17.3*	***30.5***	***25.0***	***24.9***
8 – 14 nights	167	*20.6*	***40.0***	***24.9***	***25.0***	*16.7*
15 – 21 nights	35	*4.3*	***12.0***	*2.8*	*8.9*	*3.9*
More than 21 nights	17	*2.1*	*5.3*	*2.3*	*6.5*	-

**Ungrouped visitor nights: Mean = 7.36, Median = 6.0, Standard Deviation = 9.328, Min. = 0, Max. = 180.*

The length of stay in the Cairns region was separated into groups representing domestic and international visitors to investigate any differences between origins. As displayed in Table25 domestic visitors (M = 8.0) tended to stay for slightly longer periods than international visitors (M = 6.95).

Table 25: Domestic and International Visitor Nights

Visitor Nights	Domestic*		International**	
	Frequency	***Percentage***	**Frequency**	***Percentage***
1 – 3 nights	55	*15.3*	100	*24.4*
4 – 5 nights	78	*21.7*	141	*34.5*
6 – 7 nights	103	*28.7*	82	*20.0*
8 – 14 nights	102	*28.4*	56	*13.7*
15 – 21 nights	13	*3.6*	21	*5.1*
More than 21 nights	8	*2.2*	9	*2.2*
Total Responses	**359**	***100.0***	**409**	***100.0***

**Ungrouped Domestic Visitor Nights: Mean = 8.0, Median = 7.0, Standard Deviation = 10.256, Min. = 0, Max. = 180.*

***Ungrouped International Visitor Nights: Mean = 6.95, Median = 5.0, Standard Deviation = 8.846, Min. = 1, Max. = 103.*

A more in-depth analysis of visitor nights was conducted with the results shown in Table 26, representing the average visitor nights spent in the Cairns region by domestic and international places of origin. It would appear that for domestic visitors, the further the distance travelled to the Cairns region, the longer the stay in the area. International visitors' length of stay, however, varied between countries of origin (see Table 26). Visitors from the United Kingdom stayed longer in the region (M = 7.01 nights), while those visitors from North America (M = 4.81) and Asia (M = 3.59) stayed for much shorter periods in the Cairns region.

Table 26: Average Visitor Nights by Origin

Visitor Origin		Average Visitor Nights in Cairns
Domestic	South Australia	8.77
	Western Australia	8.23
	Tasmania	8.00
	Northern Territory	8.00
	Victoria	7.49
	New South Wales	7.21
	Other Queensland	6.01
International	United Kingdom	7.01
	Germany	6.34
	New Zealand	6.17
	Europe (excluding Germany)	5.72
	North America	4.81
	Asia	3.59

3.3.2 Nights Away from Home

Visitors were also asked to indicate how many nights they would spend away from home during this holiday to the Cairns region. These results (shown in Table27) were grouped for ease of analysis into weekly- and monthly-based groups.

Table 27: Nights Away from Home

Nights	**Total Respondents**		**Percentage of Respondents per Locations**			
	Frequency	***Percentage***	**Lake Barrine**	**Mossman Gorge**	**Marrdja Boardwalk**	**Airport**
	n = 832		**n = 75**	**n = 213**	**n = 124**	**n = 233**
Up to 1 week	237	***28.5***	*6.7*	*20.2*	*10.5*	*22.7*
More than 1 week, but less than 2 weeks	200	***24.0***	*18.7*	*19.2*	*24.2*	***31.8***
More than 2 weeks, but less than 3 weeks	119	*14.3*	*17.3*	***30.5***	*25.0*	***24.9***
More than 3 weeks, but up to 4 weeks	98	*11.8*	***40.0***	***24.9***	*25.0*	*16.7*
More than 4 weeks, but less than 6 months	126	*15.1*	***12.0***	*2.8*	***8.9***	*3.9*
More than 6 months	52	*6.3*	*5.3*	*2.3*	***6.5***	-

**Ungrouped nights away from home: Mean = 45.0, Median =14.0, Mode = 7.0, Standard Deviation = 93.6, Min. = 1, Max. = 1200.*

Initially, the results revealed an unusual, if not anomalous, factor in visitors' overall holiday times. The mean number of nights away from home was 45, which would appear to be exceptionally high for conventional holiday times. Further analysis revealed that there were 28 respondents who indicated spending 365 days or more away from home. These results were checked against the visitors' origin, age groups and nights in Cairns. This analysis revealed that these responses represented domestic interstate visitors (n = 4) and international visitors (n = 24), mainly in the 20 – 39 year old age groups (n = 16), who would appear to be on extended holidays but spending various numbers of nights in the Cairns region.

This result is acceptable, since there are niche tourism markets in the Cairns region that exhibit these particular visitor characteristics. For example, there are international visitors who are travelling on either student or working holiday visas, which, in the current project accounted for 11.7% of the total respondents (see Table 6 in Section 3.2.4). Additionally,

there are domestic 'around Australia' and 'retirees' visitors who tend to spend considerable lengths of time away from home and use private or rented vehicles as their main form of transport (Tourism Queensland, 2005a).

Overall, 52.5% of visitors spent up to 2 weeks away from home during their holidays. The remaining visitors spent a variety of time periods, with 26.1% spending more than 2 weeks but less than 4 weeks away from home. A further 15.1% spent more than 4 weeks but less than 6 months away from home during this holiday. The length of stay in the Cairns region was crosstabulated with the total length of time spent away from home, in order to gauge how much of visitors' total holiday time was actually dedicated to the Cairns region. The results, displayed in Table 28 and Figure 5 revealed a number of variations in visitors' holiday patterns. Closer analysis of the results revealed that the majority of visitors spent up to 7 nights in the Cairns region during their total time away from home. Additionally, slightly less than half (49.5%) of the visitors who were away from home for more than one week, but less than 2 weeks, spent all of their holiday time in the Cairns region.

Table 28: Nights in Cairns Region by Nights Away from Home

Nights in Cairns		**Nights Away from Home**						
		Up to 1 week	**More than 1 week, Up to 2 weeks**	**More than 2 weeks, Up to 3 weeks**	**More than 3 weeks, Up to 1 month**	**More than 1 month, less than 6 months**	**More than 6 months**	**Total**
1 – 3 Nights	Frequency	61	26	22	32	18	7	**166**
	% of Nights Away	*27.0*	*13.5*	*19.1*	*34.0*	*14.5*	*14.6*	*20.8*
4 – 5 Nights	Frequency	85	40	40	26	31	7	**229**
	% of Nights Away	*37.6*	*20.8*	*34.8*	*27.7*	*25.0*	*14.6*	*28.7*
6 – 7 Nights	Frequency	80	31	22	16	27	15	**191**
	% of Nights Away	*35.4*	*16.1*	*19.1*	*17.0*	*21.8*	*31.3*	*23.9*
8 – 14 Nights	Frequency	-	95	21	10	26	11	**163**
	% of Nights Away	-	*49.5*	*18.3*	*10.6*	*21.0*	*22.9*	*20.4*
15 – 21 Nights	Frequency	-	-	10	6	12	5	**33**
	% of Nights Away	-	-	*8.7*	*6.4*	*9.7*	*10.4*	*4.1*
More than 21 nights	Frequency	-	-	-	4	10	3	**17**
	% of Nights Away	-	-	-	*4.3*	*8.1*	*6.3*	*2.1*
Totals	**Frequency**	**226**	**192**	**115**	**94**	**124**	**48**	**799**

In Figure 6, it is clear that longer times spent away from home allow for longer stays in the Cairns region. However, it appears that regardless of the length of stay, very few visitors spend more than 14 nights in the Cairns region (6.2%).

