

Despite the potential for inaccuracies due to these error sources, substantial effort was made to minimise potential error. This leads to confidence that results are reasonable approximations of actual expenditure and related behaviour.⁵

Extrapolation, Park Selection, and Survey Administration

The previous section discusses potential error involved in providing expenditure estimates for individual parks. Additional error is possible when extrapolating results from the four included parks to the set of all parks in Queensland. Ideally, a random sample from the state-wide set of parks would have been selected. However, parks vary widely in their visitation characteristics, and the relatively small number of parks in the study might have led, by chance, to an unrepresentative sample. For instance, random selection may have led to a sample comprised entirely of remote parks that are rarely visited. In principle, a stratified sample could have been drawn, with parks grouped according to characteristics such as number of visitors. However, this was impractical due to the small number of study parks and the large number of characteristics that could be used to stratify parks.

For these reasons, a purposive sample of four parks was selected to represent diversity in geographic location (north vs. south, coastal vs. inland), type of visitation (local vs. non-local intrastate vs. interstate vs. international), type of attraction, and other characteristics. Despite the selection for representativeness, the expenditure (and impact) estimates from this study are not reliable bases for extrapolation to the state of Queensland as a whole. For example, it is risky to multiply the average visitor expenditure estimates from this report by the figure of 12.5 million park visits noted above.

The four selected parks were Girraween, Eungella, Daintree, and Carnarvon. Survey dates and sample sizes for each park are shown in Table 8. This is followed by brief descriptions of the parks and survey administration details. Camping data are graphed to illustrate seasonal visitation patterns in the parks, but keep in mind that much visitation is from day visitors. In the case of Eungella, data on day visitation is also available and shown.

Table 8: Survey administration (all dates are 2001 except the 2nd wave for Carnarvon, which is 2002)

Park	First Wave		Second Wave		Total Sample
	Dates	Sample Size	Dates	Sample Size	
Girraween	10 to 16 Jan	85	28 Sept to 10 Oct	248	333
Eungella	11 to 19 Feb	37	16 to 24 July	243	280
Daintree	30 Oct to 6 Nov	221			221
Carnarvon	7 to 14 July	198	5 to 9 May	113	311
Grand Total					1,145

Girraween National Park

Girraween is known for its granite hills and boulders and is located near Stanthorpe, on the border with New South Wales and in the Darling Downs tourism region. It is 11,700 ha in size and contains two camping areas, a small information centre, and picnic areas. Surveys were conducted at these camping areas, as well as in the area containing the information centre, picnic sites, and trailhead for the Pyramid track.

Figure 2 and Figure 3 show the pattern of day visitors and camper nights across seasons and years (data are lacking for some months). These figures illustrate the high seasons during summer holidays, Easter, and the spring wildflower season, especially when it comes to camper nights.

⁵ As an illustration of the magnitude of error inherent in such surveys, English (2000) conducted a bootstrapping analysis of expenditure and resulting economic impact from visitors to the Florida Keys in the US. He used various methods, but an illustrative result is that the 95% confidence interval for the mean economic impact of US\$1,020 was \$890 to \$1,150, which represents ∇ 13%.

Figure 2: Day visitor numbers at Girraween

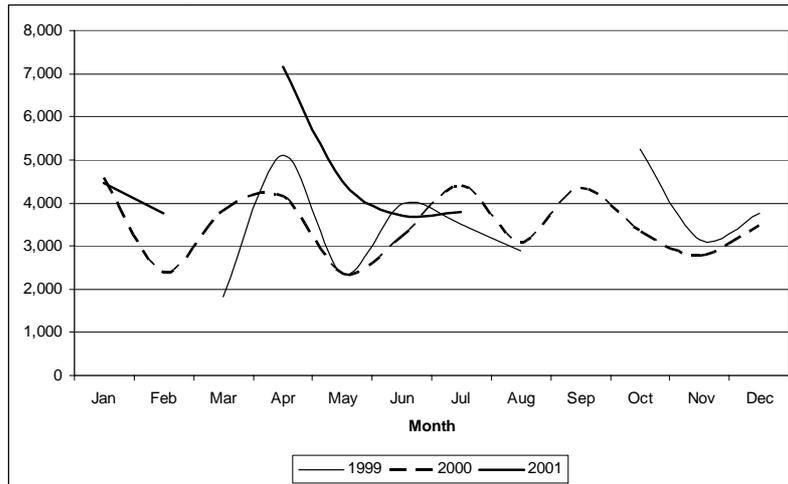
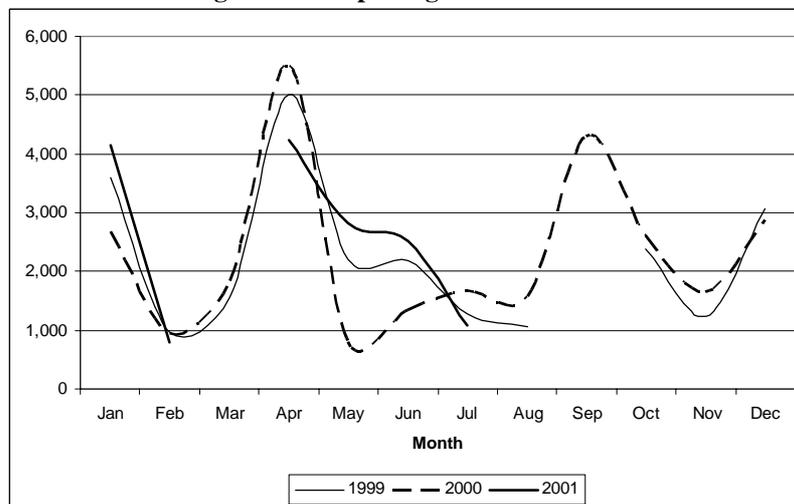


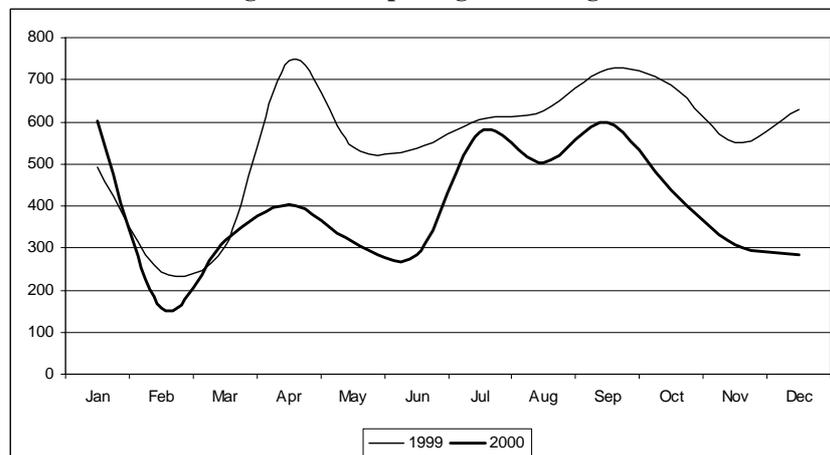
Figure 3: Camper nights at Girraween



Eungella National Park

Eungella is known for its platypuses and unusual plants and animals, such as the Eungella gastric brooding frog. The park is located northwest of Mackay, and is located in the Mackay tourism region. There is a small campground, information centre, and picnic site at the entrance to the park, and surveys were conducted in this area. Visitation is concentrated in the May to October period, with the best times to see platypus being June through August.

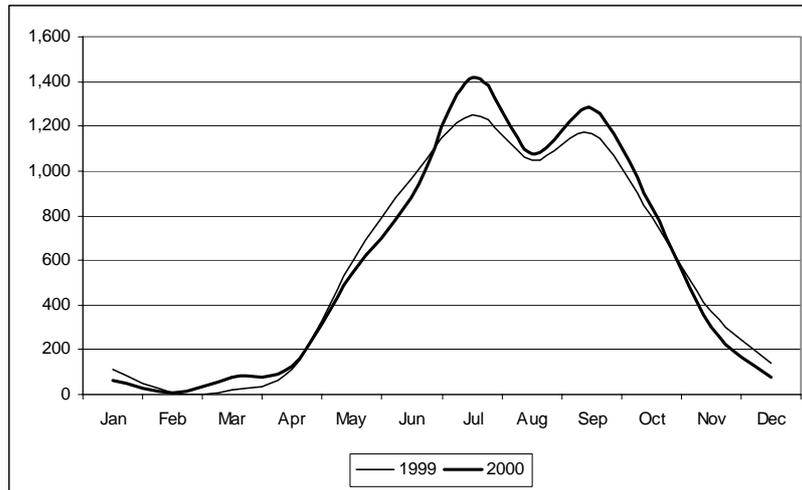
Figure 4: Camper nights at Eungella



Daintree National Park

Daintree National Park includes both the Mossman Gorge Section and the Cape Tribulation Section. This study focused only on the latter, which is 17,100 ha and is located north of the Daintree River, in the Tropical North Queensland tourism region. The park contains tropical rainforest and coastal scenery, and is part of the Wet Tropics World Heritage Area. Although the main destination is the Kulki picnic area at Cape Tribulation Beach, there are several additional picnic areas with boardwalks and interpretive material. Kulki was the main survey site. As illustrated in Figure 5, visitation is concentrated in the June to September period.

Figure 5: Camper nights at Daintree

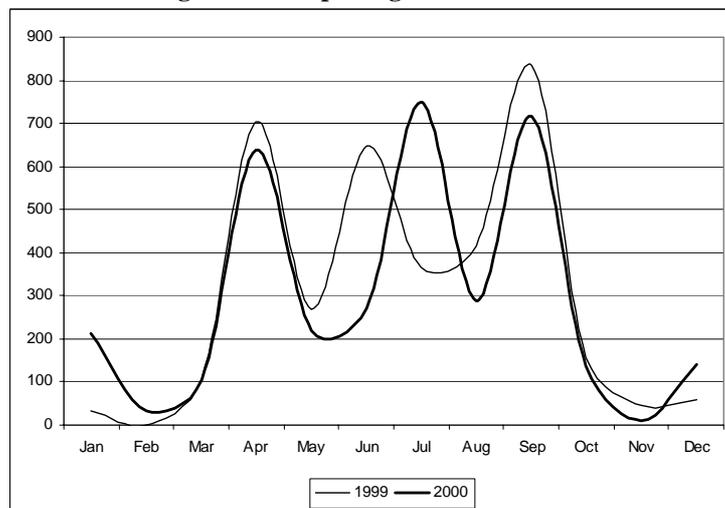


Carnarvon National Park

Carnarvon is known for its gorge and associated sandstone cliffs. The Carnarvon Gorge Section of the park covers approximately 43,000 ha, is located north of Roma, between Injune and Rolleston, and straddles the Outback and Fitzroy tourism regions. There is a campground and information centre at the entrance to the gorge, and surveys were conducted both in this area and at the two commercial accommodation sites nearby: Oasis Tourist Lodge and Takarakka Bush Resort.

Data from 1997 indicate that approximately 17,000 people camped in the park's campground, spending a total of 53,000 visitor nights. It is estimated that a similar number of people make day visits to the park. Visitation is concentrated in the cooler and drier months from March through October, with Christmas, Easter, and the school holidays (April, June, and September) being peak periods.

Figure 6: Camper nights at Carnarvon



The following sections present results from the survey administration. The content of the first two survey pages varied across parks and was customised based on priorities expressed by park staff. The remainder of the

survey (itinerary, expenditure, and demographic information) had the same content across all parks, but was customised geographically (e.g., the local region varied across parks). Sample surveys are contained in Appendix A. There were two versions of the Girraween and Eungella surveys, as minor changes were made between the first and second waves in those parks.

It should be stressed that several of the question items, and thus responses, focus on intended behaviour in light of the imposition of fees or development of new facilities. This information is useful, but readers should keep in mind that actual behaviour may not always match stated intended behaviour. When interpreting responses to the willingness to pay questions in particular, it is worth noting that entrance fees are not charged at national parks in Queensland (except at a limited number of specially-designated recreation sites such as Fraser Island). In addition, the camping fee was modest during the survey administration period – \$3.85 per person per night.

Unless otherwise noted, all results are weighted by group size, such that, for example, a group of four counts for twice as great a percentage as does a group of two.⁶ Also, results show only "valid percentages," which means that item non-response is excluded from the analysis.

⁶ The statistical tests of differences across sub-groups generally are unweighted and are designated as such. Because they are unweighted, the percentages in the All row differ from the (weighted) percentages presented in the text.

Chapter 3

Visitor Characteristics and Park Experience

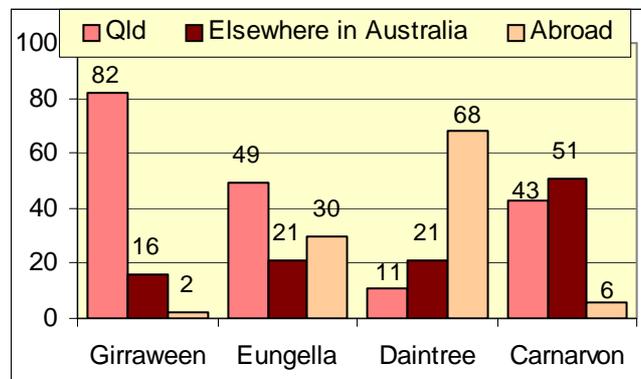
This section provides background information on park visitors and the number of days they spend in the parks.

Place of Residence

The characteristics of the parks' markets, in terms of place of residence, vary widely (Figure 7). At one extreme, Girraween is dominated by visitors from Queensland, especially from Brisbane and surrounding areas. At the other extreme, Daintree is dominated by foreign visitors. Of the international visitors at Daintree, 40 percent were from the UK, 18 percent from Germany, and 15 percent from Holland.

Carnarvon has the highest percentage of interstate visitors, with over half the respondents falling into that group. Lastly, Eungella has the most even spread of visitors, with just under half being from Queensland, about a fifth being from other states, and just under a third from overseas.

Figure 7: Place of residence for park visitors (percent)



Socio-demographic Characteristics

Figure 7 provides data on the socio-demographic characteristics. There is a roughly equal distribution between male and female visitors in all parks, while age, income and education distributions vary across the parks. Results suggest that Girraween is more frequently visited by families, with 40 percent of visitors being children and more than half of the respondent groups including children. Carnarvon and Eungella have larger proportions of elderly people than do the other parks. Daintree visitors are often young and independent compared to visitors in the other parks – 40 percent are between 18 and 29 years and only three percent are accompanied by children.

The income distributions for Girraween, Carnarvon, and Eungella visitors are similar, while income levels for Daintree visitors are relatively high, with a third reporting annual per person income of \$65,000 or more. The Daintree distribution may be due in part to the preponderance of foreign visitors in the sample (due to the difficulties of converting foreign currency into Australian dollar equivalents, the Daintree income results should be treated with some caution). Educational levels show a similar distribution across parks, though the differences between Daintree and the other three are less pronounced.

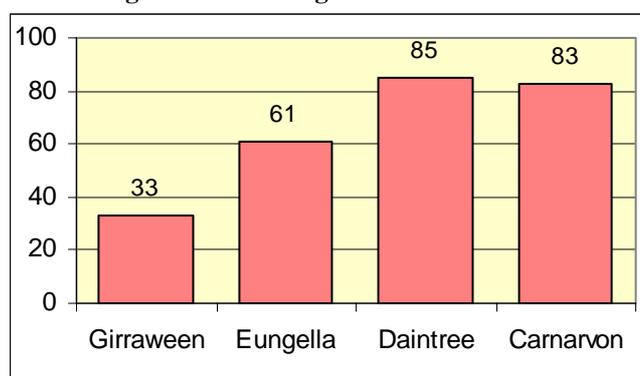
Table 9: Socio-demographic characteristics of park visitors (percent)

	Girraween	Eungella	Daintree	Carnarvon
Gender				
Women	50	50	53	51
Men	50	50	47	49
Age				
Under 18	40	18	2	23
18-29	8	23	40	11
30-39	13	13	21	10
40-49	21	13	10	15
50-59	12	14	17	18
60 years or over	6	19	10	23
Income				
Less than \$20,000	37	42	34	45
\$20,000-\$34,999	19	20	8	20
\$35,000-\$49,999	15	14	13	15
\$50,000-\$64,999	16	12	12	9
\$65,000-79,999	6	4	10	4
\$80,000 or above	7	8	23	8
Education				
Primary/school cert.	19	19	4	20
Higher school cert.	17	23	24	18
Trade qualification	9	9	7	10
Diploma	14	13	21	18
Degree	28	27	35	26
Higher degree	13	9	9	9

Experience with the Park

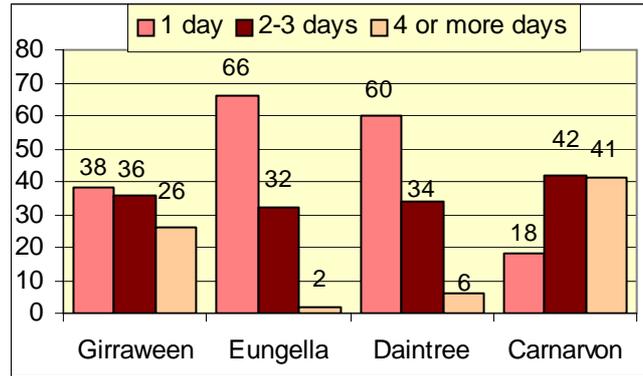
The number of times visitors have been to each park varies, with a third of the Girraween respondents being first-time visitors and more than four-fifths of Carnarvon and Daintree respondents being first-time visitors (Figure 8). Almost a quarter of Girraween visitors had been to the park more than 10 times. This presumably reflects the park's relative proximity to population centres, notably Brisbane and the Gold Coast. The low level of return visitation to Carnarvon may reflect its distance from population centres – it appears to be a "once in a lifetime" park for many. The similar result for Daintree presumably stems from the high proportion of foreign visitors to that park (Table 9). The results for Eungella lay in-between those of other parks. Almost all of the international visitors (30% of Eungella's visitors) were first-timers, while three-quarters of the interstate visitors and a third of the Queensland visitors were first-timers. A quarter of Queensland visitors had visited the park more than 10 times.

Figure 8: Percentage of first time visitors



Carnarvon had the highest percentage of visitors staying four or more days (Figure 9), presumably due to the high proportion of interstate visitors (Figure 7) who come to the park during holiday periods. Eungella and Daintree are clearly oriented more towards day visitors. While almost two-thirds of the visitors to Eungella and Daintree come for only one day, 62 percent of the Girraween visitors spend at least two days in the park. The average numbers of days spent in each park are 2.6, 1.5, 1.8, and 3.2 for Girraween, Eungella, Daintree, and Carnarvon, respectively.

Figure 9: Number of days in the parks



Chapter 4

Use of Park Services and Facilities

The primary focus of the project, and thus the surveys, was the economic impact of visitation at the parks. However, a secondary focus was on the role of services and facilities in visitor satisfaction and, ultimately, length of stay (for brevity, "services and facilities" are simply referred to as "facilities" from here forward). Because of budgetary limitations, parks are also considering eliminating facilities (e.g., the in-park campground at Carnarvon) or charging for facilities that previously were provided at no charge. This section reports on responses to survey items on this topic. Because the surveys varied across parks, results are presented individually for each park.

Girraween

Park Facilities

In Girraween, 74 percent of the respondents visited the information centre, 67 percent used the toilets and/or shower facilities, and 47 percent made use of the firewood provided by the park.⁷ Table 10 shows how usage varies across types of visitors. When it comes to place of residence, no statistically significant differences are found for usage of facilities. However, there are significant differences across park experience and expenditure groups. The most experienced visitors, those who have visited the park more than six times, do not use the facilities as often as do less experienced visitors, and people spending \$30 or more per day in the region (high expenditure group) utilise facilities less often than others. Presumably, experienced visitors have been to the information centre during previous trips to the park, and, therefore, do not visit it during later trips. The high percentage of day visitors from the Brisbane area in the high experience group may explain their relatively low use of shower and firewood facilities.

Table 10: Percentage who have used facilities, by visitor group (unweighted)

	Information Centre ^{bc}	Toilets and Showers ^{bc}	Firewood ^{bc}
Residence			
Queensland	68	64	42
Elsewhere in Australia	74	66	43
Abroad	60	60	20
Experience with park			
First visit to the park	74	62	40
2-6 visits	73	71	50
More than 6 visits	54	55	29
Expenditures person/day			
0-\$9	67	73	45
\$10-\$29	76	72	49
\$30 or more	58	38	21
All	69	64	41

^b Experience with park: Chi-square $p < .05$

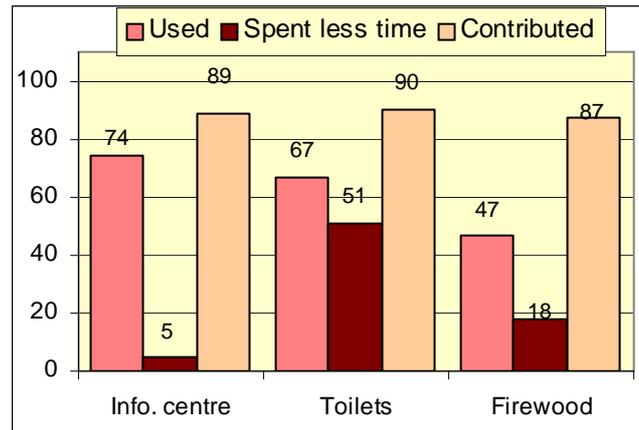
^c Expenditure per person per day: Chi-square $p < .05$

The respondents who used each facility were then asked whether they would have spent less time in the park, or not come at all, if the facility were not available. In the case of flush toilets and hot showers, it was explained that the alternative was pit toilets and cold showers (e.g., toilets and showers would still be available, but at a lower level of comfort). In the second wave, which represents 74 percent of the surveys at Girraween, those who said No (it would not affect trip length) also were asked if it contributed to their experience. Results are shown in Figure 10 and are interpreted as follows.

