

Sustainable Nature Based Tourism: Planning and Management

Report on Visitation and Use at Mossman Gorge, Far North Queensland, 2009/2010



Julie Carmody and Bruce Prideaux



Australian Government
Department of the Environment,
Water, Heritage and the Arts



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Mossman Gorge, Far North Queensland, 2009/2010

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**Department of the Environment,
Water, Heritage and the Arts**

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Acronyms and Abbreviations

DERM	Queensland Department of Environment and Resource Management
MTSRF	Marine and Tropical Sciences Research Facility
N	Entire survey sample
n	Portion of survey sample
QPWS	Queensland Parks and Wildlife Service
WTMA	Wet Tropics Management Authority
WTWHA	Wet Tropics World Heritage Area

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Key Findings

The following key findings are based on a visitor survey (N = 358) undertaken at Mossman Gorge between April and September 2009. Where findings are reported as a mean, 1 represents the lowest level of agreement with given statements by survey respondents, while 6 represents the highest level of agreement.

Respondent Profile

- Both domestic (66.4%) and international (33.6%) respondents completed the survey.
- Respondents ranged in age from 16 to 66 with a mean age of 43.6 years.

Travel Patterns

- Mossman Gorge is an immediate stop after Port Douglas (33.2%), Mossman (14.1%) and Cairns (13.5%).
- After leaving Mossman Gorge respondents travelled to Daintree (22.8%), Port Douglas (21.7%) and Cape Tribulation (14.2%).
- The main source of information visitors gained about Mossman Gorge prior to their visit was word-of-mouth (41.8%).

Reasons for Visiting Mossman Gorge

- The main reasons for visiting Mossman Gorge are to see the natural features and scenery (mean = 5.34) and to be close to nature (5.06).

Perceptions of the Natural Environment

- The natural environment is considered interesting (mean = 5.45), in good condition (5.41), appealing in terms of scenic beauty (5.34) and well-managed (5.25).

Perceptions and Use of the Site Facilities

- The site facilities were considered to be of reasonable quality (mean = 4.75) and appealing (4.70).
- The presence of a ranger at the site was not highly endorsed (mean = 3.96).
- The most popular facilities were the walking track (88.9%) and viewing platforms (83.6%).

Perceptions of Signage

- The safety signage on site was considered informative (mean = 5.39).
- The directional signage was considered easy to find (mean = 5.30) and helpful (5.21).

Satisfaction with the Visitor Experience

- The walkways and Mossman River enhanced the visitor experience.
- The closure of the extended walking track and swinging bridge at the time of the survey collection detracted from visitors' enjoyment of the site.
- High visitor numbers did not appear to adversely affect the visitor experience.