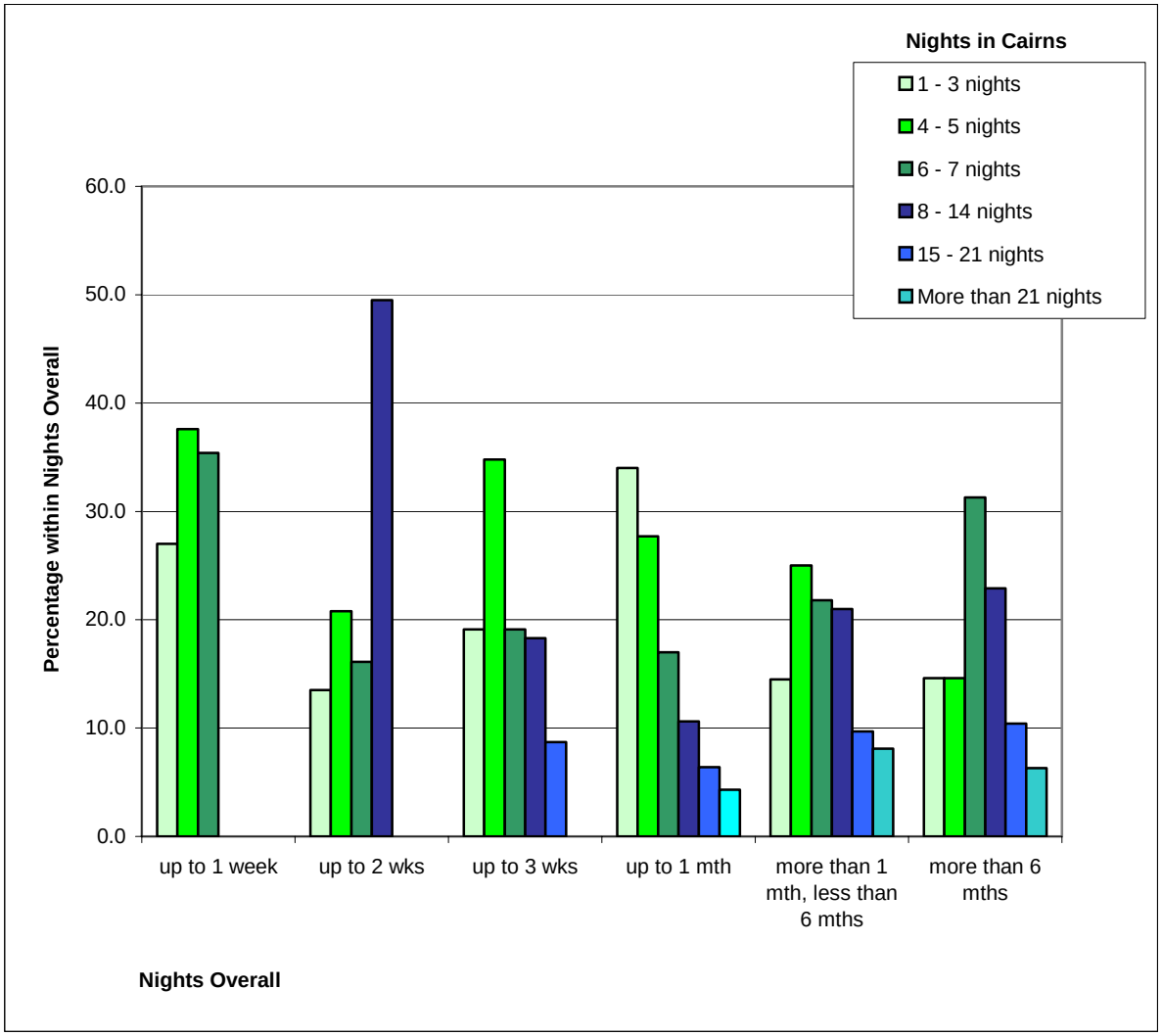

Figure 6: Nights in Cairns by Nights Overall

The number of adults and children that were budgeted for by visitors were also recorded in the survey (see Table 29). The majority of visitors' budgets included either 2 adults (60.8%) or 1 adult (30.1%) and 1 child (55.9%) or 2 children (22.9%). These results are comparable to visitors' travel party (See Table 8 in Section 3.2.5) where respondents indicated they were mainly travelling as couples (50.7%), with friends (17.5%), with family (14.6%) or alone (10.3%).

Table 29: Adults and Children in Budget

Number of Adults and Children	Adults (n = 724)		Children (n = 59)	
	Frequency	***Percentage***	**Frequency**	***Percentage***
1	218	*30.1*	33	*55.9*
2	440	*60.8*	20	*33.9*
3	30	*4.1*	4	*6.8*
4	24	*3.3*	2	*3.4*
5	4	*0.6*	-	-
6	7	*1.0*	-	-
10	1	*0.1*	-	-

3.3.3 Holiday Budget and Expenditure

The overall holiday budget for visitors is displayed in Table 30. The majority of visitors (61.4%) budgeted between $500 and $3000 for their holiday.

Table 30: Overall Budget

Budget Amount	Frequency (n = 667)	*Percentage*
Under $100	7	*1.0*
$101 - $500	52	*7.8*
$501 - $1000	**139**	***20.8***
$1001 - $2000	**157**	***23.5***
$2001 - $3000	**114**	***17.1***
$3001 - $4000	48	*7.2*
$4001 - $5000	41	*6.1*
$5001 - $6000	29	*4.3*
$6001 - $10,000	60	*9.0*
Over $10,000	20	*3.0*

The expenditure estimate calculations necessitated establishing the average and median expenditure by visitors based on the time spent in the study region. Median total expenditure was included as it reflects what the typical visitor spends. Median figures are lower than the average due to big spenders who inflate the average. Table 31 indicates the mean and median budgeted expenditure per person for the overall sample and for respondents based on origin.