Of the 74 percent of visitors who used the information centre, five percent said that they would have spent less time or not come at all if the information centre did not exist. In other words, the information centre only has a modest effect on visitor length of stay. However, it did contribute to the visitor experience – 89 percent of those in the second wave who went to the centre and said it would not affect their length of stay nevertheless said it contributed to the experience.

⁷ Because the 'cross-tab' analyses, such as Table 16, are unweighted, the "All" figures differ from the weighted figures for the whole sample that are noted in the text.

Figure 10: Experience with facilities in Girraween (percent; see text for explanation)



The flush toilets and hot showers were used by fewer people, but the absence of toilets would have had a greater impact on length of stay, with 51 percent of those using these facilities saying they would have spent less time or not come at all if these facilities had not been available. Of those who would not change their length of stay, 90 percent said these facilities nevertheless contributed to the experience. Lastly, firewood was used by fewer people (understandable since more than a third of visitors only spent a day in the park) and had a medium level of impact on length of stay. In summary, it is not surprising that these facilities contributed to the experience of those who used them even if the absence of the facilities would not affect length of stay. The absence of an information centre would have only a modest influence on length of stay, and flush toilets and hot showers is the only facility whose absence would lead to more than half of users changing their length of stay.

Improving the Experience

Respondents were asked to suggest services or facilities that would improve the park experience, and in particular that would lead people to stay longer. One hundred and fifty two respondents made suggestions, with 38 making two or more, leading to a total of 182 suggestions. Summary results are provided in Table 11, while Appendix C contains a full listing of responses. Almost half the suggestions relate to cooking, shopping, or information facilities. With respect to the first of these, more BBQ plates and sheltered areas were suggested most frequently. The shop suggestions focused mainly on items such as bread and milk, with the possibility that such a shop, or kiosk, might be contained in the information centre. The information suggestions varied, with more interpretation and better signing being the most commonly mentioned (see Appendix C).

Table 11: Visitors suggestions for park improvements in Girraween (unweighted)

Suggestions	N	%
Cooking facilities	29	16.0
Shop	28	15.5
Information	23	12.7
Rubbish disposal facilities	15	8.2
Shower, toilet and laundry facilities	13	7.1
Cold drinks	13	7.1
Walks, rangers activities	12	6.7
Facilities for overnight stays	11	6.0
Children's activities	9	4.9
Fire pits	5	2.7
Other	24	13.3
Total	182	100.0

Willingness to Pay

The park historically has provided free slide shows, but due to budget cuts this is no longer possible. Therefore, the survey asked if visitors would pay for such a service. Respondents were asked how many persons from their group would have participated in a slide show if it was available at a cost of \$5 per adult, \$3.50 per child 5 to 17 years and free to children under five years. Results are given in Table 12.

Table 12: Girraween: willingness to pay for slide show

Respondents	Total Number	Would Participate	
		N	%
Adults	690	257	37
Children	454	136	30
Adults only	315	125	40
Adults with children	375	125	33

The 313 respondents who answered this question accounted for a total of 690 adults and 454 children (the sample total is 729 adults and 490 children). Results indicate that somewhat more than one third of adults and somewhat less than one third of children would participate. The two lower rows in the table provide results separately for adults travelling with and without children. The data indicate that adults without children are more likely to participate than those with. However, statistically the difference is only marginally significant ($p=0.07$). It should be stressed that the survey did not collect information on the percentage of visitors that would participate if no fee were charged, so the change in visitation due to a fee can not be estimated.

Fifty three respondents provided further comment on this issue, with the great majority of these not being willing to pay for a slide show. The comments are summarised in Appendix C. The most frequent remark is that a gold coin donation would be preferable to fixed fees. Special family fees were also suggested by some, while 16 said that they were simply not interested.

Using the visitation data shown in Section 2.1 and the participation rates noted above, an estimate of potential slide show income can be calculated. In 2001, there were an estimated 47,226 visitors to Girraween. Results from the present survey indicate that 60 percent of the visitors are adults and 40 percent are children under 18 years. Assuming an even age distribution for children, 78 percent will be five years or older, and, hence, have to pay for participating in a slide show. Table 13 shows that the potential yearly revenue from a slide show is just under \$70,000. This is a very rough estimate, and results should be treated with caution. Nevertheless, the figures indicate that a slide show can contribute significantly to the park's revenue.

Table 13: Potential income from slide show

Participants	No. of Visitors	No. Participating in Slide Show	Fee	Revenue
Adults	28,336	10,484	5	52,421
Children	18,890	4,420	3.5	15,471
Total	47,226	14,905		\$67,892

Table 12 and Table 13 are based on visitor responses to hypothetical scenarios in the survey. Feedback from QPWS staff provides an indication of how visitors responded to actual fees. During the Christmas holidays of 2000/2001 (27 December to 9 January), four after-hours slide shows were offered on the basis of the fees described above. All were cancelled due to lack of booking numbers. Visitors indicated that they did not like the fee system. However, the cancellations may have resulted in part from the advanced booking requirement – QPWS needed a minimum of 30 bookings by 3:00 pm the day of the slide shows for them to be held, while many visitors booked too late or simply showed up without booking. In any case, the fee was changed to a gold coin (mandatory, rather than donation), and the slide shows have since been largely fully-booked, with no cancellations due to lack of bookings. Revenues have been used to develop additional interpretive services, including a wildflower booklet.

Respondents were also asked if they were willing to make a gold coin donation for firewood and hot showers. Ninety-two percent stated they were prepared to do so (Table 14), with no statistical significant differences found between the different visitor groups. Sixteen respondents gave further comments (see Appendix C), with most of these suggesting that camping fees be increased instead of asking for a donation.

Table 14: Girraween: willingness to make a donation (percent, unweighted)

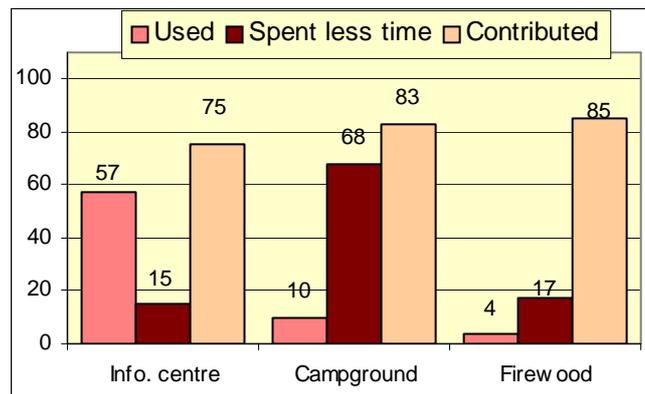
	Willing	Not Willing	Total
Residence			
Queensland	90	10	100
Elsewhere in Australia	94	6	100
Abroad	100	0	100
Experience with park			
First visit to the park	89	11	100
2-6 visits	94	6	100
More than 6 visits	89	11	100
Expenditures person/day			
0-\$9	88	12	100
\$10-\$29	90	10	100
\$30 or more	96	4	100
All	91	9	100

Eungella

Park Facilities

As at Girraween, visitors at Eungella were asked about their use of park facilities. In this case, the three items were information centre, campgrounds in the park (as opposed to outside the park), and firewood. As shown in Figure 11, 57 percent of respondents used the information centre. Of these, 15 percent said they would have spent less time in the park if the information centre was not available, and 75 percent of those whose length of stay would not have been affected stated that the centre nevertheless contributed to the experience.

Figure 11: Experience with facilities in Eungella (percent)



Substantially lower percentages used the campground and firewood, which is consistent with the high number of day visitors to the park (see Figure 9). However, of those using the campground in the park, 68 percent said their length of stay would have been affected if the in-park campground had not been available. An absence of firewood would have had much less impact on length of stay.

Table 15 shows usage of facilities across different visitor groups. Significant differences exist across residence and experience with the park. International visitors are more likely to utilise the facilities than are Australians; for instance, only half of the Queensland residents visited the information centre compared to 78 percent of the foreign visitors. However, the likelihood of going to the information centre is also related to the number of previous visits one has made to the park, and, as could be expected, people from Queensland have made more previous visits than have international visitors. A higher percentage of international visitors stay at the campground. However, no differences across residence are found with respect to the average number days in the park, suggesting that Australians are more likely to stay at other accommodation inside or outside the park area.

Table 15: Percentage who have used facilities across visitor groups (unweighted)

	Information Centre ^{a b}	Campground ^{a b}	Firewood
Residence			
Queensland	49	7	2
Elsewhere in Australia	60	9	5
Abroad	78	22	10
Experience with park			
First visit to the park	72	17	8
2-6 visits	57	6	2
More than 6 visits	21	0	0
Expenditure person/day			
Under \$20	53	10	6
\$20 to \$49	60	15	6
\$50 or more	70	8	2
All	60	12	5

^a Residence: Chi-square $p < .05$

^b Experience with park: Chi-square $p < .05$

Improving the Experience

One hundred and fourteen respondents made suggestions on ways to improve the park experience, with 19 making two or more, leading to a total number of 142 suggestions. These are summarised results in Table 16, while Appendix C provides more detail. Almost one-fourth of the suggestions relate to improvements in the provision of information, with better signing, and in particular signing of the tracks, being the most critical aspect. Fifteen percent mention the need for more rubbish bins, and 12 percent relate to overnight stay facilities. With respect to the latter, suggestions include expanding the area for camping and opening the campground for caravans.

Table 16: Visitors suggestions for park improvements in Eungella (unweighted)

Suggestions	N	%
Information	29	23.0
Rubbish disposal facilities	19	15.1
Facilities for overnight stays	15	11.9
Cooking picnic facilities	11	8.7
Shower, toilet and laundry facilities	10	7.9
Cold drinks	7	5.6
Walks, rangers activities	7	5.6
Shop	4	3.2
Children's activities	4	3.2
Fire pits	4	3.2
Other suggestions	16	12.7
Total	126	100.0

Willingness to Pay

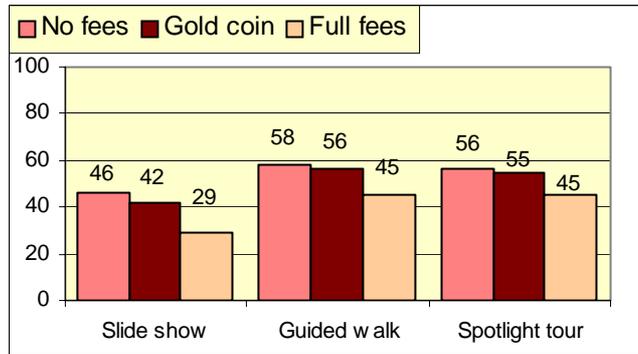
Eungella has provided free slide shows, guided walks, and spotlighted tours, but is considering charging for these services in the future. Respondents were asked whether they would be willing to pay for these activities, using three scenarios. In the first scenario, the cost was set at \$5 per adult, \$3.50 per child five to 17 years, and free to children under five years. In the second scenario, the cost was set at a gold coin donation. In the third scenario, participation was free. Because the third scenario was not used in the first wave, and that wave represented only 37 (13 percent) of the 277 respondents, the following results are only from the second wave. In addition, some respondents were asked a shortened version of the survey that omitted this question. In all scenarios, respondents noted how many adults and children (in each age group) would participate given the stated fee. Results are shown in Table 17.

Table 17: Eungella: willingness to pay for slide show, guided walks and spotlight tours

	Total Number	Slide Show		Guided Walks		Spotlight Tours	
		N	%	N	%	N	%
Scenario 1							
Adults	392	112	29	175	45	175	45
Children	98	21	21	41	42	35	36
Scenario 2							
Adults	392	163	42	220	56	216	55
Children	98	31	32	47	48	43	44
Scenario 3							
Adults	392	179	46	227	58	219	56
Children	98	36	37	49	50	43	44

Responses account for a total of 392 adults and 98 children. As expected, participation rates increase as fees decrease (from \$5 per adult in Scenario 1 to a gold coin in Scenario 2 to free in Scenario 3). Conversely, participation decreases as fees increase. However, this decrease is not dramatic. There is almost no loss as one moves from no fee to a gold coin donation. There is more substantial loss as one moves to the full fees of \$5 per adult and \$3.50 per child five to 17 years of age. Results are shown graphically in Figure 12, using percentages for adults and moving left to right from no fees (Scenario 3) to full fees (Scenario 1).

Figure 12: Willingness to pay for activities in Eungella (percent, adults)



Results indicate that willingness to pay is higher for guided walks and spotlight tours than for slide shows. Forty-five percent of adults are willing to pay \$5 to participate in these activities, with somewhat lower proportions of children taking part. Slide shows would attract just under 30 percent of the visitors if a \$5 fee were introduced.

Table 18 and Table 19 give an estimate of the potential revenue from charging fees. Based on results from the present survey (full dataset), it is assumed that 83 percent of the visitors are adults and 17 percent children, with 78 percent of the children being five years or older. In the gold coin donation scenario, only adults are assumed to donate, and an average donation of \$1.50 is used.

Table 18: Potential income from different activities if full fees are charged

	No. of Visitors	No. of Participants			Fee	Total Income (all activities)
		Slide Show	Guided Walks	Spotlight Tours		
Adults	74,700	21,663	33,615	33,615	\$5	444,465
Children	15,300	2,506	5,012	4,296	\$3.50	41,351
Total	90,000	24,169	38,627	37,911		\$485,816

Table 19: Potential income from activities if a gold coin donation is requested

	No. of Visitors	No. of Participants			Average Donation	Total Income (all activities)
		Slide Show	Guided Walks	Spotlight Tours		
Adults	74,700	31,374	41,832	41,085	\$1.50	171,437
Children	15,300	3,819	5,728	5,251	-	-
Total	90,000	35,193	47,560	46,336		\$171,437

Taking all three activities together, a full-fee program would generate income of approximately \$485,000. A gold coin program would lead to greater participation, but would generate only about a third the income.

Walking Tracks and Places Visited

Respondents were asked which walking tracks and areas they had been to during their visit. On average, they reported 2.7 walks/places visited, with 18 percent doing only one walk and just under half doing three or more. Results are shown in Figure 13. The platypus viewing deck, near the entrance to the park, is clearly the most visited and reflects the park's popularity as a place to see platypus. The Rainforest Discovery Track was visited by half the respondents, with the remaining tracks being visited by a third or less of the sample.

Figure 13: Eungella: walking tracks and places visited (percent, multiple responses allowed, unweighted)

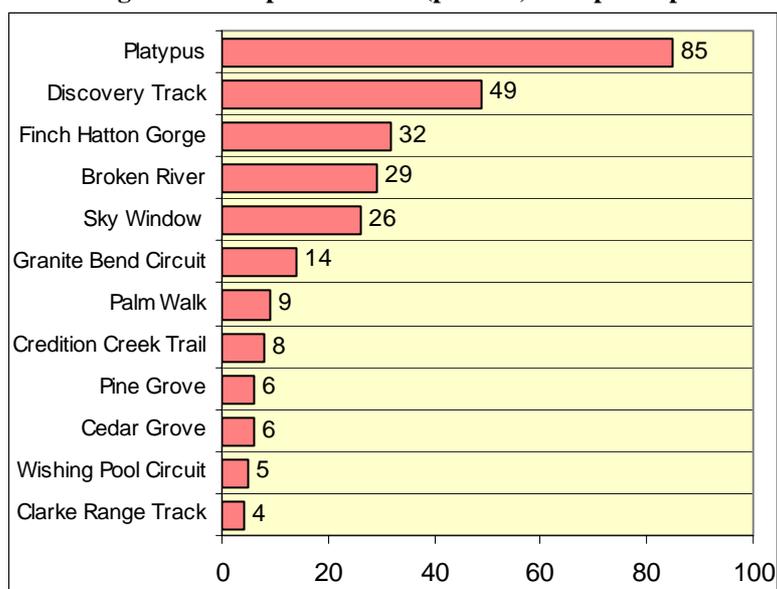


Table 20 shows the bases for respondent decisions about which tracks and areas to visit. Overall, information sheets/boards are the most important source of information when people decide where to go – 45 percent gave this as a basis. Past experience follows as the second most significant basis; while 14 percent state that information from family, friends and people they met on their way was a basis. As might be expected, substantial differences occur between first time and repeat visitors. In the latter group, three out of four rely on past experience, and only 12 percent use information sheets/boards. However, first time visitors are much more dependent on information sheets/boards, with almost two-thirds relying on them.

Table 20: Eungella: reasons for choosing tracks / places visited (percent, multiple responses allowed, unweighted)

	First Time Visitors	Repeat Visitors	All
Information sheets/boards	63	12	45
Past experience	4	74	29
Friends and family	19	5	14
Advice from staff	9	2	6
Guide books	4	-	3
Tour guide	1	7	3
Total	100	100	100

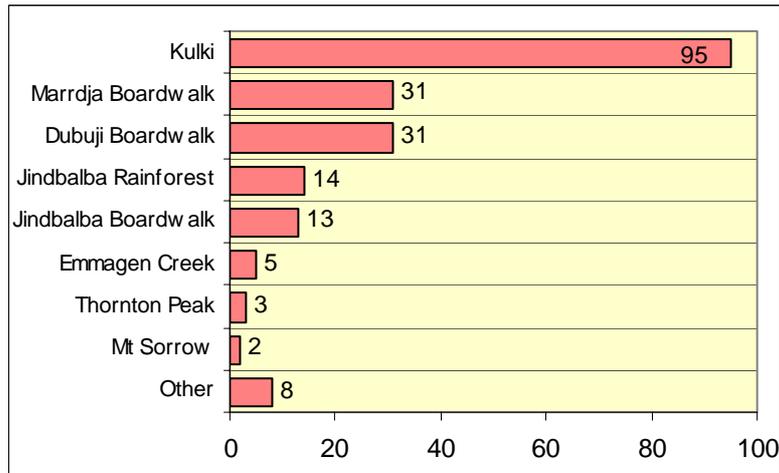
Daintree

Tracks and Facilities

There are several boardwalks, with associated interpretative material, in the park. In addition, the private Rainforest Environmental Centre is located in the area. However, there is a relatively low level of track development given the steep terrain once one leaves the coastal strip. Respondents were asked what tracks and areas they had visited during their stay in Daintree. On average, respondents reported 2.0 walks/places visited.

Thirty-seven percent only visited one walk/area, and about 29 percent visited three or more. Figure 14 shows the walks/places visited (note that most of the surveys were conducted at Kulki-Cape Tribulation Beach).

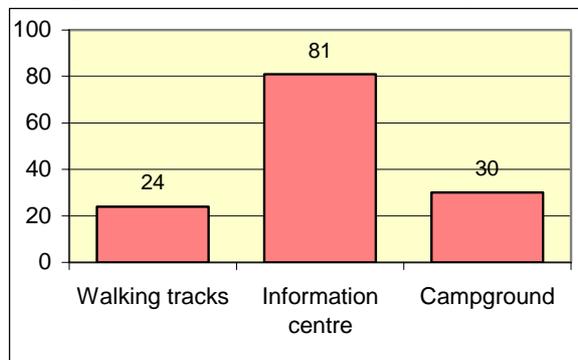
Figure 14: Daintree: walking tracks and places visited (percent, multiple responses allowed, unweighted)



About one-third visited the Marrdja and Dubuji boardwalks, while only two to three percent reported taking the more strenuous walks to Thornton Peak and Mount Sorrow.

Park managers were interested in finding out whether visitors would utilise additional facilities if they were developed. These facilities were 1) additional walking tracks (with a reminder of the steep terrain), 2) a park service information centre with displays at Dubuji Boardwalk, and 3) a park service campground at Cape Tribulation (with a reminder of the cost and that a campground already exists at Noah Beach). For each facility, respondents were asked to state the probability of utilising it on a four point scale (definitely, probably, probably not, definitely not). Figure 15 shows the percentage of respondents who stated they would definitely or probably utilise the facility.

Figure 15: Daintree: response to new park facilities (percentage reporting that they will definitely or probably utilise the facility, unweighted)



There is clearly interest in the information centre, with more than 80 percent stating that they would definitely (41 percent) or probably (40 percent) visit the centre if it existed. This figure roughly corresponds with actual usage of information centres at the other parks. No significant differences were found across visitor groups (see Table 21). About a third of visitors would use the campground, though, not surprisingly, there is less interest in the campground amongst the high expenditure group.⁸

Only a fourth of respondents reported interest in additional walking tracks, which suggests that the current bushwalking options are adequate for most visitors. However, Table 21 suggests that there is relatively great interest in additional tracks amongst international visitors.

⁸ Results for the campground question should be treated with some caution given the complexity of issues (there already is a QPWS campground, though located distant from Kulki, and there are several private accommodation options in the area). Due to the length of the survey, it was not possible to explore the issue of campgrounds in any detail with respondents.

Table 21: Percentage who would have used facilities across visitor groups (unweighted)

	Information Centre	Campground ^c	Walking Tracks ^{ac}
Residence			
Australia	72	30	17
Abroad	80	33	31
Experience with park			
First visit to the park	79	32	28
Repeat visitors	69	28	19
Expenditures person/day			
0-\$29	74	41	25
\$30-\$99	81	39	36
\$100 or more	78	15	16
All	78	32	26

^a Residence: Chi-square p<.05

^c Expenditure per person per day: Chi-square p<.05

Willingness to Pay

Daintree National Park currently does not charge an entrance fee, and revenue from the \$16 ferry fee goes to local government. Respondents were asked whether they would still have come to the park if a fee had been charged to enter the park. The hypothetical fee varied across respondents (from \$5 to \$20 per car) and revenues were specified as going to enhance visitor facilities. Overall results and results across different visitor groups are shown in Table 22. Note that cell sizes are small due to the size of the sample. Seventy-seven respondents were given the \$5 scenario, 75 the \$10 scenario, and 64 the \$20 scenario.