MOSSMAN GORGE - DAINTREE NATIONAL PARK

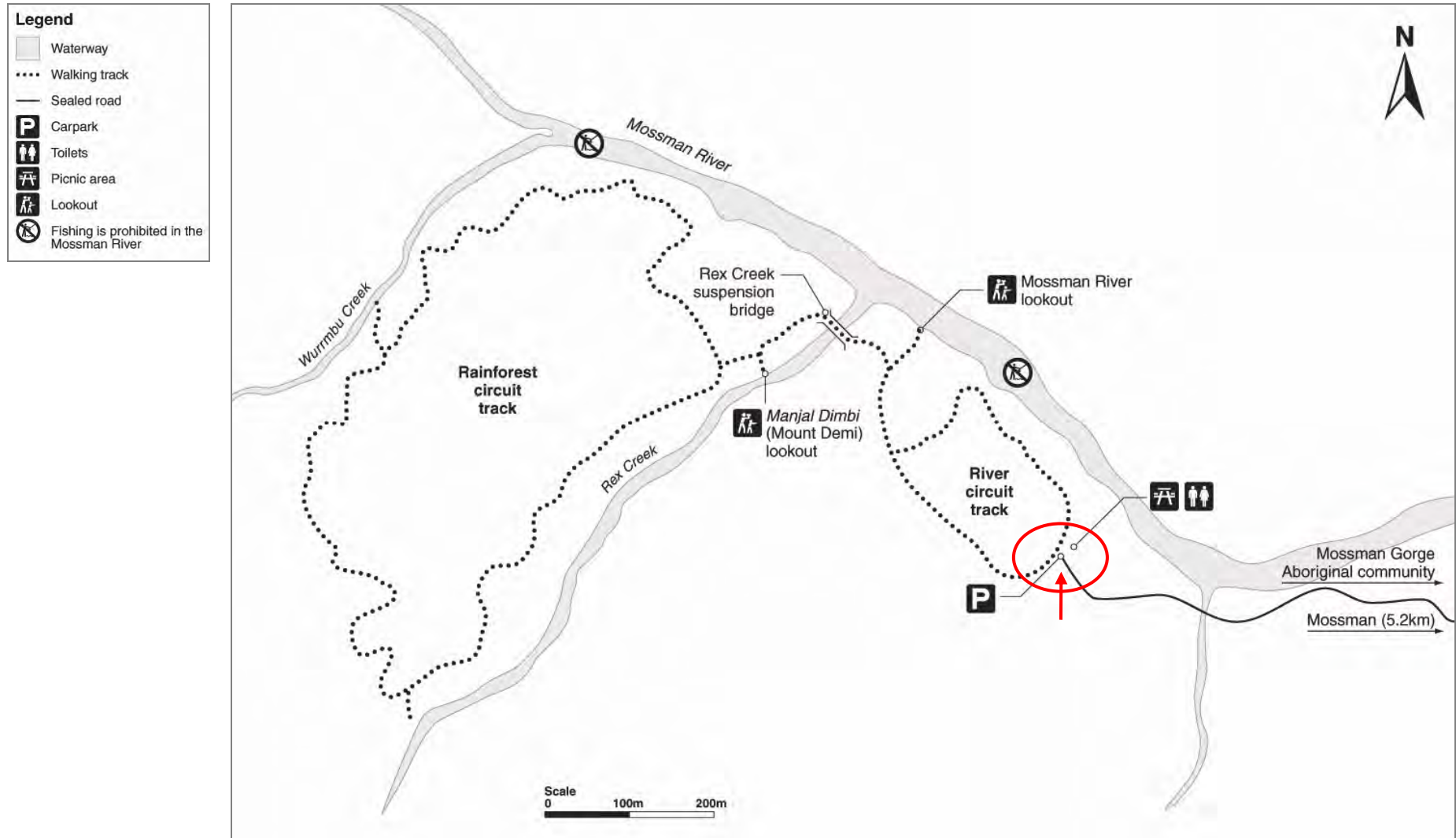


Figure i: Map of the Mossman Gorge visitor area, showing the survey site. Map courtesy of Queensland Parks and Wildlife Service, Department of Environment and Resource Management.

1. Introduction

This report is one of a series of ten that examine visitor activity at sites within Wet Tropics rainforests. The aim of the research was to provide a snapshot of visitor activity to inform management on how sites are used and investigate visitors' views on site management. Visitor data was collected using a self-completed visitor survey. Collectively the series of reports will provide an overall understanding of how visitors use the rainforest and provide managers with feedback that can be used for site management and future planning.

Responsibility for the management of the Wet Tropics rainforests is shared by the Wet Tropics Management Authority (WTMA) and the Queensland Department of Environment and Resource Management (DERM). The WTMA was established after listing of the Wet Tropics as a World Heritage site and is responsible for the planning of visitor sites across the Wet Tropics World Heritage Area (WTWHA). The Queensland Parks and Wildlife Service (QPWS), an agency of the DERM, has responsibility for the day to day management of site infrastructure including toilets, car parking, signage, viewing lookouts, boardwalks, walking trails and other recreational facilities. The Wet Tropics has a large number of visitor sites, some of which have high rates of visitation. A number of sites have relatively low visitation rates, but all offer unique nature-based visitor experiences.

1.1 Site Location and Description

The Mossman Gorge section of Daintree National Park was gazetted in 1967. The visitor site is located in the southern section of the Park. The land tenure of the Mossman Gorge site is shared by three parties: the Kuku Yalanji Aboriginal tribe on whose traditional land the site is located; the Cairns Regional Council which owns the site's access road and carpark; and the Queensland Parks and Wildlife Service which has responsibility for the management of the Mossman Gorge visitor site.

The Eastern Kuku Yalanji are the traditional owners of the site and have established Bamanga Bubu Ngadimunku Incorporated (BBN Inc.) to manage the land, resources, business, employment and education needs of the Mossman Gorge Aboriginal community. The community is located adjacent to the entrance road to the site and operates Kuku Yalanji Dreamtime, a cultural walking tour.

The Mossman Gorge visitor area is a day use site only with the main attraction being the Mossman River and gorge. There are two walking tracks at the site. The shorter circuit walk runs alongside the river before circling around the forest back to the carpark. A longer circuit walk extends off the shorter walk and takes in the Rex Swinging Bridge. A map of Mossman Gorge showing the survey site is provided at Figure i.

1.2 Previous Research

Manidis Roberts Consultants conducted visitor surveys during the wet season (March/April) and again during the dry season (September/October) of 1993 across 56 individual visitor sites and three conglomerate sites within the WTWHA. The research approach included traffic counts, site observations and visitor interviews. Three versions of the visitor survey were used – one for independent travellers, one for those travelling with a commercial operator and one left at sites as a self-registration survey.

In 1993 an estimated 331,000 visitors travelling in an estimated 84,000 vehicles (Manadis Roberts, 1994) visited Mossman Gorge. Based on a sample size of 806 survey respondents, the Manadis Roberts survey found that 54.4% of independent respondents travelled as a couple or family and stayed at the site for an average of 1.2 hours. Seventy-seven percent

were on their first visit to Mossman Gorge and had stayed in Cairns or Port Douglas the previous night. Swimming, walking (less than five kilometres) and photography were the main activities undertaken. Site facilities used by visitors included the water tap, walking track and rubbish bin. Visitor satisfaction was generally high.