Table 31: Holiday Budget per Person per Day

TOTAL SAMPLE (Domestic + International Visitors)			
Budget – Mean	$3270		
Budget – Median	$2000		
Persons included in budget	3.45	Budget per person =	$947.83
Nights in Cairns region	6.43		
DOMESTIC VISITORS			
Budget – Mean	$2794		
Budget – Median	$2000		
Persons included in budget	3.46	Budget per person =	$807.51
Nights in Cairns region	7.13		
INTERNATIONAL VISITORS			
Budget – Mean	$3859		
Budget – Median	$2000		
Persons included in budget	3.5	Budget per person =	$1,102.57
Nights in Cairns region	5.89		

The respondents were asked to indicate how much they had spent on their package holiday. The results, shown in Table 32, revealed that package holiday costs varied from under $500 up to $40,000. The majority of respondents had paid between $500 and $3000 for their holiday packages to the Cairns region. While the results show that the percentage of responses decreased as the package holiday price increased, there was a slight increase in the responses for the $5000 - $10,000 holiday package cost (11.9%).

Table 32: Holiday Package Cost

Holiday Package Cost	**Frequency** ***(n = 151)***	***Percentage***
$1 - $500	11	*7.3*
$501 - $1000	**28**	***18.5***
$1001 - $1500	**20**	***13.2***
$1501 - $2000	**25**	***16.6***
$2001 - $3000	**23**	***15.2***
$3001 - $4000	13	*8.6*
$4001 - $5000	5	*3.3*
$5001 - $10,000	**18**	***11.9***
$10,001 - $40,000	8	*5.3*

Visitors were asked to indicate from a list of holiday package inclusions, what items were included in their holiday package. Slightly over one third of the visitors had accommodation

(31.8%) included in their package, with a further 27.0% having return airfares, and 22.9% tours and attractions included in their package (see Table 33).

Table 33: Holiday Package Inclusions

Holiday Package Inclusions	Frequency	*Percentage*
Accommodation	164	*31.8*
Return Airfares	139	*27.0*
Tours and Attractions	118	*22.9*
Meals	81	*15.7*
Other	13	*2.5*
Total Responses	**515**	***100.0***

The holiday package inclusions were crosstabulated with total holiday budgets to investigate the proportions. Accommodation (31.9%) represented the highest portion of visitors' overall budgets (see Table 34). Those visitors whose budget was $101-$500 (38.9%), $2001-$3000 (34.9%), $3001-$4000 (37.8%), and $4001-$5000 (37.5%) had slightly higher percentages than the overall total for accommodation included in their packages. The next highest percentage of package inclusions was return airfares (27.7%). Return airfares were somewhat lower than the overall percentage for those visitors whose budget was under $100 (18.2%) and $101-$500 (16.7%).

Table 34: Holiday Package Inclusions by Overall Holiday Budget

Holiday Package Inclusions	Frequency and Percentage of Budget	Overall Holiday Budget										
		Under $100	$101-$500	$501-$1000	$1001-2000	$2001-$3000	$3001-$4000	$4001-$5000	$5001-$6000	$6001-$10,000	Over$10,000	*Total*
Accom.	Frequency	3	7	25	31	22	17	9	3	16	8	**141**
	% of Budget	*27.3*	*38.9*	*30.1*	*30.4*	*34.9*	*37.8*	*37.5*	*21.4*	*30.2*	*28.6*	*31.9*
Return Airfares	Frequency	2	3	24	28	18	15	6	4	14	8	**122**
	% of Budget	18.2	16.7	28.9	27.5	28.6	33.3	25.0	28.6	26.4	28.6	*27.7*
Tours and Attractions	Frequency	3	4	21	27	12	8	5	2	12	6	**100**
	% of Budget	*27.3*	*22.2*	*25.3*	*26.5*	*19.0*	*17.8*	*20.8*	*14.3*	*22.6*	*21.4*	*22.7*
Meals	Frequency	3	2	12	14	10	5	4	1	11	4	**66**
	% of Budget	*27.3*	*11.1*	*14.5*	*13.7*	*15.9*	*11.1*	*16.7*	*7.1*	*20.8*	*14.3*	*15.0*
Other	Frequency	0	0	2	1	2	1	0	0	4	2	**12**
	% of Budget	*0.0*	*0.0*	*2.4*	*1.0*	*3.1*	*2.2*	*0.0*	*0.0*	*0.1*	*7.1*	*2.7*
Total	Frequency	**11**	**16**	**84**	**101**	**64**	**46**	**24**	**10**	**57**	**28**	**441**
	% of Budget	*2.5*	*3.6*	*19.0*	*22.9*	*14.5*	*10.4*	*5.4*	*2.3*	*12.9*	*6.3*	*100.0*

Tours and attractions were included in 22.7% of visitors' overall holiday budgets. The numbers of visitors with tours and attractions included were slightly higher for those with budgets in the under $100 (27.3%), $501-$1000 (25.3%), and $1001-$2000 (26.5%) holiday budgets. The visitors whose budget was $5001-$6000 (14.3%) had the lowest percentage for tours and attractions included in their packages.

The accommodation budget indicated by visitors was considered important in calculating the financial values of tourism in the WTWHA. Table 35 displays the accommodation amount that visitors included in their overall budgets. Overall, 31.3% of visitors budgeted under $400 for their accommodation and a further 28.1% budgeted between $501 and $1000.

Table 35: Accommodation Budget

Budget Accommodation	***Total Respondents* (n =565)**		***Percentage for Grouped Responses***
	Frequency	***Percentage***	
$1 - $100	41	*7.3*	***31.3***
$101 - $200	51	*9.0*	
$201 - $300	50	*8.8*	
$301 - $400	35	*6.2*	
$401 - $500	57	*10.1*	***10.1***
$501 - $600	33	*5.8*	***28.1***
$601 - $700	23	*4.1*	
$701 - $800	39	*6.9*	
$801 - $900	8	*1.4*	
$901 - $1000	56	*9.9*	
$1001 - $2000	107	*18.9*	***18.9***
$2001 - $3000	37	*6.5*	***11.5***
$3001 - $4000	13	*2.3*	
$4000 - $15,000	15	*2.7*	

The amount budgeted for accommodation (grouped for ease of analysis) was crosstabulated with the number of nights spent in the Cairns region in order to investigate any patterns between the variables. The obvious rule is that the longer the stay, the higher the amount spent on accommodation.

The results, shown in bold in Table 36 reveal that this is not necessarily the case for the visitors surveyed in this study. The visitors whose accommodation budget was under $500 tended to stay either 1-3 nights, or 4-5 nights in the Cairns region. For those visitors whose accommodation budget was ranged from $501 to $15,000 the length of stay in the Cairns region was 4-5 nights, 6-7 nights or 8-14 nights. This result is acceptable when compared to the total visitor nights spent in the Cairns region (see Table 10) that indicated an overall average of 7.36 nights.