Table 22: Percentage of visitors who still would have come to Daintree National Park if a fee were charged, across visitor groups (unweighted)

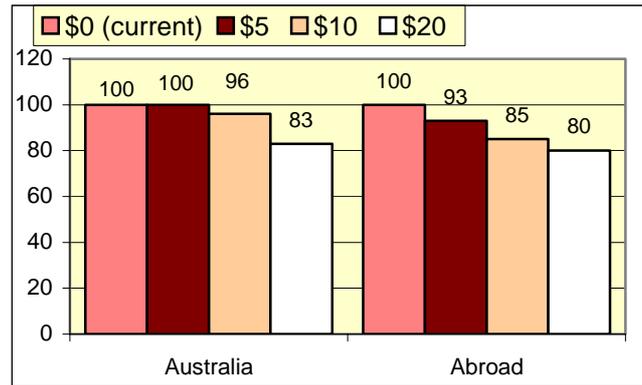
	\$5	\$10	\$20
Residence			
Australia	100	96	83
Abroad	93	85	80
Experience with park			
First time visitors	94	89	82
Been to the park before	100	82	83
Expenditures person/day			
0-\$29	97	80	83
\$30-\$99	93	88	78
\$100 or more	94	96	83
All	95	88	81

As expected, the overall trend is for willingness to pay the fee to decrease as the fee increases. However, this decrease is not dramatic. For example, a 300 percent increase from \$5 to \$20 would only lead to a 15 percent reduction in visitors.⁹

Differences across groups are not statistically significant, possibly due to small cell sizes. However, there is an indication that international visitors react more dramatically to fees than do Australians. This is somewhat surprising given the high income of international visitors (see Table 9) and the fact that they are spending more on their overall trip. Price responsiveness across residence groups is shown in Figure 16.

⁹ $((20-5)/5)*100=300\%$ increase, $((81-95)/95)*100=15\%$ decrease

Figure 16: Response to hypothetical fees at Daintree, by place of residence (percent of current visitation, unweighted)



Additional Information

As the park service does not have an information centre in the park, visitors may have problems obtaining adequate information. Respondents were asked if they felt they received enough information about what to do and where to go in the park. Table 23 shows that the majority were satisfied with the information they had, and did not feel a need for further information. However, 36 percent stated they did not receive enough information, with first time visitors being more prone to wanting more information than were repeat visitors. Referring to Table 20, first time visitors rely heavily on information sheets and boards when they decide what to do and where to go in the park. Thus, results suggest that information specifically targeted to this group would enhance the park experience.

Table 23: Did respondents receive enough information? (unweighted)

	Yes	No	Total
Residence			
Australia	72	28	100
Abroad	61	39	100
Experience with park^b			
First time visitors	62	38	100
Been to the park before	78	22	100
Expenditures person/day			
0-\$29	66	34	100
\$30-\$99	62	38	100
\$100 or more	65	35	100
All	64	36	100

^b Chi-square: p<.10

Respondents reporting that they would like more information were asked to specify what additional information was desired. Summarised results are given in Table 24, while Appendix C provides more detail. About one-quarter of the suggestions are for more maps. Many of the respondents did not specify the type of maps they wanted, but, apparently, maps showing walking tracks are important (see Appendix C). Overall, visitors seem to want more information on the walks in the park, with 18 percent of the comments specifically relating to this.

Table 24: Visitors suggestions for information improvements at Daintree (unweighted)

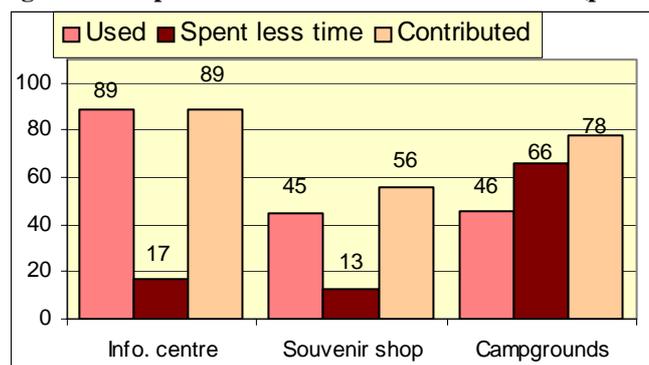
	N	%
Maps	25	23
Information on walks/guiding	20	18
Information on flora and fauna	13	12
Road signage general	13	12
Information centre	7	6
Information on accommodation	4	4
Information/signage general	28	25
	110	100

Carnarvon

Park Facilities

As at Girraween and Eungella, visitors at Carnarvon were asked about their use of park facilities. In this case, the three items were information centre, souvenir shops, and campgrounds in the park (as opposed to outside the park). As shown in Figure 17, 89 percent of respondents used the information centre. Of these, 17 percent said they would have spent less time in the park if the information centre was not available, and 89 percent of those whose length of stay would not have been affected stated that the centre nevertheless contributed to the experience.

Figure 17: Experience with facilities in Carnarvon (percent)



Substantially lower percentages used the souvenir and campground facilities, but both were still used by almost half the sample. Visitors were somewhat indifferent to the souvenir shop, with relatively low numbers reporting that it affected their length of stay or contributed to their experience. Results indicate a different story for the campgrounds, where a full two-thirds of the visitors said their length of stay would be affected by the absence of an in-park campground. Carnarvon has, in fact, shifted all camping to outside-park locations. Keeping in mind that the above results reflect stated intended behaviour, rather than actual behaviour, they suggest this shift may reduce the number of visitors or their length of stay. An analysis of Carnarvon visitation over time, including a few post-shift seasons, can indicate if visitors do in fact respond in this way.

Improving the Experience

When asked what would add to the visitor experience, and especially increase length of stay, many respondents stated that the experience was already good. Of the 161 suggestions, 60 related to campground and related facilities (Table 25). Many respondents suggested more camping, powered sites, more (and free) showers, and related facilities like laundry and BBQ areas. An additional 11 suggested firewood provision. The information and interpretation included suggestions for more general information, as well as more interpretative material along tracks. Most of the maintenance suggestions reflect a desire for better roads. A full listing of suggestions is provided in Appendix C.

Table 25: Visitors suggestions for park improvements in Carnarvon (unweighted)

	N	%
Campground and related facilities	60	37
Maintenance	36	22
Information and interpretation	18	11
Shop	18	11
Firewood	11	7
Access limitations	4	2
Other	14	9
Total	161	100.0

Willingness to Pay

As at Girraween and Eungella, Carnarvon has provided free slide shows, but is considering charging for this service in the future. As in the Eungella survey, respondents were asked whether they would be willing to pay for this activity, using three scenarios. In the first scenario, the cost was set at \$5 per adult, \$3.50 per child five to 17 years, and free to children under five years. In the second scenario, the cost was set at a gold coin donation. In

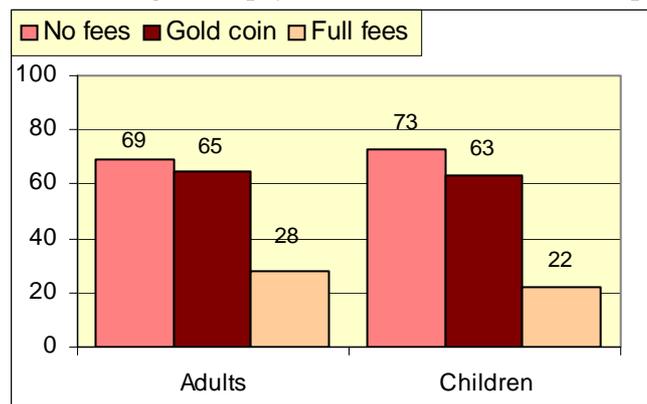
the third scenario, participation was free. In all scenarios, respondents noted how many adults and children (in each age group) would participate given the stated fee. Results are shown in Table 26.

Table 26: Carnarvon: willingness to pay for slide show

	Total Number	Slide Show	
		N	%
Scenario 1			
Adults	772	218	28
Children	206	46	22
Scenario 2			
Adults	772	505	65
Children	206	129	63
Scenario 3			
Adults	772	534	69
Children	206	150	73

Responses account for a total of 772 adults and 206 children. As expected, participation rates increase as fees decrease (from \$5 per adult in Scenario 1 to a gold coin in Scenario 2 to free in Scenario 3). Conversely, participation decreases as fees increase. The loss as one moves from no fee to a gold coin donation is fairly modest, though more dramatic for children. The loss is much more noticeable as one moves to the full fees of \$5 per adult and \$3.50 per child five to 17 years of age. Results are shown graphically in Figure 18, using percentages and moving left to right from no fees (Scenario 3) to full fees (Scenario 1).

Figure 18: Willingness to pay for slide show in Carnarvon (percent)



The figure illustrates the high participation rates if there is no fee or a gold coin donation, together with the much lower participation if full fees are charged. Relative to the results for Eungella (Figure 12), participation rates at Carnarvon would be higher with no fee or a gold coin donation. However, the implementation of full fees would more dramatically reduce participation.

Table 27 and Table 28 give estimates of the potential revenue from charging fees for slide shows. Based on results from the present survey (full dataset), it is assumed that 81 percent of the visitors are adults and 19 percent children, with 78 percent of the children being five years or older. In the gold coin donation scenario, only adults are assumed to donate, and an average donation of \$1.50 is used.

Table 27: Potential income from slide shows if a full fee was charged

	No. of Visitors	No. of Participants	Fee	Total Income
Adults	38,070	10,660	\$5	53,298
Children	8,930	1,532	\$3.50	5,363
Total	47,000	12,192		\$58,661

Table 28: Potential income from slide shows if a gold coin donation is requested

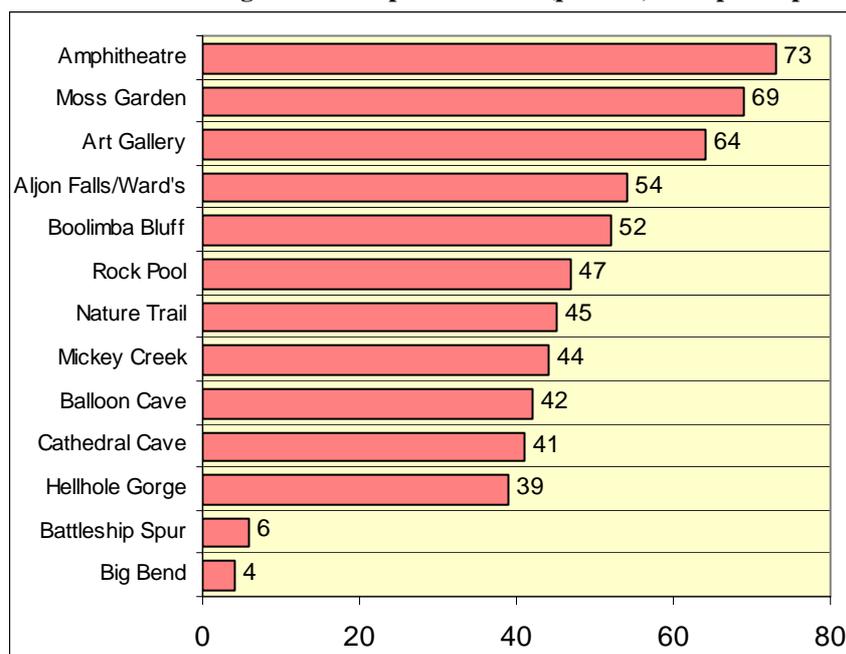
	No. of Visitors	No. of Participants	Average Donation	Total Income
Adults	38,070	24,746	\$1.50	37,118
Children	8,930	4,388	-	-
Total	47,000	29,134		\$37,118

As in the Eungella example, and in many fee situations, the higher fee (full fee) generates greater revenue than the lower fee (gold coin donation). However, this comes at the cost of participation, with the lower fee leading to greater participation rates.

Walking Tracks and Places Visited

Respondents were asked which walking tracks and areas they had been to during their visit. On average, they reported 5.8 walks, with 17 percent reporting six walks and 41 percent doing seven or more. The high number of walks taken by Carnarvon visitors presumably reflects the greater availability of walks in that park relative to others, as well as the greater length of stay for visitors there (see Figure 9). Figure 19 shows the percent of respondents that visited each walk or area. Although the Amphitheatre is the most visited, several areas were visited by more than half the respondents, and many more by 40 to 50 percent of respondents.

Figure 19: Carnarvon: walking tracks and places visited (percent, multiple responses allowed)



Respondents were then asked how they decided which tracks and areas to visit, with results shown in Table 29. Similar to Eungella, the basis for choosing where to go is dominated by information sheets/boards when looking at the whole sample and, especially, for first time visitors. However, past experience is the most common basis for repeat visitors. Many respondents also reported receiving information and advice from the local accommodation providers: Oasis Lodge and Takkarakka Camp.

Table 29: Carnarvon: reasons for choosing tracks / places visited (percent, multiple responses allowed, unweighted)

	First Time Visitors	Repeat Visitors	All
Information sheets/boards	61	33	55
Past experience	4	60	17
Advice from staff	16	1	13
Word of mouth	11	3	9
Carnarvon Wilderness Guides	7	3	6
Total	100	100	100

Lastly, respondents were asked about shortcutting tracks, as this has been a problem at Carnarvon. Almost all respondents (97 percent) reported that they saw the signs regarding shortcutting and knew what the term meant. Respondents were then asked to suggest ways to reduce shortcutting. Seventy-six (37 percent of the total) suggestions related to putting up fences or other barriers, 52 (25 percent) related to signage, 49 (24 percent) related to the overlapping area of education, and 30 (14 percent) suggested other steps, including fines and penalties. Full responses are provided in Appendix C.

Chapter 5

Respondent Current and Scenario Itineraries: the role of parks in travel decisions

This section focuses on respondent itineraries and how they are affected by the presence or absence of parks. Respondents were asked where they stayed the night before arriving in the park, where they will stay the night after, what their overall trip itinerary is, and what their itinerary would have been if the park had not existed.

The format for the "night before and after" question was straightforward (see the surveys in Appendix A). For the itinerary, respondents reported the number of days they would spend in the local region (as shown on a map), the number of days they would spend elsewhere in Queensland, the number of days elsewhere in Australia, and the total number of days on the trip, including any days spent overseas. For the local region, they also reported the number of days spent in national parks, as well as the names of those parks. They did the same for "elsewhere in Queensland" (all areas of Queensland except the study region). For "elsewhere in Australia" (all areas of Australia except Queensland), they reported the number of days spent in parks, but did not name the parks. Although most responses are in whole numbers of days, a half day was recorded for respondents spending fewer than four hours in a park.

They were then presented a scenario (Question 10) in which the park did not exist and public access to the area was not allowed. As a result, they could not spend any days in the park. They could either cancel the trip altogether or have a different itinerary. For those that would have a different itinerary, this "scenario itinerary" was recorded in the same manner as their current itinerary, except no days could be spent in the park being surveyed. The following sections present results for their current and "no park" scenario itineraries.¹⁰

In several tables, results are grouped by place of residence (Queensland, Elsewhere in Australia, and Abroad). Because the number of observations in each group depends on visitation patterns at each park, in some cases results will be based on a small number of observations. These "by group" results are presented and interpreted, but they should be treated with some caution

In addition, the average (mean) values for both itineraries and expenditure are affected by a small number of people making particularly long trips, in some cases lasting more than a year. Therefore, median values often are presented for comparison. The median is the middle value within a distribution. For instance, if there were five people in a sample and these people had trip lengths of 3, 4, 5, 6, and 47 days, the mean would be 13 and the median would be 5. The median is the most appropriate measure of a "typical" trip. However, we assume that long trips do occur, and that our samples are not biased in this regard, so the mean is the appropriate average value for expenditure calculations (keeping in mind that the divergence between median and mean is greatest at the level of Australia as a whole than at the level of the study region, which is of primary interest here).

Location of Nights Spent Before and After Park Visit

Many parks have one or more "gateway communities" that provide facilities to park visitors.¹¹ These communities often have a symbiotic relationship with the park – the communities benefit because the park attracts visitors, while the park benefits because the communities reduce the need to provide facilities within the park.

In the survey, visitors were asked to state where they were spending the night before and after arriving in the park; in the case of Daintree, the question focused on entry to the park area north of the Daintree River. Results are shown in Table 30.

¹⁰ A small portion of the data (less than one percent of the observations) was cleaned due to inconsistencies. For example, one Daintree survey recorded 3 days spent in the local region, 27 elsewhere in Queensland, and 0 elsewhere in Australia for the current itinerary. However, the values for the scenario itinerary were 1, 29, and 30. When possible, the interviewer was contacted to determine whether this was a recording error. When that was not possible, the data were converted to the most likely values. In this case, it was assumed that a 2 day decrease in the region and a 2 day increase elsewhere in Queensland was a likely response to the scenario, and that the 0 to 30 day change elsewhere in Australia was unlikely (the 30 days may reflect total days, not days elsewhere in Australia). Therefore, the 30 days elsewhere in Australia was set to 0. When the cause of the discrepancy was not reasonably apparent, the observation was deleted from the analysis.

¹¹ In the US, gateway communities often are also popular destinations for residential migration because of the amenities associated with the national park and rural lifestyle (Howe, McMahon & Propst 1997). However, the present focus is on their role in tourism.

Table 30: Gateway communities for the parks ("at home" also shown)

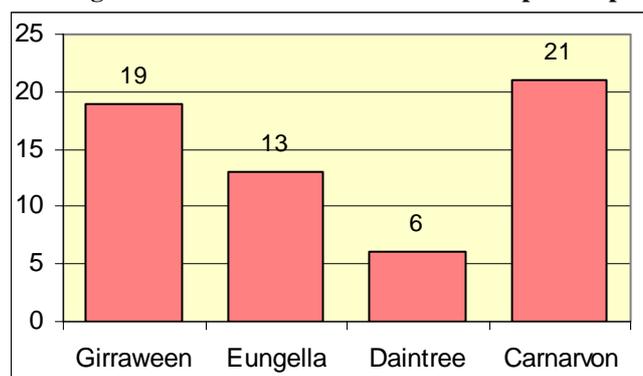
	Most Common Gateway, with % of Respondents Staying at Location the night...	
	before arriving in the park	after leaving the park
Girraween	Ballandean: 3% At home: 60%	Ballandean: 2% At home: 70%
Eungella	Mackay: 34% At home: 28%	Mackay: 26% At home: 32%
Daintree	Cairns: 42% At home: 6%	Cairns: 43% At home: 4%
Carnarvon	Roma: 28% At home: 24%	Emerald: 15% At home: 29%

The use of gateway communities varies across the parks. In the case of Girraween, most visitors travel to the park directly from home, reflecting the dominance of visitors from southeast Queensland areas that are less than a day's drive to the park. At the opposite extreme, only six percent of visitors to the Daintree came directly from home, reflecting the dominance of foreign visitors (see Figure 7). Cairns is clearly an important gateway community for that park. Carnarvon and Eungella exhibit an intermediate usage of gateway communities.

Actions if Parks Did Not Exist

Figure 20 shows the percentage of visitors that would have cancelled the trip if the park did not exist. At most, only about a fifth of visitors would cancel their trip altogether. Substantial differences between the parks are found, with 19 percent of the Girraween visitors cancelling the trip, 21 percent of the Carnarvon visitors, 13 percent of the Eungella visitors, and only six percent of the Daintree tourists. These differences reflect a variety of factors, including the existence of substitutes, the role of individual parks in trip decision-making, and the origin of visitors. For example, Carnarvon is presumably the most unique of the four parks. Sundown is a potential substitute for Girraween, but it is less well-known, and many visitors may not be aware of it. At the opposite extreme, there are several rainforest and beach sites in Far North Queensland that can serve as substitutes for Daintree. Moreover, the Daintree sample is dominated by international visitors (see Figure 7), who presumably made the trip to Australia to experience a broad range of attractions, of which the Daintree is only one. The role of place of residence in affecting itinerary changes is further discussed in the following sections.

Figure 20: Percentage of visitors who would cancel the trip if the park did not exist



Girraween: Current and Scenario Itinerary

Table 31 provides an overview of current itineraries and the scenario itineraries respondents would choose if Girraween did not exist. Data show the percent visiting the park or region, the average (mean) number of days in the park/region, and the median (middle value within the distribution) number of days. Note that the averages include "zero" observations. For example, Table 31 shows that 16 percent of respondents travelled elsewhere in Queensland and that the average number of days for that region is 2.8. This average includes zero values for the 84 percent that did not travel in the region. In other words, those that did spend time in the region spent, on average, much more than 2.8 days.

Looking first at the current itinerary, 100% of the respondents visited Girraween and the associated Granite Belt region because the survey was conducted in Girraween. The higher percentage of respondents visiting "elsewhere in Australia" than "elsewhere in Queensland" indicates that Girraween was the only Queensland destination for several visitors who combined a trip to Girraween with travel in other states. Turning to the

average column, one sees that about 72 percent (2.6/3.6) of the time visitors spend in the Granite Belt region involves visiting Girraween. On average, the Granite Belt region accounts for about a third (3.6/10.5) of the overall trip length within Australia. However, this average masks variation in types of trips. The median values of 3 for the region and 4 for the country indicate that the mid-range overall trip length is four days, and the mid-range length of stay in the Granite Belt region is three days.

Moving to the scenario itinerary, in which it is not possible to visit Girraween, one sees an increase in the number of people visiting Sundown and an associated increased average length of stay at that park. Even though visitors can substitute to Sundown, most do not do so, and the average length of stay in the region decreases from 3.6 days to 1.5 days. In other words, the region would lose more than half its visitor days if Girraween did not exist. To some degree, this decrease in the region leads to increases elsewhere in Queensland and other states (as well as parks in these regions). However, overall average trip length decreases modestly from 10.5 to 9.8 days.