Table 36: Accommodation Budget by Nights in Cairns Region

Nights in Cairns Region	Frequency and Percentage of Accommodation Budget	Budget Accommodation (Grouped Responses)					
		$1 - $400	$401- $500	$501 - $1000	$1001 - $2000	$2001 - $15,000	Total
1 – 3 nights	Frequency	54	12	24	4	6	**100**
	% of Accom Budget	***31.2***	***21.1***	*15.6*	*4.0*	*9.4*	*18.3*
4 – 5 nights	Frequency	58	26	43	23	16	**166**
	% of Accom Budget	***33.5***	***45.6***	***27.9***	***23.2***	***25.0***	*30.3*
6 – 7 nights	Frequency	31	6	46	32	21	**136**
	% of Accom Budget	*17.9*	*10.5*	***29.9***	***32.3***	***32.8***	*32.8*
8 – 14 nights	Frequency	20	11	34	35	12	**112**
	% of Accom Budget	*11.6*	*19.3*	***22.1***	***35.4***	***18.8***	*20.5*
15 – 21 nights	Frequency	6	1	6	5	6	**24**
	% of Accom Budget	*3.5*	*1.8*	*3.9*	*5.1*	*9.4*	*4.4*
More than 21 nights	Frequency	*4*	*1*	*1*	-	*3*	*9*
	% of Accom Budget	*2.3*	*1.8*	*0.6*	-	*4.7*	*1.6*
Total	**Frequency**	**173**	**57**	**154**	**99**	**64**	**547**
	% of Total	*31.6*	*10.4*	*28.1*	*18.1*	*11.7*	*100.0*

The respondents were asked if they had travelled to the WTWHA location on a package tour bus/coach. Overall, 269 respondents said they had travelled to the location using this method of transport. This represents 44.5% of the total number of visitors who were surveyed at WTWHA locations (n = 604).

Additionally, visitors were asked to include the amount they had spent on the package tour to the WTWHA location. The results indicate that while 269 respondents said they travelled to the WTWHA locations on package tour bus, only 177 respondents elected to include the amount they had paid for the package tour in the survey. However, this is understandable, considering some visitors specified to the interviewers that they do not wish to provide this level of information in the survey.

The amounts that visitors paid for their package tour to the WTWHA locations are shown in Table 37. The majority of visitors had paid under $500, with 37.3% paid $101 - $500, a further 28.2% had paid $51-$100 and 14.7% had paid under $50. These results suggest that visitors were on either half or full day trip packages, consistent with the length of time that visitors spent at each of the locations which was predominantly 1-3 hours or 6-12 hours (see Table 18, Section 3.2.12).

Table 37: Packaged Tour Cost

Tour Cost	**Frequency (n = 177)**	***Percentage***
$1 - $50	26	*14.7*
$51 - $100	50	*28.2*
$101 - $500	66	*37.3*
$501 - $1000	14	*7.9*
More than $1000	21	*11.9*

Visitors were asked if they had planned to spend less, about this amount, or more on their holiday to the TNQ region. This question represented a simple method of verification of visitors' estimates of their budget expenditure that they had previously been asked to indicate in the survey. The results, shown in Table 38, indicate that the majority of visitors (77.0%) indicated they had planned to spend 'about this amount' on their holiday. Very few visitors had planned to spend more (9.3%) or less (13.7%) on their holiday. A substantial proportion of visitors at Marrdja Boardwalk (42.3%) said they had planned to spend less on their holiday.

Table 38: Planned to Spend

Package Cost	***Total Respondents***		***Percentage of Respondents per Locations***			
	Frequency	***Percentage***	***Lake Barrine***	***Mossman Gorge***	***Marrdja Boardwalk***	***Airport***
	n = 161		**N = 73**	**n = 27**	**n = 26**	**n = 58**
Less	22	*13.7*	*18.2*	*11.1*	*42.3*	*3.4*
About this amount	124	*77.9*	*81.8*	*81.5*	*53.8*	*81.0*
More	15	*9.3*	-	*7.4*	*3.8*	*15.5*

4.0 VALUE OF TOURISM

4.1 INTRODUCTION

Calculation of the economic contribution of tourism in the WTWHA required calculation of the total value of tourism in the Far North Queensland Region and from that figure an estimation of the economic contribution of the WTWHA. Driml (1998) noted that ideally, financial estimates should include a range of economic factors including net economic benefits, indirect expenditure, consumer surplus, and other associated costs and benefits of tourism in protected areas. However, the time, budget and availability of the data required to achieve such ideal objectives are often outside the parameters of projects of this nature. In these cases it is adequate to provide only indicative estimates of economic activity (Driml, 1998). Given the limited range of secondary data that was available, key calculations made in this report are based on this report's survey findings. The formulas used in this report are:

(1) Total Annual Visitor Expenditure
(2) Economic Contribution of Tourism
(3) Substitution Factor

4.2 CALCULATIONS AND DATA TREATMENT

4.2.1 Total Annual Visitor Expenditure

Total Annual Visitor Expenditure

Total Visitor Nights in TNQ X Average Expenditure per Person per Day

Figure 7: Total Annual Visitor Expenditure

The total annual visitor expenditure for the study region (see Figure 6) was calculated from data derived from the Rainforest Visitor Survey and visitor numbers calculated from the National Visitor Survey (NVS) and International Visitor Survey (IVS) data. The survey asked respondents to indicate their overall budget for their travel party (including airfares) they had allocated for their holiday in the TNQ region only. Additionally, since this figure represented their budget estimation as opposed to actual expenditure, they were also asked to indicate how much they had spent in terms of 'more, less or about the same', which served to

validate their expenditure amount. The Rainforest Visitor Survey also asked respondents to indicate the number of adults and children who were included in their holiday budget and the number of nights they spent in the study region only.

It should be noted that in some of the other economic value studies (such as Access Economics Pty. Ltd., 2005), the preferred approach for calculating direct visitor expenditure in the study region is to distinguish between attributable and non-attributable 'out of destination' expenditure, such as airfares. As it was not possible to disaggregate all of the items in visitors' expenditures (namely airfares, commissions, etc.), expenditure data used in this report includes all items of visitor expenditure as a whole. As a consequence, the estimate of economic value is at a national level rather than solely at a destination level.

The data for the number of nights spent in the Cairns region was recoded to mitigate the effects of 'outliers', that is, extraneous numbers that represent extreme values. The outliers in this study were identified as TNQ rainforest visitors (2.1%) who indicated they were staying in the region for more than 21 nights extending to 365 nights. Respondents in this category were generally represented by international visitors on working/study visas, or domestic visitors on extended 'around Australia' trips. Consequently, these visitors were not included in the economic data calculations. After deleting the outliers, the overall average length of stay was calculated as 7.36 visitor nights; 8.0 nights for domestic visitors; and 6.95 nights for international visitors. These survey results were compared with data published by Tourism Queensland (2006) for the region and were found to be within the lower and upper limits of the average visitor nights for both domestic and international visitors.