Table 31: Current itinerary and scenario itinerary if Girraween National Park did not exist (weighted)

	Current Itinerary			Scenario Itinerary (if Girraween did not exist)		
	% Visited	Average	Median	% Visited	Average	Median
Granite Belt Region	100	3.6	3	40	1.5	0
<i>National parks:</i>						
Girraween	100	2.6	2			
Sundown	3	0	0	11	.3	0
Queen Mary Falls	2	0	0	2	0	0
Other	1	0	0	4	.1	0
Elsewhere in Queensland	16	2.8	0	36	3.7	0
<i>In national parks:</i>	7	.5	0	30	1.4	0
Elsewhere in Australia	21	4.1	0	32	4.6	0
<i>In national parks</i>	14	1.6	0	27	2.1	0
Australia total	100	10.5	4	81	9.8	3

One might expect that different groups would respond differently, and Table 32 shows such a breakdown by place of residence. Not surprisingly, international visitors spend longer on the trip as a whole (last row), and, to a lesser degree, also spend longer in the region (first row). Though they spend fewer days at Girraween than the other groups in their current itinerary, they are more likely to spend days at substitute sites in response to the scenario (average loss to the region is only 1.0 for international visitors, compared to 2.2 for Queenslanders and 1.8 for other Australians). In all cases, other Queensland regions gain from a loss of Girraween, and both Australian groups would increase the days they spend in other parks in the state. Likewise, all groups will increase their stay elsewhere in Australia, including their stays at parks outside Queensland. The overall effect is modest, with only Queenslanders reducing their overall trip length by a substantial percentage (12 percent for that group).

Table 32: Itineraries by place of residence, average (mean) number of days - Girraween (weighted)

	Queensland (n = 270)			Elsewhere in Aus. (n = 53)			Abroad (n = 10)		
	Cur	Scen	Ch	Cur	Scen	Ch	Cur	Scen	Ch
Granite Belt Region	3.5	1.2	-2.2	4.3	2.5	-1.8	4.9	3.9	-1.0
<i>National parks:</i>									
- Girraween	2.6		-2.6	2.8		-2.8	2.1		-2.1
- Sundown	0.0	0.2	0.2	0.0	0.6	0.5	0.0	0.6	0.6
- Queen Mary Falls	0.0	0.0	0.0	0.2	0.0	-0.2	0.0	0.0	0.0
- Other	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.4	0.4
Elsewhere in Queensland	1.1	2.2	1.1	9.5	9.9	0.4	19.1	19.4	0.2
<i>In national parks:</i>	0.2	1.1	0.9	1.4	1.9	0.5	6.7	6.7	0.0
Elsewhere in Australia	2.2	2.6	0.4	8.8	9.8	1.0	51.1	51.8	0.7
<i>In national parks</i>	0.9	1.2	0.4	3.1	3.9	0.8	24.6	24.7	0.1
Australia total	6.7	6.0	-0.8	22.6	22.2	-0.4	75.1	75.1	0.0

NB: Cur. = Current itinerary, Scen. = Scenario itinerary (if park did not exist), and Ch. = change in response to the scenario.

Eungella: Current and Scenario Itinerary

Table 33 shows current and scenario itineraries for Eungella. Whereas few of the Girraween visitors went to other parks in the region, at Eungella 18 percent of the respondents also went to Cape Hillsborough. Relative to Girraween visitors, Eungella visitors were also more likely to visit other regions (and parks), with 63 percent

travelling elsewhere in Queensland and 42 percent travelling elsewhere in Australia. Again, the median is much lower than the average for most values, which illustrates how "outliers" (in this case long trips by certain individuals) can affect averages.¹²

Relative to Girraween, Eungella visitors are also more likely to still visit the region (70 percent versus 40 percent) if the park did not exist. Quite a few visitors would substitute to Hillsborough. As expected, the average length of stay in the region would decrease, but the length of stay elsewhere in Queensland would increase. Although 13 percent (100 minus 87) would cancel their trip altogether, 80 percent of these are day visitors, and those cancelling altogether account for only 0.2 percent of the total number of days. This explains the negligible effect on length of stay in Australia as a whole.

Table 33: Current itinerary and scenario itinerary if Eungella National Park did not exist (weighted)

	Current Itinerary			Scenario Itinerary (if Eungella did not exist)		
	% visited	Average	Median	% visited	Average	Median
Eungella region	100	3.7	2	70	2.4	1
<i>National parks:</i>						
Eungella	100	1.4	1			
Cape Palmerston	1	0	0	1	0	0
Cape Hillsborough	18	.3	0	40	.6	0
Other	1	0	0	1	0	0
Elsewhere in Queensland	63	18.6	7	63	19.5	9
<i>In national parks:</i>	56	6	2	55	6.7	2
Elsewhere in Australia	42	25.6	0	42	25.6	0
<i>In national parks</i>	29	9.7	0	28	9.1	0
Australia total	100	47.8	15	87	47.5	15

Turning to itineraries across residence groups, Table 34 provides a breakdown. In this case, residents of other states account for the longest overall trip length (91 days), with international visitors accounting for 73 days and Queenslanders 16 days on average. The same ordering exists for days in the Granite Belt region, though all three groups spent similar periods in Eungella itself (about one and a half days). International visitors are most affected by the scenario closure of Eungella, reducing their regional length of stay by two days and being less likely than Australians to substitute to Cape Hillsborough, perhaps due to lack of information about the park. Again, there would be a gain in days spent elsewhere in Queensland, including national parks, and only modest change in days spent elsewhere in Australia. There would be a modest loss in overall trip length for Queenslanders and international visitors, and no change for other Australians.

Table 34: Itineraries by place of residence, average (mean) number of days - Eungella (weighted)

	Queensland (n = 123)			Elsewhere in Aus. (n = 68)			Abroad (n = 83)		
	Cur	Scen	Ch	Cur	Scen	Ch	Cur	Scen	Ch
Eungella Region	2.5	1.6	-0.9	6.3	5.1	-1.2	3.8	1.8	-2.0
<i>National parks:</i>									
Eungella	1.4		-1.4	1.4		-1.4	1.6		-1.6
Cape Palmerston	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cape Hillsborough	0.2	0.5	0.3	0.6	1.0	0.4	0.2	0.3	0.1
Other	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Elsewhere in Queensland	6.7	7.0	0.3	38.7	39.9	1.2	25.1	26.9	1.8
<i>In national parks:</i>	2.7	2.9	0.2	11.2	12.3	1.1	9.2	9.6	0.4
Elsewhere in Australia	6.3	6.3	0.0	46.2	46.3	0.1	43.9	44.0	0.1
<i>In national parks</i>	3.9	3.9	0.0	18.1	18.1	0.0	13.9	11.8	-2.1
Australia total	15.5	15.0	-0.5	91.2	91.3	0.0	72.8	72.7	-0.1

NB: Cur. = Current itinerary, Scen. = Scenario itinerary (if park did not exist), and Ch. = change in response to the scenario.

Daintree: Current and Scenario Itinerary

Table 35 shows current and scenario itineraries for the Daintree sample. The average length of stay in the region (Port Douglas) is higher than Girraween or Eungella, though (like Eungella) only a minority of these days are spent in the Cape Tribulation section of the Daintree. More than a third of the respondents also went to the Mossman section of the park, though the average length of stay was less than half a day. The percentages of

¹² For example, the number of days for the overall trip varied from one to 1,095. Fifteen people would spend one year or more travelling in Australia, of which nine are international visitors.

visitors who travelled elsewhere in Queensland and elsewhere in Australia are higher than for Girraween or Eungella. This presumably reflects in part a large number of international visitors making multi-state trips within the country. Similarly, the overall trip length is longer than the other two parks.¹³

In order to determine whether visitors to the park were staying overnight in the area, respondents were asked how many nights they were spending north of the Daintree River ferry. More than half (55 percent) were not spending any nights north of ferry, 16 percent were spending one night, 16 percent two nights, and the remainder three or more nights. The average number of nights was 1.0.

In the absence of the park (either the Cape Tribulation or Mossman sections), visitors would reduce their length of stay in the region by 63 percent. There is a net loss to the Great Barrier Reef in terms of the number of visitors who go there (23 percent to 16 percent), but the average length of stay remains constant at 0.3, so those who do go are staying longer. The loss in days to the region is compensated by a gain to elsewhere in Queensland and elsewhere in Australia, such that the overall trip length decreases by only a third of a day.

Table 35: Current itinerary and scenario itinerary if Daintree National Park did not exist (weighted)

	Current Itinerary			Scenario Itinerary (if Daintree did not exist)		
	% visited	Average	Median	% visited	Average	Median
Port Douglas region	100	4.0	3	30	1.5	0
<i>National parks:</i>						
Daintree – Cape Tribulation	100	1.7	1			
Daintree – Mossman	38	.4	0			
Cedar Bay	0	0	0	1	0	0
Great Barrier Reef	23	.3	0	16	.3	0
Elsewhere in Queensland	86	19.9	11	86	21.5	14
<i>In national parks:</i>	76	5.0	3	80	6.4	4
Elsewhere in Australia	67	38.3	10	67	39.0	12
<i>In national parks</i>	55	9.5	2	56	9.8	2
Australia total	100	62.2	25	94	61.9	25

Table 36 shows the itineraries of the three resident groups, and how they responded to the scenario. International visitors have the longest overall average trip length, but interstate visitors spend the most time in the region – and reduce their regional stay by the greatest number of days. As at Eungella, visitors at Daintree do not spend long at the park, but international visitors stay the longest. Given its location, it is understandable that no Queensland visitors are also travelling interstate as part of that trip. On the other hand, both interstate visitors and international visitors are spending substantial numbers of days, on average, elsewhere in the state and country.

Again, all groups spend less time in the region in the absence of the park, and they spend additional time elsewhere in the state, including in parks. International visitors also spend an additional day, on average, in the rest of the country. As in the other parks, there is only a modest effect on overall trip length.

Table 36: Itineraries by place of residence, average (mean) number of days - Daintree (weighted)

	Queensland (n = 25)			Elsewhere in Aus. (n = 42)			Abroad (n = 154)		
	Cur	Scen	Ch	Cur	Scen	Ch	Cur	Scen	Ch
Port Douglas Region	2.6	1.7	-0.9	5.9	2.9	-3.1	3.6	1.0	-2.6
<i>National parks:</i>									
Daintree – Cape Trib.	0.9		-0.9	1.6		-1.6	1.8		-1.8
Daintree – Mossman	0.2		-0.2	0.5		-0.5	0.4		-0.4
Cedar Bay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Great Barrier Reef	0.3	0.4	0.1	0.5	0.6	0.1	0.3	0.2	0.0
Elsewhere in Queensland	4.2	4.6	0.4	14.3	16.3	2.1	24.3	25.9	1.6
<i>In national parks:</i>	0.8	1.1	0.2	4.3	6.6	2.3	5.9	7.2	1.4
Elsewhere in Australia	0.0	0.0	0.0	30.2	30.2	0.0	47.1	48.1	1.0
<i>In national parks</i>	0.0	0.0	0.0	10.7	10.7	0.0	10.6	11.2	0.5
Australia total	6.8	6.3	-0.5	50.4	49.4	-1.0	75.0	75.0	0.0

NB: Cur. = Current itinerary, Scen. = Scenario itinerary (if park did not exist), and Ch. = change in response to the scenario.

¹³ Overall trip length varies from one to 1,800 days. Eight people were spending one year or more travelling in Australia, of which seven are international visitors.

Carnarvon: Current and Scenario Itinerary

Table 37 presents results for the Carnarvon current and scenario itineraries. As with Girraween, few respondents at Carnarvon went to other parks in the region. Like Eungella and, especially, Daintree, most respondents were visiting other parts of Queensland, and about a half visited other states. The average length of stay at Carnarvon and in the region is higher than for the other parks (see Figure 9). Like Daintree, the clear majority of respondents would bypass the local region if the park did not exist. Indeed, length of stay in the region is reduced by 79 percent in the absence of the park, a reduction more dramatic than for the other parks. As elsewhere, the region's loss of days would be balanced in part by a gain in other parts of the state and, to a lesser degree, other states.

Table 37: Current itinerary and scenario itinerary if Carnarvon National Park did not exist (weighted)

	Current Itinerary			Scenario Itinerary (if Carnarvon did not exist)		
	% visited	Average	Median	% visited	Average	Median
Carnarvon region	100	4.8	4	29	1.0	0
<i>National parks:</i>						
Carnarvon	100	3.2	3			
Salvator	1	0	0	1	0	0
Moffatt	3	.1	0	3	.1	0
Other	4	.1	0	5	.1	0
Elsewhere in Queensland	80	13.1	5	73	14.7	8
<i>In national parks:</i>	43	3.2	0	51	4.3	1
Elsewhere in Australia	47	13.6	0	42	14.0	0
<i>In national parks</i>	19	3.0	0	19	3.0	0
Australia Total	100	31.4	14	79	29.7	14

Turning to itineraries across groups (Table 38), interstate visitors spend the longest in the region, though Queensland visitors spend longest in the park, and foreign visitors spend the longest on the overall trip. All groups dramatically reduce their length of stay in the region in response to the scenario. Despite length of stay gains elsewhere in Queensland, total trip length declines for Australians.

Table 38: Itineraries by place of residence, average (mean) number of days - Carnarvon (weighted)

	Queensland (n = 124)			Elsewhere in Aus. (n = 62)			Abroad (n = 18)		
	Cur	Scen	Ch	Cur	Scen	Ch	Cur	Scen	Ch
Port Douglas Region	4.3	0.6	-3.7	5.2	1.2	-4.0	4.9	1.4	-3.4
<i>National parks:</i>									
Carnarvon	3.4		-3.4	3.1		-3.1	3.0		-3.0
Salvator	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Moffatt	0.0	0.1	0.1	0.2	0.1	-0.1	0.0	0.0	0.0
Other	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0
Elsewhere in Queensland	5.7	7.4	1.7	17.4	19.0	1.6	29.4	30.6	1.2
<i>In national parks:</i>	1.8	3.1	1.3	4.0	4.8	0.8	6.7	8.9	2.2
Elsewhere in Australia	3.4	3.7	0.3	16.3	16.6	0.4	68.9	71.1	2.2
<i>In national parks</i>	0.8	0.9	0.1	3.6	3.5	-0.1	15.0	15.0	0.0
Australia total	13.4	11.7	-1.7	38.9	36.9	-2.0	103	103	0.0

NB: Cur. = Current itinerary, Scen. = Scenario itinerary (if park did not exist), and Ch. = change in response to the scenario.

The itinerary changes described in these sections provide the basis for identifying the visitor expenditure due to the parks. That is the focus of the next section.

Chapter 6

Expenditure and Economic Impact

This section presents results of the expenditure portion of the survey and the resulting economic impact. As noted in Chapter 2, respondents reported expenditure in the local region, the rest of the state, and the rest of the country. The geographic focus of this analysis is the local region, so local region expenditure and impact is reported first. The expenditure and impact estimates include spending by visitors who, in response to the scenario, would change their itinerary to visit other regions in the state. This response does not represent a scenario-related gain or loss at the state level, but it does represent a loss at the local level.¹⁴

The unit of analysis is the visitor, and expenditure is defined as the spending of each person during a trip to the park. Per person (visitor) amounts are calculated by dividing group expenditure by the number of people in the group, with adults and children treated equally. Each visitor may make multiple entries (visits) to the park in the course of a single trip.

Context: The Impact of Tourism Generally

OESR (2002) provides estimates of tourism's contribution to the state and tourism regions for 1998-1999. At the state level, tourism contributed an estimated \$6.3 billion in Gross State Product, which represents 6.4 percent of the total. Tourism contributed an estimated 119,400 full-time equivalent (FTE) jobs, or 8.5 percent of the state total. The regional contributions are shown in Table 39.

Table 39: The Impact of Tourism Generally within Selected Tourism Regions that contain all or part of the Current Project Study Regions

Tourism Region	Includes this Study Region	Gross Regional Product (tourism % of regional tourism)	Tourism Employment (FTE)	Employment (tourism % of regional total)
Darling Downs	Granite Belt	4.5	3,840	5.8
Mackay/Whitsundays	Eungella	6.1	6,239	11.7
Tropical North Queensland	Port Douglas	14.4	17,118	16.3
Outback	Carnarvon	5.1	3,133	9.2
Fitzroy	Carnarvon	3.6	4,695	6.3

Girraween: Expenditure

Expenditure estimates were calculated as follows. After expenditure allocation as described in Chapter 2, the amount of expenditure in each category was converted into a per visitor measure by dividing total group expenditure by group size. This generated the expenditure figures for Girraween shown in Table 40 below.¹⁵ Holiday package expenditure is included as a separate category here to provide an indication of its magnitude. However, for the economic impact analysis it is allocated to other sectors as described in Chapter 2.

Key figures are highlighted in bold, and each of these are averages (means). Median total expenditure and expenditure per day figures are also provided, as they reflect the "typical" or "medium" visitor. Averages figures are higher than the medians due to "big spenders" at the high end of the distribution.

The "Traditional" total is simply the sum of actual expenditure across the categories. The "Conservative" total reflects the expenditure in the local region that is attributable to the park's existence. It is estimated by calculating an adjustment factor for each group. This factor is the scenario number of days divided by the actual number of days spent in the region. Thus, a person who actually spent four days in the Granite Belt region but would only spend one day there if the park did not exist would have an adjustment factor of 0.25. For each respondent, this adjustment factor was multiplied by the Traditional total to generate the "If park did not exist" value. The difference between these two is the Conservative total – the expenditure that would be lost to the region if the park did not exist, and thus the expenditure that can be attributed to the park.

In the case of local residents, the adjustment factor was set to 1.0 unless the respondent would have travelled outside the region in response to the scenario. If the respondent would have travelled outside the region, the adjustment factor is calculated the same as above – the number of days in the region in response to the scenario

¹⁴ A statewide level of analysis would show relatively little impact from the existence of individual parks, as many respondents substitute to other parks and regions within the state (see Chapter 5). However, if the state were the level of analysis, the appropriate scenario would be the absence of all parks within the state, rather than of individual parks.

¹⁵ The expenditure, and resulting impact, estimates provided in this section are based on weighted analysis of the data. Figures from unweighted analysis are similar and are available from the authors.

divided by the actual number of days in the region. For example, if a resident of the Granite Belt spent four days in the region but would have cancelled the trip altogether if Girraween did not exist, the adjustment factor is 1.0. This represents no expenditure attributed to the park (for non-local visitors, such a cancellation would lead to all local expenditure attributed to the park). However, if he/she still would have travelled, spending three days in the region and one outside, the adjustment factor is 0.75, which represents one day of expenditure attributed to the park.

The per-year expenditure, in thousands of dollars, is the total per-visitor expenditure multiplied by the number of annual visitors (shown in Chapter 2). Per-year totals are provided for spending by category and for the two types of total expenditure.

Table 40: Expenditure in the Granite Belt Local Region, by Place of Residence and Total

	Per Visitor \$			Per Year \$000		
	Local (n = 21)	Elsewhere in Qld (n = 249)	Elsewhere in Aus. (n = 53)	Abroad (n = 10)	Total (n = 333)	Total
Holiday packages	0.00	0.18	0.00	0.00	0.14	7
Air tickets	0.00	0.00	0.00	0.00	0.00	0
Rail tickets	0.00	0.00	0.00	0.00	0.00	0
Hire car	0.00	0.13	0.00	0.00	0.10	5
Petrol	12.18	14.68	13.08	27.27	14.50	685
Other transport	0.00	0.49	0.00	0.00	0.38	18
Accommodation	7.85	22.54	19.64	32.98	21.39	1,010
Groceries / Shopping	11.14	19.16	25.09	31.32	19.84	937
Food and drink (restaurant)	7.44	11.02	7.45	11.73	10.25	484
Personal services	0.00	0.17	0.33	1.41	0.21	10
Social activities	0.00	0.96	1.48	1.14	0.99	47
Total (Traditional)	38.61	69.34	67.07	105.84	67.80	3,202
Total (Traditional), median	19.50	38.89	34.33	82.50	37.50	
Traditional per day	14.97	19.39	17.32	21.33	18.83	
Traditional per day, median	12.18	11.48	13.00	17.81	11.89	
If park did not exist	26.19	33.29	36.13	87.11	34.29	
Total (Conservative)	12.42	36.05	30.94	18.73	33.51	1,583

Results indicate an average expenditure across all groups of \$67.80, or \$18.83 per day in the region. Of this amount, \$34.29 would have been spent even if the park did not exist, so the amount attributable to the park is \$33.51 per visitor. The Conservative total is approximately half of the Traditional total, suggesting that, on average, half (49 percent) of the days spent in the region would be lost if the park did not exist. As shown in the first row of Table 31, in reality 58 percent of the days would be lost. The difference is partly due to treatment of local resident expenditure, as their expenditure remains in the region even when they would no longer travel in the region. However, it also indicates that non-local visitors remaining in the region tend to spend more, on average, than those displaced due to the park's absence. This is consistent with the other attractions in the area, wineries, which presumably attract higher-than-average spenders.

Turning now to the residence groups, we see that international visitors spend more, both in total (Traditional) and per day. They are also less affected by the absence of the park (Table 32), so most of their expenditure would remain in the region even if the park did not exist. Again, differences across groups should be treated with caution given the small number of observations in some groups – in this case locals and international visitors.

Estimated total annual expenditure is \$3.2 million using the Traditional method and \$1.6 million using the Conservative method.

Eungella: Expenditure

Turning to Eungella (Table 41), the total Traditional expenditure per visitor (\$121) is almost twice that of Girraween, but most of the expenditure would occur in the absence of the park. Nonetheless, the total due to the park remains greater than at Girraween – \$42.01 versus \$33.51. As a proportion, 35 percent of the expenditure is due to the park, while 65 percent would occur in the park's absence. The distribution of visitors across residence groups is fairly even, which provides greater confidence in inter-group comparisons. Interstate visitors easily spend the most per person, though differences are much more modest on a per person per day basis. On that basis, interstate and international visitors are very similar and only moderately higher than non-local Queenslanders. Local residents spend the least and, because of the way their expenditure is treated, make only a modest contribution to the Conservative total.

Table 41: Expenditure in the Eungella Local Region, by Place of Residence and Total

	Per Visitor \$			Per Year \$000		
	Local (n = 62)	Elsewhere in Qld (n = 61)	Elsewhere in Aus. (n = 68)	Abroad (n = 82)	Total (n = 276)*	Total
Holiday packages	0.00	38.13	10.50	0.50	10.98	988
Air tickets	0.00	0.00	4.44	3.02	1.79	161
Rail tickets	0.00	0.00	0.00	0.00	0.00	0
Hire car	0.00	0.00	16.44	5.17	6.35	572
Petrol	6.57	23.80	36.57	22.29	20.91	1,882
Other transport	0.00	1.33	3.48	2.51	1.73	156
Accommodation	5.19	36.50	56.16	23.77	27.88	2,509
Groceries / Shopping	3.43	26.73	39.57	46.17	28.54	2,569
Food and drink (restaurant)	6.65	18.09	39.44	20.68	20.18	1,816
Personal services	0.00	1.45	2.04	1.04	1.02	92
Social activities	0.16	0.57	3.57	3.12	1.81	163
Total (Traditional)	22.00	146.60	212.22	128.26	121.19	10,907
Total (Traditional), median	11.67	91.00	131.50	87.50	71.00	
Traditional per day	16.42	35.44	39.20	39.82	33.60	
Traditional per day, median	11.67	23.90	30.00	35.00	25.00	
If park did not exist	21.26	102.66	176.64	48.69	79.18	
Total (Conservative)	0.74	43.95	35.58	79.57	42.01	3,781

*The Total column includes three observations for which residency information was not available.

Estimated total annual expenditure is \$10.9 million using the Traditional method and \$3.8 million using the Conservative method.

Daintree: Expenditure

As illustrated in Table 42, visitors at Daintree spend far more than those at other parks, both per trip and per day. Fifty-eight percent of this expenditure is attributable to the park, leading to a Conservative total of \$212.17 per visitor, twice as much as at Carnarvon and more than five times as much as at Eungella and Girraween. Much of the difference in expenditure is accounted for by the noticeably greater amounts spent on other transport (which includes tours), accommodation, and restaurant food and drink. This is not surprising given the types of visitors that come to Daintree, as well as the accommodation options available to them. The expenditure total is much higher than that found in the Daintree / Cape Tribulation study reported in Chapter 1 (Table 2), even when one includes the effect of the extra two days/nights.

Although all results for individual groups should be treated with some caution due to small sub-sample size, this is especially true for the results for local residents at Daintree, which is based on only three respondents. Turning to the other three groups, interstate visitors spent the most both per visitor and per day. International visitors spend less, but in percentage terms are more sensitive to the scenario, with 68 percent of their

expenditure lost if the park did not exist, compared to 44 percent for interstate visitors and 25 percent for non-local Queenslanders.

Table 42: Expenditure in the Daintree Local Region, by Place of Residence and Total

	Per Visitor \$			Per Year \$000		
	Local (n = 3)	Elsewhere in Qld (n = 22)	Elsewhere in Aus. (n = 42)	Abroad (n = 154)	Total (n = 221)	Total
Holiday packages	0.00	0.00	43.50	19.90	22.60	11,300
Air tickets	0.00	0.00	0.00	0.00	0.00	0
Rail tickets	0.00	0.00	0.63	0.00	0.13	65
Hire car	0.00	33.66	24.25	6.05	12.51	6,255
Petrol	18.00	14.18	18.61	10.06	12.36	6,180
Other transport	15.00	29.68	88.99	69.30	68.77	34,385
Accommodation	0.00	54.74	203.81	108.96	121.97	60,985
Groceries / Shopping	48.00	12.29	55.15	32.44	35.39	17,695
Food and drink (restaurant)	126.00	43.32	138.25	79.86	89.03	44,515
Personal services	0.00	0.00	0.24	0.81	0.60	300
Social activities	8.00	0.00	9.96	4.65	5.35	2,675
Total (Traditional)	215.00	187.87	583.41	332.04	368.72	184,360
Total (Traditional), median	55.00	49.50	385.00	164.00	167.50	
Traditional per day	31.67	61.95	90.77	76.01	77.12	
Traditional per day, median	41.67	27.50	78.47	56.00	56.00	
If park did not exist	215.00	141.59	327.57	104.98	156.54	
Total (Conservative)	0.00	46.28	255.84	227.06	212.17	106,085

Estimated total annual expenditure is \$184.4 million using the Traditional method and \$106.1 million using the Conservative method.

Carnarvon: Expenditure

The expenditure results for Carnarvon are shown in Table 43, and one can see that average expenditure is much greater than at Girraween, both per day and for the trip as a whole. It is somewhat greater than Eungella in total, but less per day. The proportion of spending attributable to the park (Conservative divided by Traditional) is 77 percent, greater than for the other three parks. The total and per day expenditure shown in Table 40 are less than the values reported in a previous study at Carnarvon (see Chapter 1). International visitors at Carnarvon account for less Traditional and Conservative expenditure than do non-local Australians. Interstate visitors spend the most per trip, though non-local Queenslanders spend the most per day.

Table 43: Expenditure in the Carnarvon Local Region, by Place of Residence and Total

	Per Visitor \$			Per Year \$000		
	Local (n = 8)	Elsewhere in Qld (n = 116)	Elsewhere in Aus.(n = 161)	Abroad (n = 18)	Total (n = 304)*	Total
Holiday packages	0.00	12.61	1.93	0.00	6.29	296
Air tickets	0.00	0.00	0.00	0.00	0.00	0
Rail tickets	0.00	0.00	0.00	0.00	0.00	0
Hire car	0.00	0.00	0.00	0.00	0.00	0
Petrol	19.78	34.40	42.05	22.68	37.22	1,749
Other transport	0.00	1.79	2.30	3.39	2.09	98
Accommodation	20.22	48.22	46.21	42.31	46.30	2,176
Groceries /	10.87	17.76	33.24	26.02	25.76	1,211

Shopping						
Food and drink (restaurant)	5.65	15.92	11.24	21.63	13.65	642
Personal services	0.00	0.57	1.23	0.17	0.86	40
Social activities	0.00	1.35	2.31	1.53	1.80	85
Total (Traditional)	56.52	132.62	140.52	117.72	133.98	6,297
Total (Traditional), median	43.33	100.00	101.00	72.50	100.00	
Traditional per day	25.63	32.81	29.47	30.39	30.88	
Traditional per day, median	27.50	24.09	19.60	23.13	22.22	
If park did not exist	56.52	26.09	34.99	29.09	31.26	
Total (Conservative)	0.00	106.54	105.54	88.63	102.72	4,828

*The Total column includes one observation for which residency information was not available.

Estimated total annual expenditure is \$6.3 million using the Traditional method and \$4.8 million using the Conservative method.

Impact Analysis: Local, State-wide, and Tax Revenue

As described in Chapter 1, the visitor expenditure shown in Table 40 through Table 43 generates flow on or multiplier effects in the respective regional economies. The total effects across a range of variables are shown in Table 44. Greater detail on the effects (e.g., by individual sectors) and their calculation are provided in the project report prepared by the Centre for Economic Policy Modelling at the University of Queensland, which is available upon request.

The variables are defined as follows. Gross output is the total value of production or total expenditure on all goods and services purchased in the chain of production by firms in the region. Gross output measures are susceptible to multiple counting because they sum the intermediate transactions over all stages of production during the production process. Consequentially, they can substantially overstate the contribution to economic activity. A preferred measure is value added.

This is technically defined as wages, salaries, and supplements paid to labour plus gross operating surplus plus indirect taxes on products and production less subsidies. However, for practical purposes it measures payments to factors of production (labour and capital), including net taxes on production. The sum of all industry value added is equal to gross regional product (GRP), which is the regional equivalent of the gross domestic product (GDP).

Household income is the income earned by employees during the production process, and is a portion of the gross regional product. This income is associated with employment, defined here as the number of full-time equivalent jobs generated.

Table 44: Local Economic Impact of Visitor Expenditure, by Park and Type of Impact

Park	Total Output (\$000)	Total Gross Regional Product (\$000)	Total Household Income (\$000)	Total Employment (FTE jobs)
Girraween				
Traditional	2,547	1,215	697	25
Conservative	1,256	599	344	12
Eungella				
Traditional	8,514	4,114	2,374	80
Conservative	2,951	1,426	823	28
Daintree				
Traditional	112,919	54,103	31,324	1,366
Conservative	64,976	31,132	18,025	786
Carnarvon				
Traditional	4,260	2,006	1,233	41
Conservative	3,266	1,538	945	31

The estimates for output, as well as the other variables, are lower than the visitor expenditure figures shown in Table 40 through Table 43 because only a portion of that expenditure remains in the local economy as "final demand" – much of it leaks away in the form of imports and taxes. Nonetheless, the figures in Table 44 illustrate the substantial contribution national park tourism makes to regional economies in Queensland. Daintree makes by far the greatest contribution, a result of higher per-visitor expenditure (Table 42) and, especially, higher numbers of visitors (Table 7).

Comparing the number of jobs created by tourism at these parks (using the Traditional measure in Table 44) with the number of jobs in the tourism region in which the park is located (Table 39); one finds that spending in the local area by Daintree visitors generates approximately 8% of the Tropical North Queensland jobs in tourism. The equivalent percentages for Eungella (Mackay / Whitsundays region) are 1.3%, Girraween (Darling Downs) 0.7%, and Carnarvon (Outback and Fitzroy) 0.5%. These lower percentages are expected insofar as individual parks generally comprise only a portion of the tourism offerings within these fairly large regions.

The focus to this point has been on local expenditure and economic impact. Most visitors also spend money in other parts of the state, and this generates economic impact in those non-local regions. Table 45 presents estimates of park visitor total expenditure within Queensland, whether local or non-local. It also presents estimates of this expenditure's contribution to state-wide value added (Gross State Product=GSP), employment, and Queensland state government revenue. The local impact estimates were based on detailed regional economic models developed specifically for this project. The state-wide impact estimates are based on extrapolations. Specifically, the ratio of expenditure to GSP and employment from OESR's state-wide analysis (2002) was used to convert expenditure to GSP and employment in this analysis. Following Mules (1999), state government tax revenue is based on the ratio of state tax to GSP. In the case of Queensland, this is estimated as 3.3%. Note that only Traditional measures are shown here, as Conservative measures involve in part substitution within the state and therefore are not appropriate for these calculations.

Table 45: Statewide Expenditure and Impact, by Park and Type of Impact (Traditional)

Park	State-wide Expenditure			Impact Expenditure	
	Per Person (\$)	Total (\$ millions)	GSP (\$ millions)	Employment (FTE)	Qld State Revenue (\$ millions)
Girraween	267	12.6	5.4	103	0.18
Eungella	1,136	102.3	44.0	836	1.45
Daintree	1,913	956.4	411.7	7,813	13.59
Carnarvon	853	40.1	17.3	328	0.57

The state-wide total greatly increases estimated expenditure for several reasons. First, it includes additional days – those spent in Queensland but outside the relevant study region. For example, in Eungella and Daintree, the ratio of days spent elsewhere in Queensland to days spent in the region is approximately 5 to 1. Second, it covers some expenditure by non-local Queenslanders made in preparation for the trip. For example, expenditure on fuel by Brisbane residents prior to departure for Girraween would be included in the state-wide expenditure but not the Granite Belt region expenditure. Third, visitors may spend more per day in Queensland locations outside the relevant study region. For example, visitors going to the Whitsundays before or after Eungella likely will spend more per day there than during their visit to Eungella.

In turn, state-wide gross state product (GSP) impact is also greater, an effect reinforced by the greater size of the economy at that level. For example, inputs from Brisbane needed to provide a tourism experience in the Carnarvon region would be treated as an import in that region's model, but not in the state-wide model.

In the case of Daintree, several (32 percent) of the respondents purchased holiday packages "elsewhere in Queensland." On average across all Daintree respondents, this accounts for 13 percent of their state-wide expenditure. Unfortunately, less detail was collected to guide allocation of package expenditure made elsewhere in the state than of package expenditure in the local region. On average, the number of days spent in Queensland (Port Douglas and elsewhere) is 38 percent of the total days spent in Australia (Queensland and elsewhere in Australia), as shown in Table 35. However, package details that were obtained indicated that the packages were more likely to be for travel in Queensland (e.g., Great Barrier Reef and Frasier Island) than for other states. Therefore, as a rough estimate 50 percent of the holiday package expenditure made elsewhere in Queensland is allocated to the state.

The estimates shown in Table 45 can be converted to per visitor units, as shown in Table 46 (except employment, which is per 1000 visitors).

Table 46: Per Visitor Statewide Expenditure and Impact, by Park and Type of Impact (Traditional)

Park	Expenditure per person (\$)	Impact Extrapolations		
		GSP (\$)	Employment (FTE per 1000 visitors)	Qld State Govt Revenue (\$)
Girraween	267	115	2.2	3.79
Eungella	1,136	489	9.3	16.14
Daintree	1,913	823	15.6	27.17
Carnarvon	853	367	7.0	12.12

Visitors to Girraween, who have the least expenditure and impact, generate \$115 in GSP per person and \$3.79 in Queensland state government revenue. Every 1,000 Girraween visitors generate approximately 2 FTE jobs. On the other end of the spectrum, the average visitor to the Daintree generates \$823 in GSP and \$27.17 in state government revenue.

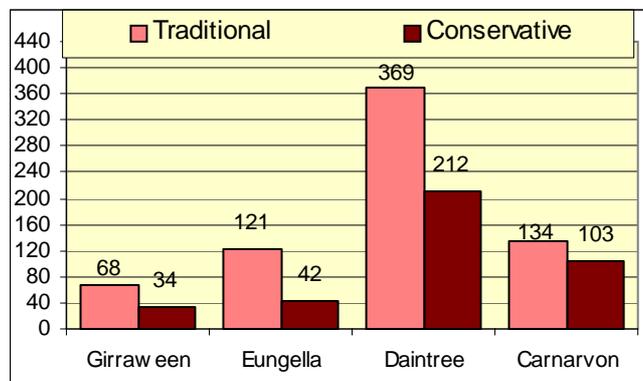
Summary: Expenditure and Impact

The results presented in the previous sections indicate that visitors at Queensland's national parks generate substantial amounts of local economic activity through their regional expenditure. This section briefly summarises those results and presents them graphically. As shown in Figure 21, visitor expenditure (direct impact) varies widely across parks, with Daintree visitors spending by far the most in both Traditional and Conservative measures. Visitors at Girraween spend the least.

Carnarvon visitors are the most "park dependent" in the sense that most of their regional expenditure would not occur if the park did not exist, and thus most of their expenditure can be attributed to the park (i.e., Conservative as a percentage of Traditional is highest at Carnarvon). Eungella visitors are the least park dependent, with only about a third of their expenditure being attributable to the park.

On average, the expenditure estimates for these Queensland parks are higher than those for the New South Wales parks reported in Chapter 1 (Table 6). The NSW figures are equivalent to the Traditional measure. Although Montague Island has an average of \$206 and the Western parks an average of \$107, the other parks average \$12 to \$35 per visitor.

Figure 21: Total local expenditure per visitor across parks, traditional and conservative (dollars)



Converting the expenditure to a per day basis (Figure 22) somewhat narrows the differences across parks, but Daintree visitors still spend much more than others on this basis. The mean is the primary measure used in this report, but the median is presented for comparison. As expected, the mean is higher than the median in all cases – it is "pulled up" by high spenders. In the case of Girraween, the median is only 63 percent of the mean, but for the other parks the percentage is just over 70.

Figure 22: Total local expenditure per visitor across parks, per day, mean and median, traditional (\$)

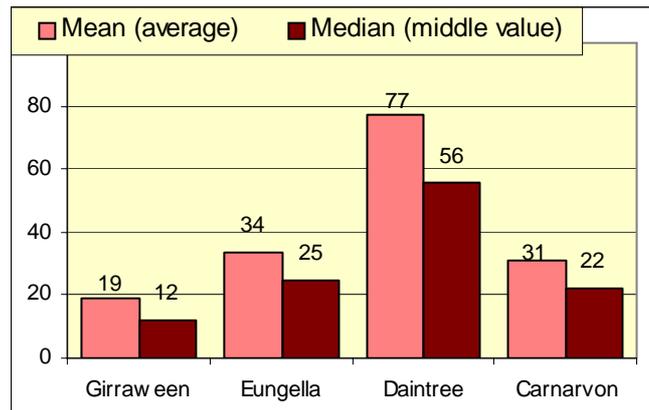


Figure 23 through Figure 26 show the total local economic impact of visitor expenditure, including flow-on effects. It is based on Table 44, but note that the values are in millions of dollars, rather than thousands of dollars. The figures show graphically what is also apparent from Table 44 – that Daintree generates by far the greatest impact.

Figure 23: Total local economic impact across parks: output, traditional and conservative (million dollars)

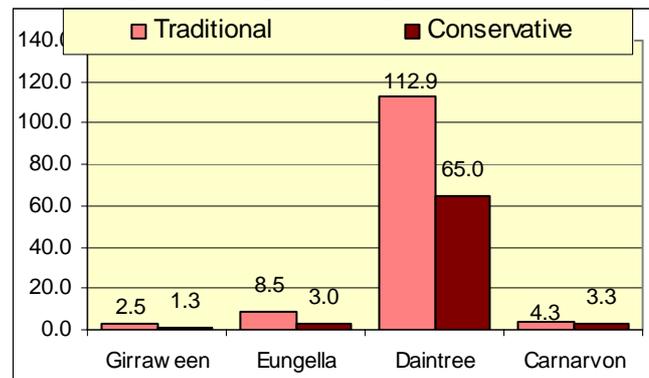


Figure 24: Total local economic impact across parks: gross regional product, traditional and conservative (\$million)

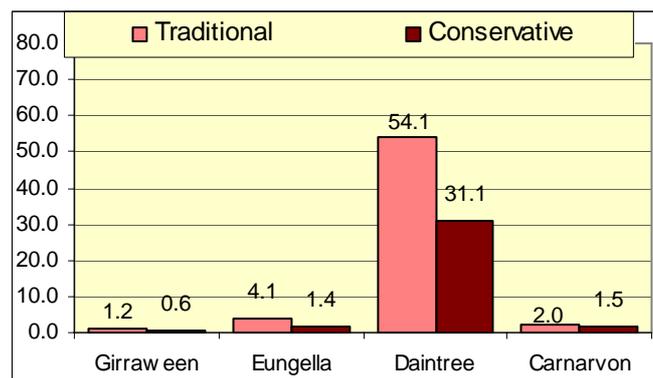


Figure 25: Total local economic impact across parks: household income, traditional and conservative (\$ million)

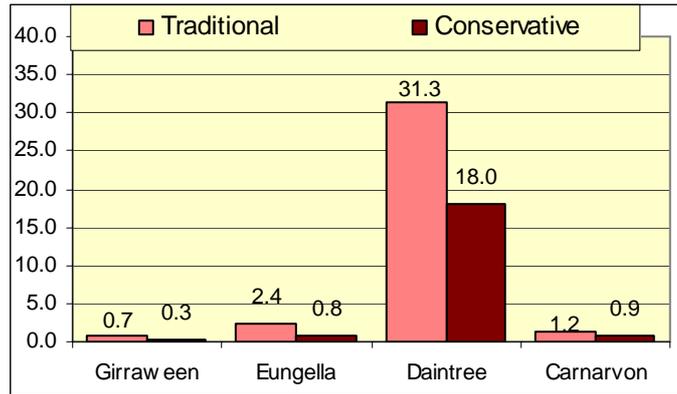
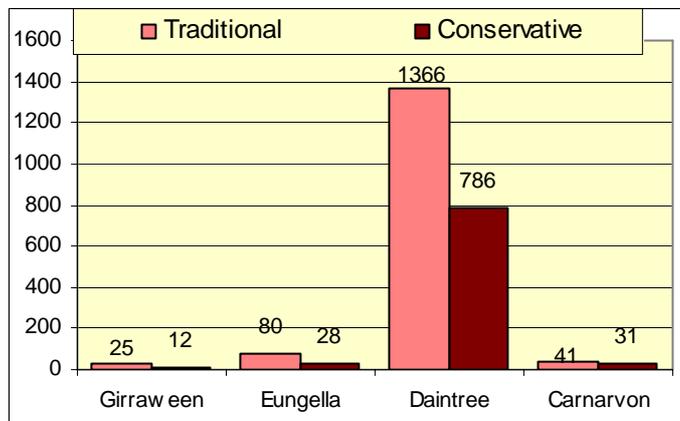


Figure 26: Total local economic impact across parks: employment, traditional and conservative (FTE jobs)



The above graphs show results at the local level. The following figures, based on Figure 28, show the results for the state-wide level using per visitor, traditional measures.