Total Annual Visitor Expenditure

13,571,044 Visitor Nights TNQ X $147.41 per Person per Day = $2,000,464,934

Figure 8: Total Annual Visitor Expenditure

The estimated total annual visitor expenditure was calculated from data collected in the Rainforest Visitor Survey. As shown in Figure 7, the estimated total annual visitor expenditure for the region is slightly over $ 2 billion. This figure is compatible with the NVS and IVS total annual visitor expenditure for the region (also calculated on a national level), which was reported as being $1.956 billion in 2005 (Tourism Queensland, 2006). The compatibility between the findings of this research and the findings reported by Tourism

Queensland (2006) on total visitor expenditure give the findings of this research a high confidence level.

4.2.2 Economic Contribution of Tourism

Total Visitor Expenditure

Number of Person Visits to WTWHA X Average Expenditure per Person X Average Time in WTWHA

Figure 9: Economic Contribution of Tourism Calculation

The estimated contribution of tourism in the WTWHA was calculated using the formula outlined in Figure 8. A number of limitations were encountered when calculating the contribution factor, the most significant of which was the lack of up-to-date estimates on visitor numbers in the WTWHA. As previously discussed the origins of visitors were: from the local region (37.9%), from overseas (34.8%), and domestic/national visitors (27.3%) (Bentrupperbaumer, et.al., 2004). Many of these visits represented multiple entries as tourists visited more than one location in the WTWHA. After taking out visits by local residents (1,762,350 visits) and deflating the remaining number of visits by the average number of visits per tourist based on the results of this survey (M = 3.17), the total number of rainforest visitors was calculated to be 910,931 tourists. Given the number of tourists who visit the TNQ region each year (2.2 million) and the significance of the rainforest as an attraction in the region as indicated by 85% of visitors who stated it is one of the region's key strengths (Tourism Queensland, 2006), the estimates by Bentrupperbaumer et.al. (2004) may to be very conservative, and have not been up-scaled to give a 2006 visitor profile. However, for the purposes of this research, and given the absence of any other reliable visitor numbers, the estimates developed by Bentrupperbaumer et.al. (2004) along with the number of locations per visitor found in the current research were used for calculating the economic value of the WTWHA.

Because the Rainforest Visitor Survey did not specifically attempt to survey respondents who lived in the study area, this group of respondents (3.1%) was not included in the economic calculations. The formula used to calculate total visitors was to subtract local residents from Bentrupperbaumer, et.al., (2004) estimated number of visits to the park, then divide the average number of visits per respondent to the Rainforest Visitors survey (3.17) into the total

visits by domestic and international visitors giving total visitor numbers excluding locals of 910,931.

The time spent in the WTWHA was estimated from respondent's estimation of the time they had sent in the park and was expressed as hours and days. The formula used to calculate time spent in the WTWHA was: stays of up to 5 hours in the WTWHA are counted as half days; more than 5 hours but not overnight at the locations were considered as a full day.

Economic Contribution Value

910,931 WTWHA Domestic and International Visitors X $147.41 per Person per Day X 3.17 Days in WTWHA per Person

= $425,659,409

Figure 10: Economic Contribution Value

The economic contribution factor (see formula in Figure 9 above) represents the estimated visitor expenditure that can be attributed directly to the WTWHA. The estimated value of national and international visitation to the WTWHA is almost $426 million. In overall terms the estimated expenditure generated by visitation to the WTWHA represents 21.8% of all direct expenditure by tourists in the study region.

It should be noted that the authors consider this value to be a conservative estimate for several reasons. Firstly, this estimate does not include local resident expenditure in the WTWHA. While local residents do not incur the high levels of expenditure required by other tourists to travel to the WTWHA, they contribute financially to the WTWHA in other ways, such as food and beverage, and fuel purchases, etc. in the area. In overall terms this can be expected to be in the low tens of millions of dollars. Secondly, indirect expenditure or multiplier effects of visitor expenditure in the region were not included in these calculations. Finally, as discussed in the previous section, the visitor numbers in the WTWHA are only an estimate. An exact count of visitors and the number of days they spend in the WTWHA would provide a more accurate result.

4.2.3 Substitution Factor

Total Substitution Value

Total Attributable Visitor Expenditure X Substitution Factor (%)

Figure 11: Substitution Value Calculation

The Substitution Value (See Figure 10) represents the estimated value of visitors' expenditure that would occur if respondents had substituted another destination for the TNQ region. The basis of this substitution is the extraction of the rainforest as an attraction for the region. The Rainforest Visitor Survey asked visitors to consider if they would still visit the study area in the absence of any forests. The question allowed for three responses – "No", "Yes", and "Unsure". Additionally, visitors who responded with "No" were asked to indicate where would they otherwise go on their holiday.

Total Substitution Value = $425,659,409 X 13.2% = $56,187,042

Potential Substitution ("Unsure") Value = $425,659,409 X 17.9% = $76,193,034

Figure 12: Total and Potential Substitution Value

The substitution value represents the percentage of visitor expenditure that is attributable to WTWHA visitation that would otherwise have not occurred if the WTWHA rainforest did not exist in the TNQ region. This value was calculated for visitors who responded with a "No" (13.2%) as well as those who said they were "Unsure" (17.9%) if they would still visit the region, should there be no WTWHA rainforest. The total substitution value was slightly over $56 million, with a further $76 million representing potential substitution of the destination. The combination of estimated substitution values leads to a potential overall loss of slightly over $132 million from the tourism economy.

5.0 DISCUSSION

This report aimed to update the estimation of the value of tourism in the WHA. In addition, the report briefly considered a range of methods and/or models that may be used to estimate the financial contribution of tourism to natural areas such as the Wet Tropics World Heritage Area. Finally the report developed a profile of tourists, but excluding local residents visiting the WTWHA.

5.1 ESTIMATES OF THE ECONOMIC VALUE OF TOURISM

The current estimate was based on an estimate of total holiday expenditure and the time tourists spent in the WTWHA. Based on the findings of this report, the direct economic contribution of tourism in the WTWHA is estimated to be $426 million. This figure represents an increase of $49 million on the first estimate made by Driml in 1994, which reported the value of tourism to be $377 million. As previously discussed, the results of this study and that of Driml (both in 1994 and 1997a) are not directly comparable because estimations were made using different methods and data sources.

The estimate of economic contribution made in this report is considered to be conservative because of previously discussed concerns that visitor numbers may have been underestimated. Compared to a number of previous reports, multipliers were not estimated and expenditure attributable to local residents was not included in this report's calculation. Finally, there may be some degree of under- or over-estimation of tourism's economic contribution because the survey was not undertaken over a 12-month period. Surveys conducted over a 12-month period are able to record seasonality and changes in market segments to be identified and factored into the research (see Section 2.4: Limitations for further explanation). A future revision of total visitor numbers including local residents is expected to show that the estimated economic value of tourism in the WTWHA is somewhat higher than estimated in this report.

5.2 SUBSTITUTION VALUE

The substitution factor result showing that 68.9% of visitors said they would still visit the TNQ region if there were no rainforests in the study area is particularly interesting. This result implies that there is a significant 'other' attraction that visitors have to the region, that is arguably more appealing and which compels visitors to holiday in the region. A possible explanation is that the Great Barrier Reef is the primary attraction of the TNQ region. Based

on these findings it appears that in the absence of the WTWHA, the Great Barrier Reef would continue to arouse sufficient interest to continue to attract significant visitor numbers to the TNQ region. There is insufficient data to calculate the levels of substitution and interaction between these attractions. Further research focusing on these factors is necessary.

5.3 WTWHA VISITOR PROFILE

The demographics and other characteristics of the WTWHA visitors in this study are analogous to those found at the same locations by Bentrupperbaumer in 2002. Overall, these WTWHA visitors indicated a strong association with nature-based tourism. For example, rainforest visitor's survey found that visiting the Great Barrier Reef, rainforests and experiencing the natural environment were the dominant features of the destination. Similarly, the high levels of importance that visitors placed on visiting National Parks while on holidays indicated they were nature-based visitors. Additionally, domestic and international visitors spent approximately half of their time (M = 3.17 days) in the WTWHA out of their overall holiday time in the TNQ region. On a different level, WTWHA visitors also appeared to be strongly attracted to nature-based destinations overall. This was evident in their other locations they considered as potential alternative holiday destinations. These visitor characteristics are worthy of further exploration in future studies.

6.0 CONCLUSION

This report has updated the estimates of the financial value of tourism in the Wet Tropics World Heritage Area, excluding the financial contribution of local residents. It also reports on the profile of current visitors to particular locations in the WTWHA.

6.1 Methodological Factors

As previously noted, accurate calculations of the economic value of tourism in protected areas required a considerable volume of data beyond that which can be collected through a survey of the nature used in this study. To enhance the value of research of this nature other data is required including:

- Accurate estimates of total visitor numbers to WTWHA locations based on locals and others (i.e. non-resident domestic and international visitors),
- The use of CGE models,
- Estimates of protected area expenditure by local residents, and
- Disaggregation of airfares and other holiday expenditure that occurred outside of the region of the study's focus.

6.2 Future Research

The study team is undertaking a new study of WTWHA visitation that will include visitor travel patterns throughout the region over a 12-month period. One objective of this study will be to develop a new estimate of visitor numbers in the WTWHA. Others objectives include flow patterns, seasonality and segmentation. Additionally, this study will also examine the question of substitutability of both the WTWHA rainforest and of the GBR. The results of this study will be published in early 2008.

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APPENDIX A: RAINFOREST VISITOR SURVEY

Cairns Rainforest CRC Visitor Survey

James Cook University (JCU) and The Rainforest Cooperative Research Centre (CRC) are investigating the economic and financial values of tourism in the Wet Tropics World Heritage Area. The last estimation of the economic value of tourism and recreation within the Wet Tropics World Heritage Area (WTWHA) was undertaken in 1997. This estimation now requires updating and revision using more recent calculations of visitor numbers and methods not available previously.

In order to achieve these objectives, JCU and the Rainforest CRC require up to date information about visitors to the Wet Tropics World Heritage Area. Your participation in providing this information would be greatly appreciated.

The attached survey is voluntary, anonymous and completely confidential. We do not require any of your personal details in this survey. The survey should take approximately 10 minutes to complete.

PLEASE DETACH AND RETAIN THIS INFORMATION PAGE ONLY FOR YOUR FUTURE REFERENCE.

If you would like to discuss this project in more detail, please contact the Project Manager. Alternatively, if you would like to discuss any ethical matters regarding this project, please contact the Ethics Officer.

Project Manager:

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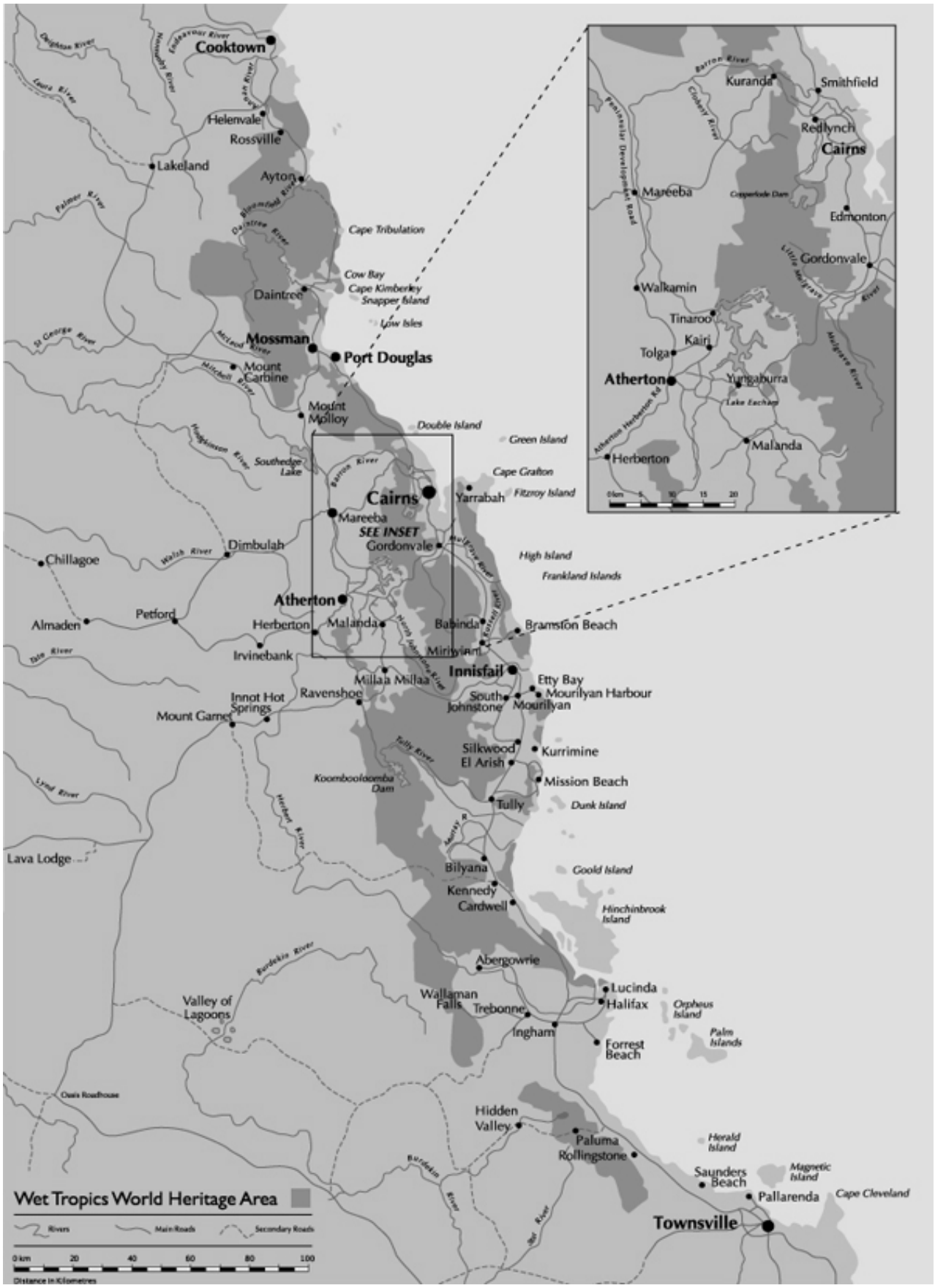
MAP OF WET TROPICS WORLD HERITAGE AREA