Figure 27: Statewide expenditure and GSP contribution, per visitor, traditional (dollars)

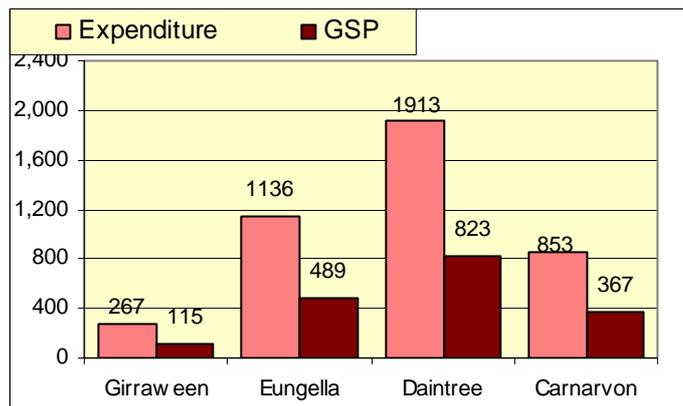


Figure 28: Statewide employment, per thousand visitors, traditional (FTE jobs)

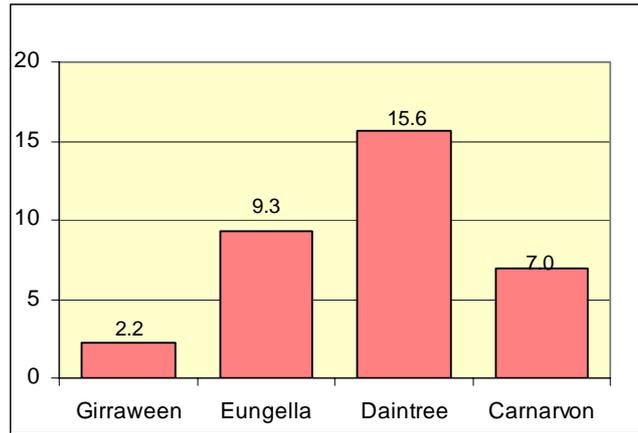
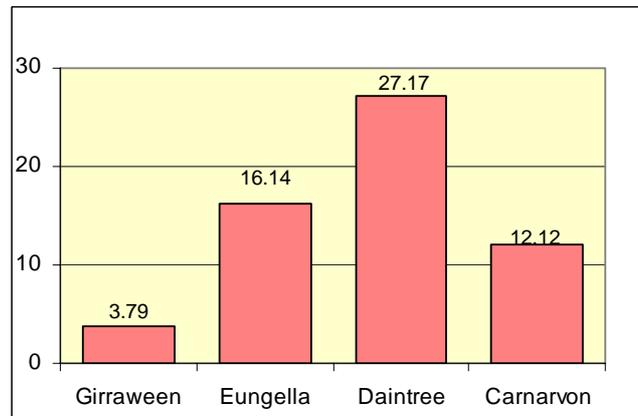


Figure 29: Statewide Queensland Government revenue, per visitor, traditional (dollars)



The use of per visitor estimates rather than totals for each park narrows the differences across parks, but Daintree still dominates in its contribution.

Chapter 7

Conclusion

There is a widespread feeling that governments around the world have underinvested in both tourism and nature conservation. For example, in 1994-1995, tourism contributed 7.1% of Australia's GDP but only received 0.4% of government spending on research and development (Bushell, Prosser, Faulkner & Jafari 2001). As noted by Beeton (2001) in the context of Queensland's national parks, there is clear evidence of:

a chronic under-resourced National Parks system in the 1990's. The on-the-ground resources are not sufficient to effectively maintain the conservation values of the estate and maintain existing capital assets, let alone provide the visitor experiences, which are an integral part of the internationally recognised role of National Parks.

Studies such as the present one help raise awareness of the contribution of national parks, through tourism, to economic development in rural and regional areas. As policy makers, and the general public, become more aware that parks provide both conservation and development benefits, it is hoped that park funding will increase commensurably. Anecdotally, it is clear that parks have not maximised their tourism and rural development potential, and that greater investment in parks will lead both to better conservation outcomes and to greater development benefits.

This project did not involve a formal cost-benefit analysis. Nonetheless, results indicate that government funding of national parks in Queensland is modest relative to the economic benefits that these parks provide to rural and regional areas of the state—and relative to the state government revenues they generate. For example, Kinhill Economics (1998) estimate that Queensland Parks and Wildlife Service spends \$17 million annually for visitor management and \$16 for broader resource management. Combined, this approximates the contribution of only one section (Cape Tribulation) of one park (Daintree) to household income in the local region: \$31.3 million. Moreover, the Queensland state government revenue generated by tourism at Daintree alone (\$13.59 million) is almost as great as the Kinhill estimate of QPWS spending for visitor management throughout the system (\$17 million). When one includes the government revenue generated by tourism at other QPWS sites, it is clear that tourism more than "pays its way" purely in financial terms. Adding the benefits accruing to the visitors themselves, as well as the non-tourism benefits provided by parks, the results of this study indicate that funding for parks does not reflect the level of benefits they provide to society.

Appendix A: Copies of the Visitor Surveys

NB: Although the surveys are generally written in "self-complete" format, they were all administered by interviewers. In the case of Girraween and Eungella, only the surveys used in the second waves are shown—they differed slightly from those used in the first wave.

Girraween Survey

Interviewer use only

Interviewer _____

Date _____ Site _____ Sur. No. _____ Ans. As _____ Indiv. _____ Group: adults _____ child _____

This survey is **voluntary**, **anonymous**, and completely **confidential** – you will not be asked to give your name, and only summary results will be reported. Please tell the interviewer if you completed a copy of this survey previously. Thank you for your participation.

1. **To begin, please tell us where you spent the night before you arrived at Girraween National Park.**
 - a) At home
 - b) Elsewhere – please write name of town/location _____

2. **And where will you spend the first night after you leave the park?**
 - a) At home
 - b) Elsewhere – please write name of town/location _____

3. **How many visits, including this one, have you made to Girraween National Park?**
 - a) 1 – this is my first visit to the park
 - b) 2 to 3
 - c) 4 to 5
 - d) 6 to 10
 - e) More than 10

4. **Park staff would like to know whether people use the services and facilities that are available in the park and how important these are in trip decisions.**

Service of Facility	Have you used / will you use?	If not available, would you have spent less time / not come at all?	Did it contribute to your experience?
Information centre	No Yes →	Yes (less time) No (no effect) →	No Yes
Flush toilets and hot showers at campgrounds (rather than pit toilets and cold showers)	No Yes →	Yes (less time) No (no effect) →	No Yes
Firewood	No Yes →	Yes (less time) No (no effect) →	No Yes

5. **Park staff would also like to know what would add to your experience, and in particular would lead people to stay longer. If there are any services or facilities that currently do not exist in the park, but would lead you to stay longer if they did, please write them here.**
-

6. Girraween National Park used to provide free slide shows, but due to budget cuts this is no longer possible. However, it would be possible to provide the service if enough people are willing to pay a fee for it. If slide shows were available at a cost of \$5 per adult, \$3.50 per child 5 to 17 years old, and free to children under 5, how many persons from your group would have participated in a slide show during this visit? (If you are completing the survey as an individual, just respond for yourself.)

Adults	Children 5-17 years	Children less than 5 years
_____	_____	_____

7. Likewise, the park may need to ask for a gold coin donation for firewood and hot showers. Would you be willing to make such a donation for these items?

- a) Yes
- b) No

Now we'd like to learn more about this trip. By "trip," we mean the period from when you left your home (usual place of residence) to when you will return home.

8. How many days will you spend on this trip? (If you are spending less than a day away from home, please write "1".)

_____ days

9. Next, please write how many days you will spend in each region below, as well as how many days at national parks or other protected areas (such as the Great Barrier Reef) within each region. (Please refer to the map provided by the interviewer.)

9a. I will spend the following number of days in the Granite Belt region _____ days

Of these days in the Granite Belt region, I will spend the following in these national parks:

Girraween _____ days

Sundown _____ days

9b. I will spend the following number of days elsewhere in Queensland _____ days

Please list the parks you will visit elsewhere in Queensland and the number of days you will spend in each: (If you will go to more than 6 parks elsewhere in Queensland, please tell the interviewer.)

Name of park _____ days

9c. I will spend the following number of days elsewhere in Australia _____ days

Of these, I will spend the following number of days in parks: _____ days

9d. Total number of days in Australia on this trip (Should equal the number in Question 8 (above) unless you are also travelling overseas on this trip.) _____ days

An important issue for the Queensland Parks and Wildlife Service is the role parks play in people's decisions about where to travel. Please consider the following hypothetical scenario.

10. If Girraween National Park did not exist, and the area was privately owned with no public access, would you have 1) cancelled the trip altogether or 2) taken the trip with a different itinerary? (Circle the appropriate number and proceed as instructed.)

- a) I would have cancelled the trip altogether. Please skip to Question 12.
- b) I would have had a different itinerary. Please continue with Question 11.

11. Please indicate the itinerary you would have had if Girraween National Park did not exist by writing how many days you would have spent in each in each region and park.

11a. I would have spent the following number of days in the Granite Belt region _____ days
Of these days in the Granite Belt region, I would have spent the following in these national parks:

Girraween _____ days
Sundown _____ days

11b. I would have spent the following number of days elsewhere in Queensland _____ days

Please list the parks you would have visited elsewhere in Queensland and the number of days you have spent in each: (If you would have gone to more than 6 parks elsewhere in Queensland, please tell the interviewer.)

Name of park _____ days
Name of park _____ days
Name of park _____ days
Name of park _____ days

11c. I would have spent the following number of days elsewhere in Australia _____ days

Of these, I would have spent the following number of days in parks: _____ days

11d. Total number of days you would have spent in Australia on this trip (should equal the number in Question 8, above, unless you are also travelling overseas on this trip). _____ days

Next, we'd like to find out how much people spend in this region (and others) during their trip.

12. Please tell us how much you will spend on the following items during this trip.

- include pre-trip expenditures (not including food, but including petrol)
- include expenditures made on the trip so far
- include amount you will spend during the remainder of your trip
- if completing the survey as an individual, include only expenditure made for YOUR trip, either paid by yourself or by someone else (e.g., by your employer)
- if completing on behalf of a group, include all expenditure made by or for the entire GROUP
- report expenditure by the location of purchase -- if purchased an item by phone, mail, or the internet, report by the location of the company that sold it
- do not worry about expenditure made outside of Australia – unless that expenditure was for travel inside Australia (e.g., a package including hotels)

	Amount spent / will spend (in AUD\$) in each region		
	Granite Belt Region	Elsewhere in Queensland	Elsewhere in Australia
Holiday package			
Air tickets			
Train/rail tickets			
Hire car rental fees			
Petrol & other motor vehicle expenditure			
Other transport fares (eg. taxis, bus, tours)			
Accommodation (eg. hotel, camping in caravan parks or national parks)			
Groceries/shopping/gifts/souvenirs/clothing			
Food & drinks (restaurants, fast food or cafes)			
Personal services (e.g., laundry, hairdressers)			
Social activities/entertainment/entrance fees			
Other			

Please specify nature of main items included in "Other":

The expenditure reported here is for _____ person / people.

Lastly, we would like to ask some questions to learn more about the characteristics of people that visit this park. All responses are confidential, and we will not ask your name or anything else to identify you.

- 13. First, please tell us where you are from. If you are a resident of Australia, please write your postcode. If you are a resident of another country (overseas visitor), please write the name of that country.**

Australian resident: Postcode _____ Overseas visitor: Country _____

- 14. What is your gender? Those answering as individuals should TICK the appropriate box. Group representatives should show the NUMBER of persons in their group in each category.**

Female _____ Male _____

- 15. What is your age? Those answering as individuals should TICK the appropriate box. Group representatives should show the NUMBER of persons in their group in each age category. If you do not know the ages of some members of your group, make an estimate, or include them in the “can’t say” box.**

Under 18 years _____	50 - 59 years _____
18 - 29 years _____	60 years or over _____
30 - 39 years _____	Can’t say _____
40 - 49 years _____	

- 16. What is your income? Income refers to annual income per person from all sources before any tax is paid. Those answering as individuals should TICK the appropriate box. Group representatives should show the NUMBER of adults in each income category. If you don’t know the income of some members of your group, include them in the “can’t say” box.**

If you are an overseas visitor and don’t know the Australian dollar equivalent of your income, please contact the interviewer.

Less than \$20,000 _____	\$65,000 - \$79,999 _____
\$20,000 - \$34,999 _____	\$80,000 or above _____
\$35,000 - \$49,999 _____	Can’t say _____
\$50,000 - \$64,999 _____	

- 17. What is your highest level of education? Those answering as individuals should TICK the appropriate box. Group representatives should show the NUMBER of adults in each education category. If you don’t know the educational level of some members of your group, include them in the “can’t say” box.**

Primary _____	Diploma _____
School certificate _____	Degree _____
Higher school certificate _____	Higher degree _____
Trade qualification _____	Can’t say _____

Thank you for completing this survey! Do you have any further comments?

Eungella Survey

Interviewer use only

Interviewer _____

Date _____ Site _____ Sur. No. _____ Ans. As _____ Indiv. _____ Group: adults _____ child _____

This survey is **voluntary, anonymous**, and completely **confidential** – you will not be asked to give your name, and only summary results will be reported. Please tell the interviewer if you completed a copy of this survey previously. Thank you for your participation.

1. To begin, please tell us where you spent the night before you arrived at Eungella National Park.

- a) At home
- b) Mackay
- c) Elsewhere – please write name of town/location _____

2. And where will you spend the first night after you leave the park?

- a) At home
- b) Mackay
- c) Elsewhere – please write name of town/location _____

3. How many visits, including this one, have you made to Eungella National Park?

- a) 1 – this is my first visit to the park
- b) 2 to 3
- c) 4 to 5
- d) 6 to 10
- e) More than 10

4. Park staff would like to know whether people use the services and facilities that are available in the park and how important these are in trip decisions.

Service of Facility	Have you used / will you use?	If not available, would you have spent less time / not come at all?	Did it contribute to your experience?
Information centre	No Yes →	Yes (less time) No (no effect) →	No Yes
Flush toilets and hot showers at campgrounds (rather than pit toilets and cold showers)	No Yes →	Yes (less time) No (no effect) →	No Yes
Firewood	No Yes →	Yes (less time) No (no effect) →	No Yes

5. Park staff would also like to know what would add to your experience, and in particular would lead people to stay longer. If there are any services or facilities that currently do not exist in the park, but would lead you to stay longer if they did, please write them here.

6. 6a. Eungella National Park has provided free slide shows, guided walks, and spotlighting tours, but may need to charge for these services in the future. If slide shows were available at a cost of \$5 per adult, \$3.50 per child 5 to 17 years old, and free to children under 5, how many persons from your group would have participated in a slide show during this visit? Repeat for guided walks and spotlighting tours.

If all persons in party would participate at this fee level, skip 6b and 6c. If some don't participate in one or more activities, ask 6b for that/those activity/ies.

6b. If instead of these fees, the services were provided on the basis of a gold coin donation, how many persons from your group would have participated?

If all persons in party would participate at Gold Coin level, skip 6c. If some don't participate in one or more activities, ask 6c for that/those activity/ies.

6c. Lastly, if the services were free, how many persons from your group would have participated?

	6a. Full Fee			6b. Gold Coin			6c. Free		
	Slide Shows	Guided Walks	Spotlight Tours	Slide Shows	Guided Walks	Spotlight Tours	Slide Shows	Guided Walks	Spotlight Tours
Adults									
Children 5 to 17 years old									
Children under 5									

7. 7a. Which walking tracks and areas will you visit during this visit to Eungella National Park? Circle all that apply.

- | | |
|---------------------------|------------------------------|
| 1. Pine Grove | 2. Cedar Grove |
| 3. Sky Window | 4. Palm Walk |
| 5. Clarke Range Track | 6. Rainforest Discovery Walk |
| 7. Granite Bend Circuit | 8. Crediton Creek Trail |
| 9. Wishing Pool Circuit | 10. Finch Hatton Gorge |
| 11. Platypus Viewing Deck | 12. Broken River Pool |

Other tracks/areas: _____

7b. How did you decide to visit these tracks and areas rather than others in the park? Circle all that apply.

- a) Past experience/been there before
- b) Advice from park ranger/staff
- c) Info contained on information sheets/boards

Other tracks/areas: _____

Now we'd like to learn more about this trip. By "trip," we mean the period from when you left your home (usual place of residence) to when you will return home.

8. How many days will you spend on this trip? (If you are spending less than a day away from home, please write "1".)
 _____ days

9. Next, please write how many days you will spend in each region below, as well as how many days at national parks or other protected areas (such as the Great Barrier Reef) within each region. (Please refer to the map provided by the interviewer.)

9a. I will spend the following number of days in the Eungella region _____ days

Of these days in the Eungella region, I will spend the following in these national parks:

Eungella	_____ days
Cape Palmerston	_____ days
Cape Hillsborough	_____ days
Homevale	_____ days
Cathu SF	_____ days
Cathay SF (Captain's Crossing)	_____ days

9b. I will spend the following number of days elsewhere in Queensland _____ days

Please list the parks you will visit elsewhere in Queensland and the number of days you will spend in each: (If you will go to more than 6 parks elsewhere in

Queensland, please tell the interviewer.)

Name of park _____ days
 Name of park _____ days

9c. I will spend the following number of days elsewhere in Australia _____ days

Of these, I will spend the following number of days in parks: _____ days

9d. Total number of days in Australia on this trip (Should equal the number in Question 8 (above) unless you are also travelling overseas on this trip.) _____ days

An important issue for the Queensland Parks and Wildlife Service is the role parks play in people’s decisions about where to travel. Please consider the following hypothetical scenario.

10. If Eungella National Park did not exist, and the area was privately owned with no public access, would you have 1) cancelled the trip altogether or 2) taken the trip with a different itinerary? (Circle the appropriate number and proceed as instructed.)

- a) I would have cancelled the trip altogether. Please skip to Question 12.
- b) I would have had a different itinerary. Please continue with Question 11.

11. Please indicate the itinerary you would have had if Eungella National Park did not exist by writing how many days you would have spent in each in each region and park.

11a. I would have spent the following number of days in the Eungella region _____ days

Of these days in the Eungella region, I would have spent the following in these national parks:

Eungella _____ days
 Cape Palmerston _____ days
 Cape Hillsborough _____ days
 Homevale _____ days
 Cathu SF _____ days
 Cathay SF (Captain’s Crossing) _____ days

11b. I would have spent the following number of days elsewhere in Queensland _____ days

Please list the parks you would have visited elsewhere in Queensland and the number of days you have spent in each: (If you would have gone to more than 6 parks elsewhere in Queensland, please tell the interviewer.)

Name of park _____ days
 Name of park _____ days

11c. I would have spent the following number of days elsewhere in Australia _____ days

Of these, I would have spent the following number of days in parks: _____ days

11d. Total number of days you would have spent in Australia on this trip (Should equal the number in Question 8 (above) unless you are also travelling overseas on this trip.) _____ days

Next, we’d like to find out how much people spend in this region (and others) during their trip.

12. Please tell us how much you will spend on the following items during this trip.

- include pre-trip expenditures (not including food, but including petrol)
- include expenditures made on the trip so far
- include amount you will spend during the remainder of your trip
- if completing the survey as an individual, include only expenditure made for YOUR trip, either paid by yourself or by someone else (e.g., by your employer)
- if completing on behalf of a group, include all expenditure made by or for the entire GROUP
- report expenditure by the location of purchase -- if purchased an item by phone, mail, or the internet, report by the location of the company that sold it
- do not worry about expenditure made outside of Australia – unless that expenditure was for travel inside Australia (e.g., a package including hotels)

	Amount spent / will spend (in Australian dollars) in each region:		
	Eungella Region	Elsewhere in Queensland	Elsewhere in Australia
Holiday package			
Air tickets			
Train/rail tickets			
Hire car rental fees			
Petrol and other motor vehicle expenditure			
Other transport fares (e.g., taxis, bus, tours)			
Accommodation (e.g., hotel, camping in caravan parks or national parks)			
Groceries / shopping / gifts / souvenirs / clothing			
Food and drinks (in restaurants, fast food or cafes)			
Personal services (e.g., laundry, hairdressers)			
Social activities / entertainment / entrance fees			
Other			

Please specify nature of main items included in "Other":

The expenditure reported here is for _____ person / people.

Lastly, we would like to ask some questions to learn more about the characteristics of people that visit this park. All responses are confidential, and we will not ask your name or anything else to identify you.

13. First, please tell us where you are from. If you are a resident of Australia, please write your postcode. If you are a resident of another country (overseas visitor), please write the name of that country.

Australian resident: Postcode _____ Overseas visitor: Country _____

14. What is your gender? Those answering as individuals should TICK the appropriate box. Group representatives should show the NUMBER of persons in their group in each category.

Female _____ Male _____

- 15. What is your age? Those answering as individuals should TICK the appropriate box. Group representatives should show the NUMBER of persons in their group in each age category. If you do not know the ages of some members of your group, make an estimate, or include them in the “can’t say” box.**

Under 18 years	_____	40 - 49 years	_____
18 - 29 years	_____	50 - 59 years	_____
30 - 39 years	_____	60 years or over	_____
		Can’t say	_____

- 16. What is your income? Income refers to annual income per person from all sources before any tax is paid. Those answering as individuals should TICK the appropriate box. Group representatives should show the NUMBER of adults in each income category. If you don’t know the income of some members of your group, include them in the “can’t say” box.**

If you are an overseas visitor and don’t know the Australian dollar equivalent of your income, please contact the interviewer.

Less than \$20,000	_____	\$65,000 - \$79,999	_____
\$20,000 - \$34,999	_____	\$80,000 or above	_____
\$35,000 - \$49,999	_____	Can’t say	_____
\$50,000 - \$64,999	_____		

- 17. What is your highest level of education? Those answering as individuals should TICK the appropriate box. Group representatives should show the NUMBER of adults in each education category. If you don’t know the educational level of some members of your group, include them in the “can’t say” box.**

Primary	_____	Diploma	_____
School certificate	_____	Degree	_____
Higher school certificate	_____	Higher degree	_____
Trade qualification	_____	Can’t say	_____

Thank you for completing this survey! Do you have any further comments?

Daintree Survey

Interviewer use only

Interviewer _____

Date _____ Site _____ Sur. No. _____ Ans. As _____ Indiv. _____ Group: adults _____ child _____

This survey is **voluntary**, **anonymous**, and completely **confidential** – you will not be asked to give your name, and only summary results will be reported. Please tell the interviewer if you completed a copy of this survey previously. Thank you for your participation.

-
1. **To begin, please tell us where you spent the night before you arrived at Daintree National Park (entry to National Park area north of the Daintree ferry).**
 - a) At home
 - b) Port Douglas _____
 - c) Cairns _____
 - d) Elsewhere – please write name of town/location _____

 2. **And where will you spend the first night after you leave the park?**
 - a) At home
 - b) Port Douglas _____
 - c) Cairns _____
 - d) Elsewhere – please write name of town/location _____

 3. **How many nights will you spend in the Daintree (north of the ferry) on this trip?**
_____ nights and at what accommodation _____

 4. **How many visits, including this one, have you made to Daintree National Park (north of the ferry)?**
 - a) 1 – this is my first visit to the park
 - b) 2 to 3
 - c) 4 to 5
 - d) 6 to 10
 - e) More than 10

 5. **5a. Which walking tracks and areas will you visit during this trip to Daintree National Park (north of ferry)? Circle all that apply.**

1. Jindalba – Rainforest Env. Centre (pd fee)	2. Jindalba -- Boardwalk
3. Marrdja Boardwalk	4. Dubuji Boardwalk
5. Kulki (Cape Trib Beach)	6. Thornton Peak
7. Mt Sorrow	8. Emmagen Creek/Beach
9. Other sites north of Cape Trib	

Other tracks/areas: _____

 - 5b. The terrain in this area is steep, which makes it difficult to develop and maintain walking tracks – and to go bushwalking on them. If there had been additional remote walking tracks, would you have taken them on this trip?**
 - a) Definitely
 - b) Probably
 - c) Probably not
 - d) Definitely not

 6. **6a. At the moment, park facilities are limited, with information centres, camping, and other accommodation offered by private businesses outside the park. The park service would like to know if visitors would use additional park facilities if they were available.**

If there had been a park service information centre with displays at Dubuji Boardwalk, would you have visited it on this trip?

 - a) Definitely

- b) Probably
- c) Probably not
- d) Definitely not

6b. Currently, the park service provides camping at Noah Beach, near Murrumbidgee. If there had also been a park service campground at Cape Tribulation, and the charge was \$3.85 per person per night (standard rate in Qld), would you have camped there?

- a) Definitely
- b) Probably
- c) Probably not
- d) Definitely not

7. At the moment the national park service does not receive revenue from visitors coming to the park (the \$16 fee charged for the ferry goes to local government). Most parks in Qld do not charge an entrance fee, but recreation areas like Fraser Island do charge fees.

If there had been a fee of \$5 \$10 \$20 per car to enter the Daintree National Park (north of the ferry), and revenue was used to enhance visitor facilities, would you have still come to the park, or would you have gone elsewhere/cancelled trip? (Alternate fee amount, in order, across visitors + circle amount.)

- a) Yes – I would have paid the fee and come to the park
- b) No – I wouldn't have come

8. The park service would like to know if visitors have enough information about the park and where to visit. Do you feel you received enough information about what to do and where to go in the park?

- a) Yes – I would have paid the fee and come to the park
- b) No – what additional information would you like to have had (e.g., on walking tracks, campgrounds, etc.)?

Now we'd like to learn more about this trip. By "trip," we mean the period from when you left your home (usual place of residence) to when you will return home.

9. How many days will you spend on this trip? (If you are spending less than a day away from home, please write "1".)

_____ days

10. Next, please write how many days you will spend in each region below, as well as how many days at national parks or other protected areas (such as the Great Barrier Reef) within each region. (Please refer to the map provided by the interviewer.)

10a. I will spend the following number of days in the Port Douglas region _____ days

Of these days in the Port Douglas region, I will spend the following in these national parks:

Daintree - Cape Tribulation Section (N of ferry) _____ days
 Daintree - Mossman Gorge Section (S of ferry) _____ days
 Cedar Bay _____ days
 Other _____ days

10b. I will spend the following number of days elsewhere in Queensland _____ days

Please list the parks you will visit elsewhere in Queensland and the number of days you will spend in each: (If you will go to more than 6 parks elsewhere in Queensland, please tell the interviewer.)

Name of park _____ days
 Name of park _____ days

10c. I will spend the following number of days elsewhere in Australia _____ days

Of these, I will spend the following number of days in parks: _____ days

10d. Total number of days in Australia on this trip (Should equal the number in Question 8 (above) unless you are also travelling overseas on this trip.) _____ days

An important issue for the Queensland Parks and Wildlife Service is the role parks play in people's decisions about where to travel. Please consider the following hypothetical scenario.

11. If Daintree National Park did not exist, and the area was privately owned with no public access, would you have 1) cancelled the trip altogether or 2) taken the trip with a different itinerary? (Circle the appropriate number and proceed as instructed.)

- a) I would have cancelled the trip altogether. Please skip to Question 12.
- b) I would have had a different itinerary. Please continue with Question 11.

12. Please indicate the itinerary you would have had if Daintree National Park did not exist by writing how many days you would have spent in each in each region and park.

12a. I would have spent the following number of days in the Port Douglas region _____ days

Of these days in the Port Douglas region, I will spend the following in these national parks:

- Daintree - Cape Tribulation Section (N of ferry) _____ days
- Daintree - Mossman Gorge Section (S of ferry) _____ days
- Cedar Bay _____ days
- Other _____ days

12b. I would have spent the following number of days elsewhere in Queensland _____ days

Please list the parks you would have visited elsewhere in Queensland and the number of days you have spent in each: (If you would have gone to more than 6 parks elsewhere in Queensland, please tell the interviewer.)

- Name of park _____ days

12c. I would have spent the following number of days elsewhere in Australia _____ days

Of these, I would have spent the following number of days in parks: _____ days

12d. Total number of days you would have spent in Australia on this trip (Should equal the number in Question 8 (above) unless you are also travelling overseas on this trip.) _____ days

Next, we'd like to find out how much people spend in this region (and others) during their trip.

13. Please tell us how much you will spend on the following items during this trip.

- include pre-trip expenditures (not including food, but including petrol)
- include expenditures made on the trip so far
- include amount you will spend during the remainder of your trip
- if completing the survey as an individual, include only expenditure made for YOUR trip, either paid by yourself or by someone else (e.g., by your employer)
- if completing on behalf of a group, include all expenditure made by or for the entire GROUP
- report expenditure by the location of purchase -- if purchased an item by phone, mail, or the internet, report by the location of the company that sold it
- do not worry about expenditure made outside of Australia – unless that expenditure was for travel inside Australia (e.g., a package including hotels)

	Amount spent / will spend (in Australian dollars) in each region:		
	Port Douglas Region	Elsewhere in Queensland	Elsewhere in Australia
Holiday package			
Air tickets			
Train/rail tickets			
Hire car rental fees			
Petrol and other motor vehicle expenditure			
Other transport fares (e.g., taxis, bus, tours)			
Accommodation (e.g., hotel, camping in caravan parks or national parks)			
Groceries / shopping / gifts / souvenirs / clothing			
Food and drinks (in restaurants, fast food or cafes)			
Personal services (e.g., laundry, hairdressers)			
Social activities / entertainment / entrance fees			
Other			

Please specify nature of main items included in "Other":

The expenditure reported here is for _____ person / people.

Lastly, we would like to ask some questions to learn more about the characteristics of people that visit this park. All responses are confidential, and we will not ask your name or anything else to identify you.

14. First, please tell us where you are from. If you are a resident of Australia, please write your postcode. If you are a resident of another country (overseas visitor), please write the name of that country.

Australian resident: Postcode _____ Overseas visitor: Country _____

15. What is your gender? Those answering as individuals should TICK the appropriate box. Group representatives should show the NUMBER of persons in their group in each category.

Female _____ Male _____

16. What is your age? Those answering as individuals should TICK the appropriate box. Group representatives should show the NUMBER of persons in their group in each age category. If you do not know the ages of some members of your group, make an estimate, or include them in the "can't say" box.

Under 18 years _____ 40 - 49 years _____
 18 - 29 years _____ 50 - 59 years _____
 30 - 39 years _____ 60 years or over _____
 Can't say _____

17. What is your income? Income refers to annual income per person from all sources before any tax is paid. Those answering as individuals should TICK the appropriate box. Group representatives should show the NUMBER of adults in each income category. If you don't know the income of some members of your group, include them in the "can't say" box.

If you are an overseas visitor and don't know the Australian dollar equivalent of your income, please contact the interviewer.

Less than \$20,000 _____	\$65,000 - \$79,999 _____
\$20,000 - \$34,999 _____	\$80,000 or above _____
\$35,000 - \$49,999 _____	Can't say _____
\$50,000 - \$64,999 _____	

18. What is your highest level of education? Those answering as individuals should TICK the appropriate box. Group representatives should show the NUMBER of adults in each education category. If you don't know the educational level of some members of your group, include them in the "can't say" box.

Primary _____	Diploma _____
School certificate _____	Degree _____
Higher school certificate _____	Higher degree _____
Trade qualification _____	Can't say _____

Thank you for completing this survey! Do you have any further comments?

Carnarvon Survey

Interviewer use only

Interviewer _____

Date _____ Site _____ Sur. No. _____ Ans. As _____ Indiv. _____ Group: adults _____ child _____

This survey is **voluntary, anonymous**, and completely **confidential** – you will not be asked to give your name, and only summary results will be reported. Please tell the interviewer if you completed a copy of this survey previously. Thank you for your participation.

1. To begin, please tell us where you spent the night before you arrived at Carnarvon National Park.

- a) At home
- b) Elsewhere – please write name of town/location _____

2. And where will you spend the first night after you leave the park?

- a) At home
- b) Elsewhere – please write name of town/location _____

3. How many visits, including this one, have you made to Carnarvon National Park?

- a) 1 – this is my first visit to the park
- b) 2 to 3
- c) 4 to 5
- d) 6 to 10
- e) More than 10

4. Park staff would like to know whether people use the services and facilities that are available in the park and how important these are in trip decisions.

Service or Facility	Have you used / will you use?	If not available, would you have spent less time / not come at all?	Did it contribute to your experience?
Information centre	No Yes →	Yes (less time) No (no effect) →	No Yes
Flush toilets and hot showers at campgrounds (rather than pit toilets and cold showers)	No Yes →	Yes (less time) No (no effect) →	No Yes
Firewood	No Yes →	Yes (less time) No (no effect) →	No Yes

5. Park staff would also like to know what would add to your experience, and in particular would lead people to stay longer. If there are any services or facilities that currently do not exist in the park, but would lead you to stay longer if they did, please write them here.

6. 6a. Carnarvon National Park has provided free slide shows, guided walks, and spotlighting tours, but may need to charge for these services in the future. If slide shows were available at a cost of \$5 per adult, \$3.50 per child 5 to 17 years old, and free to children under 5, how many persons from your group would have participated in a slide show during this visit? Repeat for guided walks and spotlighting tours.

If all persons in party would participate at this fee level, skip 6b and 6c. If some don't participate in one or more activities, ask 6b for that/those activity/ies.

6b. If instead of these fees, the services were provided on the basis of a gold coin donation, how many persons from your group would have participated?

If all persons in party would participate at Gold Coin level, skip 6c. If some don't participate in one or more activities, ask 6c for that/those activity/ies.

6c. Lastly, if the services were free, how many persons from your group would have participated?

	6a. Full Fee			6b. Gold Coin			6c. Free		
	Slide Shows	Guided Walks	Spotlight Tours	Slide Shows	Guided Walks	Spotlight Tours	Slide Shows	Guided Walks	Spotlight Tours
Adults									
Children 5 to 17 years old									
Children under 5									

7. 7a. Which walking tracks and areas will you visit during this visit to Carnarvon National Park? Circle all that apply.

- | | |
|----------------------------------|-----------------------|
| 1. Baloon Cave | 2. Mickey Creek Gorge |
| 3. Rock Pool | 4. Nature Trail |
| 5. Boolimba Bluff | 6. Moss Garden |
| 7. Hellhole Gorge | 8. The Amphitheatre |
| 9. Aljon Falls and Ward's Canyon | 10. The Art Gallery |
| 11. Cathedral Cave | 12. Battleship Spur |

Other tracks/areas: _____

7b. How did you decide to visit these tracks and areas rather than others in the park? Circle all that apply.

- a) Past experience/been there before
- b) Advice from park ranger/staff
- c) Info contained on information sheets/boards

Other tracks/areas: _____

Ask about shortcutting – if they see sign, do they know what that means? What can be done to stop people from shortcutting?

Now we'd like to learn more about this trip. By "trip," we mean the period from when you left your home (usual place of residence) to when you will return home.

8. How many days will you spend on this trip? (If you are spending less than a day away from home, please write "1".)

_____ days

9. Next, please write how many days you will spend in each region below, as well as how many days at national parks or other protected areas (such as the Great Barrier Reef) within each region. (Please refer to the map provided by the interviewer.)

9a. I will spend the following number of days in the Carnarvon region _____ days

Of these days in the Carnarvon region, I will spend the following in these national parks:

- | | |
|---------------|------------|
| Carnarvon | _____ days |
| Salvator Rosa | _____ days |
| Mt Moffat | _____ days |
| Expedition | _____ days |
| Other | _____ days |

9b. I will spend the following number of days elsewhere in Queensland _____ days

Please list the parks you will visit elsewhere in Queensland and the number of days you will spend in each: (If you will go to more than 6 parks elsewhere in

Queensland, please tell the interviewer.)

Name of park _____ days
 Name of park _____ days

9c. I will spend the following number of days elsewhere in Australia _____ days

Of these, I will spend the following number of days in parks: _____ days

9d. Total number of days in Australia on this trip (Should equal the number in Question 8 (above) unless you are also travelling overseas on this trip.) _____ days

An important issue for the Queensland Parks and Wildlife Service is the role parks play in people’s decisions about where to travel. Please consider the following hypothetical scenario.

10. If Carnarvon National Park did not exist, and the area was privately owned with no public access, would you have 1) cancelled the trip altogether or 2) taken the trip with a different itinerary? (Circle the appropriate number and proceed as instructed.)

- c) I would have cancelled the trip altogether. Please skip to Question 12.
- d) I would have had a different itinerary. Please continue with Question 11.

11. Please indicate the itinerary you would have had if Carnarvon National Park did not exist by writing how many days you would have spent in each in each region and park.

11a. I would have spent the following number of days in the Carnarvon region _____ days

Of these days in the Carnarvon region, I will spend the following in these national parks:

Carnarvon _____ days
 Salvator Rosa _____ days
 Mt Moffat _____ days
 Expedition _____ days
 Other _____ days

11b. I would have spent the following number of days elsewhere in Queensland _____ days

Please list the parks you would have visited elsewhere in Queensland and the number of days you have spent in each: (If you would have gone to more than 6 parks elsewhere in Queensland, please tell the interviewer.)

Name of park _____ days
 Name of park _____ days

11c. I would have spent the following number of days elsewhere in Australia _____ days

Of these, I would have spent the following number of days in parks: _____ days

11d. Total number of days you would have spent in Australia on this trip (Should equal the number in Question 8 (above) unless you are also travelling overseas on this trip.) _____ days

Next, we’d like to find out how much people spend in this region (and others) during their trip.

12. Please tell us how much you will spend on the following items during this trip.

- include pre-trip expenditures (not including food, but including petrol)
- include expenditures made on the trip so far

- include amount you will spend during the remainder of your trip
- if completing the survey as an individual, include only expenditure made for YOUR trip, either paid by yourself or by someone else (e.g., by your employer)
- if completing on behalf of a group, include all expenditure made by or for the entire GROUP
- report expenditure by the location of purchase -- if purchased an item by phone, mail, or the internet, report by the location of the company that sold it
- do not worry about expenditure made outside of Australia – unless that expenditure was for travel inside Australia (e.g., a package including hotels)

	Amount spent / will spend (in Australian dollars) in each region:		
	Port Douglas Region	Elsewhere in Queensland	Elsewhere in Australia
Holiday package			
Air tickets			
Train/rail tickets			
Hire car rental fees			
Petrol and other motor vehicle expenditure			
Other transport fares (e.g., taxis, bus, tours)			
Accommodation (e.g., hotel, camping in caravan parks or national parks)			
Groceries / shopping / gifts / souvenirs / clothing			
Food and drinks (in restaurants, fast food or cafes)			
Personal services (e.g., laundry, hairdressers)			
Social activities / entertainment / entrance fees			
Other			

Please specify nature of main items included in "Other":

The expenditure reported here is for _____ person / people.

Lastly, we would like to ask some questions to learn more about the characteristics of people that visit this park. All responses are confidential, and we will not ask your name or anything else to identify you.

13. First, please tell us where you are from. If you are a resident of Australia, please write your postcode. If you are a resident of another country (overseas visitor), please write the name of that country.

Australian resident: Postcode _____ Overseas visitor: Country _____

14. What is your gender? Those answering as individuals should TICK the appropriate box. Group representatives should show the NUMBER of persons in their group in each category.

Female _____ Male _____

15. What is your age? Those answering as individuals should TICK the appropriate box. Group representatives should show the NUMBER of persons in their group in each age category. If you do not know the ages of some members of your group, make an estimate, or include them in the "can't say" box.

Under 18 years _____ 40 - 49 years _____
 18 - 29 years _____ 50 - 59 years _____
 30 - 39 years _____ 60 years or over _____
 Can't say _____

16. **What is your income? Income refers to annual income per person from all sources before any tax is paid. Those answering as individuals should TICK the appropriate box. Group representatives should show the NUMBER of adults in each income category. If you don't know the income of some members of your group, include them in the "can't say" box.**

If you are an overseas visitor and don't know the Australian dollar equivalent of your income, please contact the interviewer.

Less than \$20,000 _____	\$65,000 - \$79,999 _____
\$20,000 - \$34,999 _____	\$80,000 or above _____
\$35,000 - \$49,999 _____	Can't say _____
\$50,000 - \$64,999 _____	

17. **What is your highest level of education? Those answering as individuals should TICK the appropriate box. Group representatives should show the NUMBER of adults in each education category. If you don't know the educational level of some members of your group, include them in the "can't say" box.**

Primary _____	Diploma _____
School certificate _____	Degree _____
Higher school certificate _____	Higher degree _____
Trade qualification _____	Can't say _____

Thank you for completing this survey! Do you have any further comments?

Appendix B: Background Information on the Input-Output Models

The economic impacts reported in this analysis come from a report by the Centre for Economic Policy Modelling, copies of which are available upon request. Input-output (IO) tables are provided by Queensland Treasury at the state and statistical division levels. Because the regions of interest in this study were smaller than statistical division regions, IO tables were created specifically for this study. They include the following local government areas for each region:

IO Table	Local Government Area (SLA Code and Name)
Carnarvon	30500 Bauhinia (S) 31850 Bungil (S) 33000 Emerald (S) 36400 Roma (T)
Girraween – Granite Belt	32150 Cambooya 32400 Clifton (S) 33900 Inglewood (S) 34200 Jondaryan (S) 35000 Millmerran (S) 36050 Pittsworth (S) 36600 Stanthorpe (S) 36901 Toowoomba (C) - Central 36903 Toowoomba (C) - North-East 36905 Toowoomba (C) - North-West 36906 Toowoomba (C) - South-East 36908 Toowoomba (C) - West 37100 Waggamba (S) 37262 Warwick (S) - Central 37263 Warwick (S) - East 372 65 Warwick (S) - North 37266 Warwick (S) – West
Eungella	34762 Mackay (C) - Pt A 34765 Mackay (C) - Pt Barbara 35050 Mirani (S) 35700 Nebo (S) 36550 Sarina (S)
Daintree – Port Douglas	34505 Douglas (S)

The tables were generated from the latest (1996-97) Queensland and Australian transactions table (ABS 5209.0) and data from the ABS.

IO tables are perhaps the most frequently used tools for economic impact analysis, particularly for regions below the state level. As with all models, they involve several assumptions, including the following. In brief, IO does not take into account economies of scale, unused capacity or technological change. It describes average effects rather than marginal effects.

1. All businesses within each sector produce a single, homogeneous product or service; and the input procedures used in the production process are identical. That is, the economy should be disaggregated so that each sector is producing a single good or service.
2. An increase of production will always lead to purchase of inputs in the ratios shown in the technical coefficients matrix. In technical terms, the production function is linear and homogeneous. This assumption precludes economies of scale; for IO analysis to be accurate, a business will always use the same proportion of inputs regardless of how much it grows. As with the first assumption, this restriction can be overcome in part by using different sectors for businesses of different sizes. In the case of tourism, this could mean creating sectors for small, medium, and large hotels.
3. When households are included in the analysis, their spending patterns (consumption functions) must also be linear and homogeneous. Again, this restriction can be overcome in part by disaggregating households into different groups.
4. The structure of the economy will not change. Many IO models are static in nature. They are based on data from a single year yet are often used to estimate impacts in other years. It is possible to construct dynamic IO models, but the data and analysis requirements are substantial.