Map Source: http://www.wettropics.gov.au/mwha/mwha_branding.html

IMPORTANT!

PLEASE COMLETE ANSWERS BY FILLING IN THE CIRCLES LIKE THIS → •

1. Is this your first visit to the Cairns region? ○ Yes ○ No

2. Please indicate how you mainly travelled to Cairns:

○ Private vehicle ○ Rented vehicle ○ Air ○ Rail ○ Bus/coach ○ Other _____

3. What is your main type of transportation around the Cairns region?

○ Private vehicle ○ Packaged bus/coach tour ○ Rented car/4WD
○ Rented campervan/caravan ○ Sunbus (City bus service) ○ ○ Rail
○ Other transport – please specify: _____

4. How did you travel to this location today?

○ Packaged tour bus/coach ○ Private/rented vehicle ○ Bicycle/Walking ○Other:

If Packaged tour, how much did this tour cost? AU$ _____

5. How many nights do you intend spending in the Cairns region? Nights:

6. Overall, how many nights will you be away from home during this holiday (including nights in Cairns region)? Nights _____

7. What is the main type of accommodation you are staying in/will stay in during your visit to the Cairns region (i.e. the accommodation where you are staying for the longest time):

○ Hotel/Motel ○ Resort ○ Holiday Apartment/Unit ○ Backpackers hostel
○ Caravan park/cabin ○ Camping ○ Bed and Breakfast ○ Friends/Relatives

8. Where is your main accommodation located (i.e. town/city)? _____

9. Where did you find out the most information about the Cairns region?
(Please choose only one)
○ Internet ○ Tourist guide books ○ Friends/family ○ Advertisements
○ Travel agent ○ Television documentary ○ Visitor information centres
○ Other (please specify)

10. Which of the following best describes your approach to planning this trip?
(Please choose only one)
○ I chose an already organised package tour
○ I organised most of my itinerary before I started the trip
○ I had planned some of my itinerary before I started the trip
○ I used information I obtained upon arrival to plan most of my itinerary
○ Most of my plans and decisions are made from day to day

11. Please list up to three other destinations you considered travelling to while you were planning your current holiday.

(1) _____ (2) _____ (3) _____

12. Overall, how satisfied are you with your holiday in North Tropical Queensland (Cairns)?

○ Very satisfied ○ Satisfied ○ Unsatisfied ○ Very unsatisfied

13. Would you recommend Cairns to prospective visitors?

○ No ○ Yes ○ Unsure

14. Please indicate how important each of these features were in making your decision to visit the Cairns region:

	Very Important	**Important**	**Neither Important/ Unimportant**	**Unimportant**	**Not Important At All**
Visit the Great Barrier Reef	○	○	○	○	○
Visit the rainforest	○	○	○	○	○
See Australian wildlife	○	○	○	○	○
Experience Aboriginal culture	○	○	○	○	○
Climate	○	○	○	○	○
The price matched my budget	○	○	○	○	○
Experience the natural environment	○	○	○	○	○
Rest and relax	○	○	○	○	○
Snorkelling and diving	○	○	○	○	○
Spend time with my family	○	○	○	○	○
Meet new people	○	○	○	○	○
Visit islands and/ beaches	○	○	○	○	○
Visiting friends and relatives	○	○	○	○	○
Experience the outback	○	○	○	○	○
Go shopping	○	○	○	○	○
Special Event	○	○	○	○	○
Business	○	○	○	○	○
Conference or meeting	○	○	○	○	○

15. Below is a list of areas that contain Wet Tropics World Heritage rainforest locations.
A. Please indicate which rainforest areas you have visited and/or intend to visit during this trip to the Cairns region (see map on back of first page if unsure of locations).
B. In the last column, please indicate the approximate amount of time you spent or intend to spend in each location.

Locations	Have Visited	Intend to Visit	Amount of Time at each Location (Hours / Days)
Kuranda	O	O	
Atherton Tablelands rainforest areas	O	O	
Cape Tribulation	O	O	
Daintree	O	O	
Mossman Gorge	O	O	
Innisfail/Wooroonooran/Palmerston	O	O	
Mission Beach/Tully/Cardwell	O	O	
Paluma	O	O	

16. If the Rainforests that you have visited in the Cairns region were not designated as World Heritage sites, would you still visit them? O Yes O No O Unsure

17. If there were no rainforests anywhere within the Cairns region, would you still visit the region?
O Yes O No O Unsure
If NO, would you:
O Travel elsewhere in Queensland
O Travel to another Australian state
O Stay at home
O Travel to the Cairns region anyway
O Travel to another country

18. When you are on holidays how important is it for you to visit National Parks?
O Very important O Important O Neither O Unimportant O Not at all important

19. Thinking about this trip to the Cairns region, what is the overall budget for your travel party for this trip (including airfares)?

AU$_____

How many people does this amount budget for? Adults ____ Children ____

20. Approximately how much of this budget is spent on accommodation?
AU$_____

21. If you purchased a packaged holiday:
a) How much did it cost?

Cost of complete package for all your travel party AU$_____

b) Had you planned to spend: O Less O About this amount O More

c) What is included in the package?