5. If the analyst is interested in forecasting the effect of future increases in final demand (e.g., visitor expenditure), there must be unemployed resources available to be brought into the sector as inputs. This will often be the case because analysts make such forecasts specifically to identify opportunities for using unemployed resources like labour. However, there will be some cases in which resources are constrained, such as capital or skilled labour. In these cases, the resources will need to be drawn from other sectors or imported, and an unadjusted model will overestimate benefits.
6. A fuller discussion of IO assumptions can be found in the various general references on IO analysis, as well as the references to IO applications in tourism (e.g., Miller & Blair 1985; WTO 1985). The assumptions are often violated in reality. Nonetheless, because alternatives that are both cost-effective and more accurate are not available, economists have come to rely on IO despite the obvious breaches of assumptions.

Appendix C: Open Ended Responses

Girraween: Responses to Open Ended Questions

Question: Suggestions for Park Improvements	
<p>1. Cooking Facilities</p> <p>BBQ plates BBQ plates BBQ plates BBQ plates BBQ plates More BBQ plates More BBQ plates More BBQs BBQ plates, smaller wood pieces, boiling water outside Better BBQs BBQ close to caravan site Electric BBQs Gas BBQ and hot water Gas BBQs Camp kitchen Camp kitchen (gas cooking facilities) Camp kitchen Camp kitchen A couple of picnic tables in the picnic area Picnic table at each campsite More picnic tables More campsites with tables Sheltered picnic tables Shade on some of the tables Shade roof on tables Shaded picnic tables Shaded picnic tables Sheltered BBQ areas Sheltered areas in the campgrounds and picnic areas in case of rain</p>	<p>2. Shop</p> <p>Basic shop General store General store More supplies, general store (ice, bread, milk) Shop – basic supplies Shop/Onsite vans Small shop Very little, general store General store, milk and bread General store Sale of milk & bread Ice sales Ice, small shop Sale of ice Sale of ice/kiosk (emergency supplies) Kiosk, ice service Kiosk Kiosk Kiosk Kiosk Kiosk Kiosk Kiosk for emergency supplies Kiosk for emergency supplies Kiosk for emergency supplies Kiosk Vending machine for cold drinks, chips, lollies</p>
<p>3. Information</p> <p>Have info centre open Longer opening hours at visitor info centre More in info centre - more human and natural history More interpretation (signs etc.), promote nature search More interpretation about flora on tracks More interpretation about plants More guided walks, more interpretation about flowers More interpretation signs on tracks Free slides Free slides Slide shows More frequent slide shows</p>	<p>4. Rubbish Disposal Facilities</p> <p>Big bins Big bins Bins Bins Bins Bins Rubbish bins Rubbish collection Rubbish collection Rubbish disposal facilities Rubbish service – industrial bin Rubbish service Rubbish dumping facilities</p>

<p>Better signs (in particular the swimming hole/walks), more interpretive signs Better signs on tracks Signs to say 'pick your rubbish up' along the tracks Better signs on tracks (especially regarding distance and times) Signs to indicate whether water is safe to drink Signs to indicate if water is safe for drinking Sheet with payment on water availability Information pamphlet on the best times of the day to photograph the main attractions Catalogue of walks Better maps More geography information</p>	<p>Rubbish removal Industrial bin just outside park</p>
<p>5. Shower, Toilet and Laundry Facilities</p>	<p>6. Water and Drinks</p>
<p>Better showers, steady heat, electrical switch – longer More shower/toilet blocks for campers Timers on the showers so that people are not waiting a long time for a shower Ladies toilet light Lights in the showers in the Castle Rock campground Lights in the toilets and just outside the toilet in the Castle Rock campground Power point in toilets Toilet facilities on long walks (e.g., a 1/2 way point) Laundry and second toilet block Laundry facilities (coin operated) Laundry facilities Extra amenities block at Bald Rock camp Second amenities block</p>	<p>Drinking water Drinking water Drinking water Drinking water Drinking water Drinking water - Dr's Gully carpark Drinking water tank at picnic ground Fresh drinking water Fresh drinking water, bottle machine at info centre, fountain Rainwater tanks - better drinking water Drink tank Coke machine (drinks) Cold drink machine</p>
<p>7. Facilities for Overnight Stays</p>	<p>8. Guided Walks, Rangers Activities</p>
<p>Cabins (on-site tents) Cabins Self contained cabins within the park Low cost cottages More natural level area for the tents rather than a hardened area (leave the leaf cover as it's softer) More group camping areas More grass for camping More grass Less stumps in campground Sheltered areas in the campgrounds Sheltered day area/camping area</p>	<p>More guided walks More guided walks More guided walks More guided walks (more tours) More guided walks Guided walks Off track guided walks Off beaten track walks guided Circuit walk overnight Night tours More ranger activities Ranger talks</p>
<p>9. Children's Activities</p>	<p>10. Fire Pits</p>
<p>Kids activities in school holidays – e.g., bushcraft, flora and fauna ID More kid's activities - spotlighting, creek tour Playground, open space Kids playground facilities/Laundry facilities Kids activities</p>	<p>Fire pits that can accommodate a camp oven Ground fires (pits for camp oven) More open fire places Pit fire Pits for fires</p>

<p>Kids activities/children's holiday program Kids swings, e.g. playground facilities Kiddy playground Swing</p>	
11. Other	
<p>Fix the telephone Phone Telephone to be fixed Phone not working Extra lights for camp and facilities (toilets, etc.) Electric powered sites Powered sites More isolated sites (less communal) More quiet areas Less services and facilities (would prefer pit toilets) Chain rope at pyramid Chain at steep part of pyramid Chain at top of pyramid Warning or pyramid climb - for those frightened of heights Keep up track maintenance - move tracks More walking tracks Bike tracks More open rock pools Police the damage to climbing bolts Dogs allowed in park on lead More social interaction Amenities refurbished If people don't bring bush timber with them then don't get it collected by the rangers</p>	
Question: Willingness to Pay for Slide Show	
<p>Family fee Family rate Family rates yes Family pass \$5-10 Family concession rate would be preferable Family fee or \$3 per head or gold coin donation Family suggests a family rate/Duration & quality may affect their decision \$10 for a family would be better Gold coin donation Gold coin donation Would donate a gold coin Would go for a gold coin donation Would go for a gold coin donation Would go for a gold coin donation of \$5 per couple Would go for gold coin donation Would make a gold coin donation Would to for a gold coin donation</p>	<p>Would be prepared to make a gold coin donation though knowledge of length and context of the slide show would influence decision also Would (all 3) be prepared to make a gold coin donation Because it is too expensive for families Because it is too expensive for families Interested They have been before Wouldn't anyway With tea and coffee supplied Pay in camp fees Would be more likely to participate in slides etc if they had more idea of content Not interested Not interested</p>

Prepared to give gold coin donation	Not interested
Suggested gold coin donation	Not interested
Would be prepared to give a gold coin donation	Not interested
Prefer to make a gold coin donation	Not interested
Too expensive, if it was less than \$5 or a gold coin donation they would be willing	Not interested
Would be prepared to make a gold coin donation though knowledge of length and context of the slide show would influence decision also	Not interested anyway Not interested, not due to cost One person not interested
Question: Comments on Donation	
Incorporated into camp fees	Firewood - yes, showers a pain - no
Pay in fees	Not camping
Prefer to pay increased camping fees instead	Yes for showers – no for firewood
Thought fee for firewood and showers should be built into the fee structures, they would be willing to pay more money to camp because of the good facilities, but they don't think donation is a good idea because they don't think everyone will donate	They would be willing to pay more to camp for the better facilities and also believe they should pay less for bush camping etc - user pays system
Would prefer to pay more camping fees instead	Maybe do in conjunction with other clubs
Would prefer an increase in camping fees instead	They don't really use these facilities
Would prefer and be willing to pay more in the camping fee instead	Visitors would like to see a tiered camping structure based on facilities
	If change available
	If it was a “one off” donation

Eungella: Responses to Open Ended Questions

Question: Suggestions for Park Improvements	
1. Cooking Facilities	2. Shop
BBQ's	B Café
Better maintained facilities BBQ's	More food available in kiosk/shop
More BBQs	More takeaway food facilities
More BBQs	Petrol for sale
Better BBQ's	
More gas BBQs with shelter at Broken River similar to Sky Window picnic area	
Picnic area	
More tables in the picnic area	
More tables	
More tables in picnic ground	
3. Information	4. Rubbish Disposal Facilities
Signing general	Bins
Better signage	Bins
Better signage	More bins
Better signposting to the trails	More bins
More interpretive signs	Rubbish bins
More signs	Rubbish bins
More informative signs	Rubbish bins
Track signing	Rubbish bins
Better track signage	Rubbish bins
Better visitor centre	Rubbish bins

<p>More interpretive signs on the tracks (apart from rainforest walk) Distance Markers on Tracks More information on walks, distances on signs More signs to mark tracks at Broken River More signs on tracks More signs (distance) More information on tracks for distance/direction Maps Better maps Better maps, more information Information centre More information at info centre about the park, e.g., bird and plant lists Staff not helpful at information centre Video in information centre Other Brochure needs updating Information re other parks for the next 50kms or so More info More info & promotion for night time activities More information More information More information More interpretation signs flora & fauna Tree Labels with identification More information about Eungella Honeyeater Road signs facing both ways</p>	<p>Rubbish bins Rubbish bins Remove weeds</p>
<p>5. Shower, Toilet and Laundry Facilities</p>	<p>6. Water and Drinks</p>
<p>Hot showers Hot showers Hot showers Light in toilet Light in toilet Light in toilet Lights in bathrooms Cleaner Toilets with soap Changing facilities in toilets Better maintained facilities toilets</p>	<p>Better drinking water Drinking water Drinking water Drinking water Sign on tap re quality of water Sign on tap re quality of water Sign on tap re quality of water</p>
<p>7. Facilities for Overnight Stays</p>	<p>8. Guided Walks, Rangers Activities</p>
<p>Caravans Better caravan access More caravan camping Caravan camping Caravan camping Camping More camping More camping More camping More Camping Powered Campsites Sheltered area in the campground Other</p>	<p>More guided tours Guided walks Treetop walk Keep tracks in good order More 4-5 km walks - kiddy distance Better walking tracks Seats along tracks Circuit tracks</p>

Guest house Bigger camp ground Cabins close to the National Park (Finch Hatton)	
9. Children's Activities	10. Fire Pits
Playground Play equipment for the children Play equipment Play equipment	Firewood Firewood was wet No firewood available Firewood
11. Other	
Roads Better road into Finch Hatton Better Road into Finch Hatton Better road to Finch Hatton Bookings should be better so don't double book Bridges into Finch Hatton Gorge Better roads Bus services Bus service Shuttle service for walking tracks Shuttle service from tracks Other Swimming hole - if water was cleaner Swimming hole Encourage more wildlife into the area More wildlife Entrance fees and pay as you go More car parking Mountain bikes and canoes for hire Tidy up of Sky Window	

Daintree: Responses to Open Ended Questions

Question: Additional Information Wanted	
1. Maps	2. Information about Flora and Fauna
Map Maps Maps Maps Maps Maps Maps Maps Maps Maps Maps Maps A good map Better map Maps should be improved Better information and maps Map on signs in car parks	Bird information Booklet – wildlife Brochure with information about plants and animals Information about what to see, flora and fauna More information about nature Information about flora and fauna More available in Cairns – flora and fauna More information about the park fauna, flora etc More information about the rainforest and fauna and about the GBR More information on trees and plants More information about nature Brochure on stingers, snakes etc Could be more signage along boardwalks

<p>More QPWS maps. Better Maps – walking tracks Map showing walking tracks Maps of walking tracks Better map/brochure, where are the walks etc. Better maps – walking tracks No maps where walks are etc. Detailed road maps should be available.</p>	
<p>3. Information Centre</p>	<p>4. Information on Walks / Guiding</p>
<p>Visitor centre just after river crossing Information centres should be built on the way Information centre would be good Information centre Information centre should be before/after the ferry QPWS information centre QPWS information centre</p>	<p>Brochure – what walks to do Brochure walks More directions to tracks, leaflets Information about interesting walks to go on More information about the park walks More information on walks More signage on roads for walking tracks Not enough signs for walks Walking tracks, more signage on where to find them Better signage for beaches and boardwalks Additional signage to different walking tracks and distances on walks Especially walking tracks, little information, bad signage north of Daintree River Difficult to find signs, more information to find walking tracks Signage about boardwalks beaches etc Walking tracks Walking tracks, not enough info, especially about bushwalking, bad signage north of ferry Distance markers are missing More guided talks Guides walks Guides, more interpretation</p>
<p>5. Information on Accommodation</p>	<p>6. Road Signage General</p>
<p>Brochure accommodation Information about camping More information on camping Signage on roads for accommodation etc</p>	<p>Could be more signage along road More signage on the roads Signs on road tracks Official signs on roads Signage on roads Signage on roads, confusing, should be improved, detailed maps should be available Better signs on the roads More information on roads Information displays along roads Not clear information of unsealed roads Signage for swimming holes, accessible from roads, carparks near swimming holes Signage on roads are the worst Should be more information around ferry, south/north of ferry</p>
<p>7. Information / Signage General</p>	
<p>Book on the area Booklets</p>	

<p>Brochure Brochures Brochures Brochures Brochure - what to see Brochure with map Little information, brochures More leaflets More leaflets, guides, information boards. More QPWS information brochures QPWS brochure available at tour desks and hotels QPWS/official information, not just brochures, better signs Not sufficient information, brochures from QPWS More signage Signposting Signs to travellers Some better signage Signage should be improved General information More information, not enough on the maps More information on the WTMA and park management Non-commercial information should be provided Not clear in lonely planet, not enough information at backpackers etc. Not enough information of Daintree NP in Cairns maps accommodation etc. What to see and do facilities Camping, shops facilities should be improved</p>	
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Carnarvon: Responses to Open Ended Questions

Question: Suggestions for Park Improvements	
1. Campground and related facilities (excluding firewood)	2. Firewood
<p>More camping opportunities Bigger campground More camping More camping spaces More camping Powered sites Powered sites</p>	<p>Fire wood Firewood Firewood - happy to pay Firewood Firewood Firewood Firewood Firewood provided Firewood Firewood Firewood Firewood Firewood Firewood</p>

<p>Powered sites Powered sites Showers Free showers Free hot showers More showers Hot showers Free hot showers Hot showers Hot showers More showers More showers Free showers More hot water (pay problem) More hot water (so it doesn't run out when you pay for it) Better showers Other Laundry facilities Laundry Laundry facilities Laundry facilities Rubbish bins Rubbish bins Rubbish bins Rubbish bins Bins Rubbish bins Garbage removal Garbage removal Cabins in NP campground No fires Gas BBQs, camp kitchen BBQ areas Fire sites Gas BBQ BBQ's Fire places Bucket and mop in shower block Electric power point or recharging, track lights around campsite Better camp fires Campfires BBQ facilities, more tables Amenities block Electricity Electricity Cooking facilities</p>	
<p>3. Information and Interpretation</p>	<p>4. Maintenance</p>
<p>Better information about services More interpretive signs on walking tracks Advise people of fees for hot shower More information, better map available More talks, shows, guided walks Info on other parks</p>	<p><i>Roads</i> Better roads Better roads Better roads Better roads Better roads</p>

<p>More interpretive signs on walking tracks More printed info Camping info More interpretive signs Clearer signage Walking tracks with return distances marked More tree names along tracks More tree names along tracks More info in nearby towns Toilets marked on map Info on wildlife other than platypus, fish More guided walks, presentations</p>	<p>Better roads Better roads Bitumen road Road improvement Road improvements Road grading Don't seal the road Sealed roads <i>Other</i> No septic toilets Better tracks Fix toilet at Big Bend Path upgrade, Lights in toilet Get rid of septic tank smell More tracks Water available on walks Easier river crossings on walks (for the elderly) Circuit tracks, drinking water available on walks Drinking water at information centre Easier walking tracks, more for disabled people Graffiti problem, cleanup on track Toilets on tracks could have facility for washing hands Drinking water along walks Flushing toilets More parking</p>
<p>5. Shop</p>	<p>6. Access Limitations</p>
<p>Ice for sale Ice for sale Ice for sale Ice for sale Shop with basic groceries Shop Shop Shop Shop with the basics General store General store Sell ice creams General store Basic shop General store Camping store Bigger shop – food Shop</p>	<p>Limit number of nights people can camp Less people, should charge entry fees Less people, smaller campground Fewer people - limit numbers</p>
<p>7. Other</p>	
<p>Animal feeding Playground, rubbish bins</p>	

Fix feral pig problem Chair lift Bar Remove pigs, problem of currawongs in camping area Cheaper camping at private places Cheap accommodation More phones Remove feral pigs Drinking taps Staff could be more helpful Staff could be more helpful Staff in info centre could be more helpful and more knowledgeable	
Shortcutting Question – Suggestions for Reducing Problem	
1. Fences/Barriers	Education and Information
Barrier	Education
Barriers	Education
Barriers, formalise the good ones	Education
Barriers, nature trail is confusing	Education
Barriers, planting	Education
Barriers, spiky vegetation	Education
Barriers, spiky vegetation	Education
Cover with scrub and branches	Education
Electric fence	Education
Fence	Education
Fence	Education
Fence	Education
Fence	Education
Fence	Education
Fence	Education
Fence	Education
Fence, spiky vegetation	Education
Fence/barrier	Education
Fences	Education

<p>Education (big interpretive sign at start of walk)</p> <p>Interpretive signs</p> <p>Make clearer "Stay on track", in some places the right track is not clear eg. Hellhole gorge, nature trail</p> <p>More signs</p> <p>Other languages</p> <p>Phrase might not be clear to foreigners</p> <p>Rephrase - "Please stay on tracks"</p> <p>Short explanation of reason why</p> <p>Should say something else, eg. keep to tracks</p> <p>Sign "please keep to marked paths - revegetation area"</p> <p>Sign "please stay on paths"</p> <p>Signage</p> <p>Signage</p> <p>Signage - "damage will be caused by"</p> <p>Signs</p> <p>Signs - "keep to track/no entry"</p> <p>Signs - "no entry", "please do not enter"</p> <p>Signs could say "danger" or "erosion"</p> <p>Signs in different languages</p> <p>Signs should be informative and have a more positive message eg. "help us protect it"</p> <p>Signs should be more informative</p> <p>Signs warning of penalty</p> <p>Signs which explain impact, penalties</p> <p>Signs, clear tracks</p> <p>Signs, clear tracks, interpretive signs</p>	<p>Fines</p> <p>Fines</p> <p>Fines</p> <p>Good tracks</p> <p>Good tracks and edges</p> <p>Loop tracks to prevent walkers having to back-track</p> <p>Make into look out points</p> <p>Make paths direct and straight</p> <p>More direct paths</p> <p>More guided walks</p> <p>More observation decks for platypus</p> <p>Penalties</p> <p>Penalties</p> <p>Penalties</p> <p>Penalties</p> <p>Penalties</p> <p>Penalties</p> <p>Tracks more direct</p>
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Other General Comments Provided by Respondents

P.A. Systems at Slideshow are not adequate

Ladder at the amphitheatre is dangerous, the rungs are slippery

Graffiti on art sites a problem maybe put up a sign saying there is a fine. Also, rubbish (stubbies) on track a problem

Pig control. Organise bookings here, not main office in Brisbane, and flexibility of staying longer, no advance notice.

Provide alternative accom for budgeters - cabins

Day use not useful, should be camping

Don't close it down

Church youth group

More camping in NPs

Would pay for better roads

General road access could be better, raise road level above creek to avoid dangerous situation

Safer river crossing, bitumen road

Queensland national parks should have a comprehensive list of all nps, directions, camping and facilities info

Incorrect info provided about campground

I wouldn't come if campground was closed

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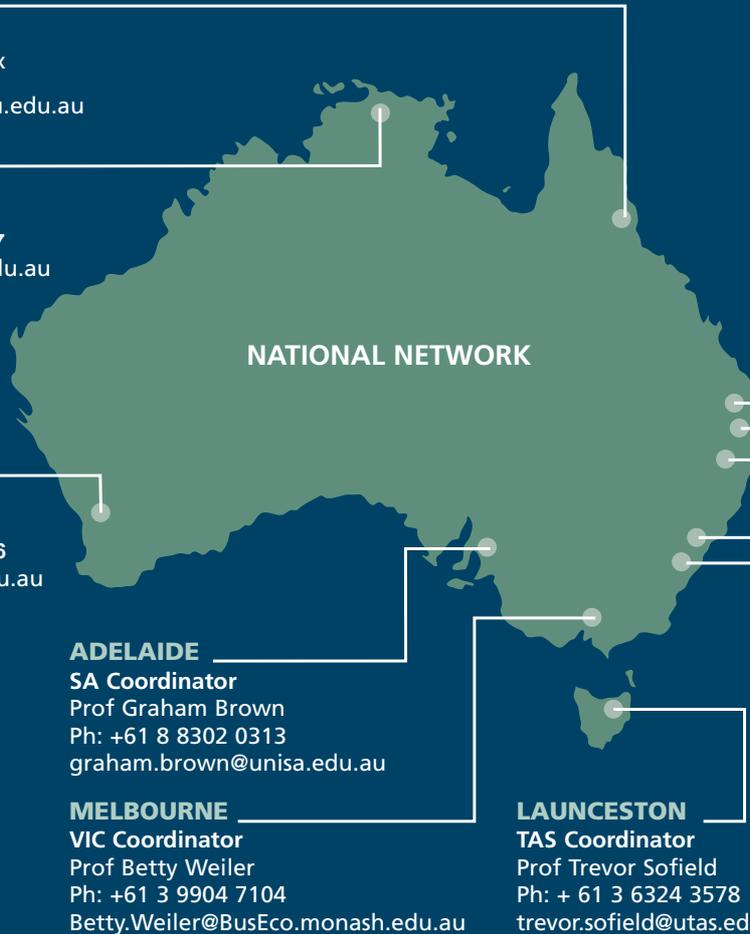
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