O Return airfares O Accommodation O Tours and attractions O Meals

O Other:_____

For Statistical Purposes Only

22. Are you: ○ Male ○ Female

23. Where do you usually live?

Australia _____ Overseas_____

postcode *country*

24. Please indicate your age group:

○ Under 20 years ○ 20 to 29 ○ 30 to 39 ○ 40 to 49 ○ 50 to 59 ○ 60 to 65

○ over 65

25. How would you best describe your occupation (Please choose only one)

○ Self-employed ○ Professional ○ Manual/Factory worker ○ Student

○ Management ○ Office/Clerical ○ Public Service ○ Retail

○ Service Industry ○ Tradesperson ○ Retired / Semi-retired ○ Other (please specify): _____

26. Which of these best describes your immediate travel party:

○ Alone ○ Couple (Partner/Spouse) ○ Friends ○ Family (Adults and Children)

○ Relatives ○ Club or Tour Group

27. Please indicate your total household income? (AUD$ on an annual basis)

○ Under $20,000 ○ $20,000 - 39,000 ○ $40,000 - 59,000 ○ $60,000-79,000

○ $80,000 - $99,000 ○ $100,000 to 149,000 ○ $150,000 and over

THANK YOU FOR YOUR TIME.

Please return this survey to a member of this project's team.

APPENDIX B: LIMITATIONS IN THE REGIONAL TOURISM DATA FROM TOURISM QUEENSLAND (2006)

The current report has referred to Tourism Queensland's (2006) "Tropical North Queensland Region – Regional Update 2005" report both in the background of the study and as a comparison for the calculations for the current estimates of the value of tourism in the WTWHA. As such, it is necessary to acknowledge the limitations that exist in the Tourism Queensland data. The following excerpt, from the Tourism Queensland (2006) report identifies and explains the limitations of their data.

Statistical Standard Error

Research used in the Regional Update, such as that conducted by the Tourism Research Australia, has inherent weaknesses resulting from the process of sampling. Where only a portion of the entire population of visitors is surveyed, Tourism Queensland cannot be100% certain that the information collected is a perfect reflection of the total population. The net result of the sampling process is information that is accurate, but only within certain limits. Typically, these limits are referred to as confidence intervals. For the purpose of tourism data sources such as the National Visitor Survey and International Visitor Survey, Tourism Queensland utilise the 95% confidence interval, wherein we can be confident, i.e. 95 chances in 100, that data generated from the respective survey is likely to fall within a certain range. How large the range is depends on the size of the sample collected and is called the standard error. For many of Queensland's regions with smaller numbers of visitors, sample sizes are reduced and the corresponding standard errors are increased. Caution should be used when interpreting data from all regions but particularly those with smaller visitor numbers. The size of the standard error must be considered when analysing information contained within Regional Update reports. As a guide, the table below summarises the standard errors applicable to each Queensland region at the 95% confidence interval. In the example below, there are 95 chances in 100 that the number of domestic visitor nights spent in Brisbane will be within the range of plus or minus 9%, or between 13,952,000 and 16,712,000 visitor nights. To reduce the standard error, some Regional Update reports feature-aggregated information for a two-year period.

Tourism Region	International - YE December 2005		Domestic – YE December 2005	
	Visitor Nights	95% CI % of Estimate	Visitor Nights ('000)	95% CI % of Estimate
Brisbane	9,826,801	10	15,332	9
Bundaberg	325,821	57	2,014	22
Darling Downs	485,346	46	2,867	19
Fitzroy	624,976	41	3,553	17
Gold Coast	6,739,671	12	16,260	9
Fraser Coast South Burnett	878,674	34	4,881	15
Mackay	181,715	77	2,068	21
Northern	1,141,946	30	2,912	18
Outback	271,717	63	2,722	19
Sunshine Coast	1,993,338	22	10,965	10
Tropical North Queensland	**6,439,044**	**12**	**7,132**	**13**
Whitsundays	1,112,778	30	3,391	17
TOTAL QUEENSLAND	30,021,827	5	74,872	5

(Source: TRA – NVS & IVS, YE December 2005)

Data Sources

National and International Visitor Surveys (NVS/IVS)

The NVS which is managed by Tourism Research Australia (TRA), commenced in January 1998 replacing the Domestic Tourism Monitor (DTM). The NVS is a household survey involving telephone interviews with an annual national sample of approximately 80,000 Australian residents aged 14 years and over. The IVS involves a detailed single purpose questionnaire which is administered by personal interviews with a sample of "overseas visitors" aged 15 years and older, departing from Australia's nine major international airports. Uses the ABS/TRA regions.

Survey of Tourist Accommodation (STA)

The Survey of Tourist Accommodation is a quarterly survey of all establishments providing predominantly short-term accommodation (i.e. for less than two months) to the general public. It is conducted by the Australian Bureau of Statistics. From January 1998 the survey includes establishments with 15 or more rooms and provides information relating to the following categories: 1. Licensed hotels with facilities; 2. Motels and guesthouses with facilities; and3. Serviced apartments (daily servicing must be available, although this service may not necessarily be used). Uses the ABS/TRA regions.

Visitor Expenditure

Regional visitor expenditure estimates for 2005 are derived by Tourism Research Australia (TRA), by applying a model based approach to information on domestic day, domestic overnight and international travel activity at a regional level.

Economic Contribution

Tourism Queensland, in conjunction with the Department of State Development and the Office of Economic and Statistical Research (a division of Queensland Treasury), were involved in a project aimed at quantifying the economic contribution of tourism to Queensland, in terms of Gross Regional Product and Gross State Product for the 1998-1999 financial year. This was based on international and domestic visitor expenditure in Queensland. A more detailed explanation of the methodology can be obtained by referring to the individual reports (www.statistics.qld.gov.au).

Tourism Queensland Standard Visitor Survey

Tourism Queensland developed the Standard Visitor Survey in response to the limited availability of tourism data for smaller regions in Queensland. Information collected from the

survey is used to profile visitors to a region in terms of demographics and travel behaviours, understand motivations for visiting, measure visitor satisfaction and highlight problems in services/ infrastructure. Visitor surveys have been conducted in over 20 areas of Queensland to date. Both self-completion and face-to-face interviewing methods are used to collect the data. It should be noted that results from these surveys cannot be generalised and refer only to the point in time at which the data was collected.

Roy Morgan Research Holiday Tracking Survey (HTS)

Roy Morgan Research's HTS is a component of Roy Morgan Single Source, which uses the same methodology as the Morgan Gallup Poll. Roy Morgan Single Source uses a stratified random probability sample to ensure that all states, then metropolitan and country areas, are correctly represented. The HTS has two components: a face-to-face interview and a self-completion questionnaire. All people who complete the face-to-face component are offered the self-completion survey. Only one person aged 14 years and over is interviewed per dwelling. A large sample collected continuously over the year means that samples of lower incidence populations can be accumulated week by week to the desired size. The HTS information is collected as part of the self-completion questionnaire. Approximately 25,000 of these are processed in each twelve month period. These are weighted by age, sex and area to be representative of the Australian population.

Sourced from Tourism Queensland (2005b). Tropical North Queensland Region – Regional Update, December, Retrieved 28 August 2006, from the World Wide Web, http://www.tq.com.au

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