In 2001/2002, Bentrupperbäumer undertook a comprehensive visitor survey and site monitoring of Mossman Gorge as part of a ten site project for the WTMA using traffic counter data, site observations and visitor surveys. Key findings of Bentrupperbäumer’s study were that the site is popular with both international and domestic visitors; the site was important for local visitors during the wet season; and most respondents had heard of Mossman Gorge by word-of-mouth, a previous visit or from a travel guide book (Bentrupperbäumer, 2002). The primary reason for visiting Mossman Gorge was to experience nature and see the natural features which were rated as interesting, appealing and in good condition. The rules and regulations and safety information were considered easy to understand. Additional information that respondents thought should be provided in order of importance was natural, ecological, cultural and heritage information. Crowding appeared to be a problem, although most visitors reported a high level of satisfaction with the site.

1.3 Traffic and Toilet Counter Data

Mossman Gorge is a high visitation site that attracts an estimated 366,000 visitors per year (Bentrupperbäumer, 2002). Data recorded by a traffic counter in 2001/2002 indicated that the highest rate of visitation occurred in August (12,563 vehicles), with the lowest level recorded in September (5,310 vehicles) (Bentrupperbäumer, 2002). During this same period, the estimated average monthly traffic into the Mossman Gorge site was 8,290 vehicles (Bentrupperbäumer, 2002). An attempt to collect data in 2009 was unsuccessful due to environmental issues (D. Sherwell, pers. comm., 8 March 2010).

Figure 1 outlines toilet counter data for Mossman Gorge for the period 2006 to 2009. Data points with a zero denote periods when the counter was not operational. During 2009, the peak visitation period was between July (n = 1,047) and October (n = 934). Similar use patterns are evident across all data for the four years.

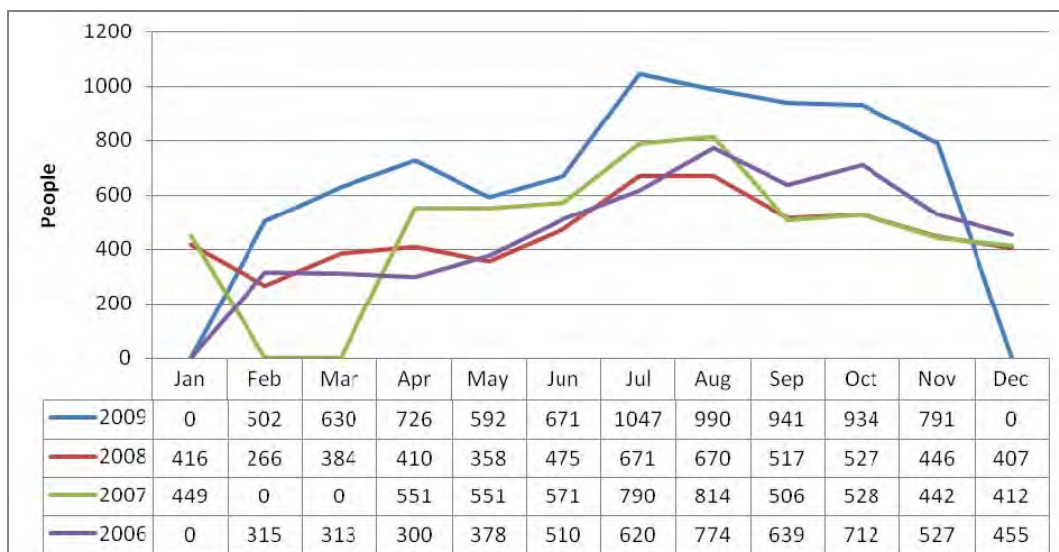


Figure 1: Average monthly counts of visitor toilet usage recorded at the Mossman Gorge visitor area between 2006 and 2009. Data courtesy of Queensland Parks and Wildlife Service, DERM.

2. Methodology

The aims of this report are to:

- Investigate visitor activities undertaken at Mossman Gorge; and
- Identify visitors' views about aspects of the site including its management.

Specific objectives of the research were to:

- Provide a snapshot profile of visitors to the Mossman Gorge site;
- Understand visitors' perceptions of the management of the site;
- Understand visitors' perceptions of the natural environment at the site;
- Gain an understanding of visitors' travel patterns within the Wet Tropics region; and
- Assess the suitability of the interpretative information provided at the site.

A convenience sampling technique was used and data was analysed with the SPSS v17 statistical package.

This research complements earlier research (Carmody and Prideaux, 2008) that investigated how local residents used the Wet Tropics and their views on its management.

2.1 Survey Instrument

To collect data on a range of issues related to visitor expectations and experiences, a survey (Appendix 1) was developed in conjunction with officers from the WTMA. The survey instrument was based on a previous survey used in 2001/2002 which enabled some general comparisons to be made with earlier research. The self-completed survey contained 29 closed and open-ended questions and provided space for respondents to write additional comments. Open-ended questions were used because they can test specificity of knowledge more effectively (as shown by Whitmarsh, 2009), provide richer responses (Altinay and Paraskevas, 2008) and can minimise social desirability bias (Budeanu, 2007). Survey questions were grouped into eight sections commencing with demographic data. Table 1 outlines the components of the survey. Survey staff recorded site details including location, date, time of collection and weather conditions on the front cover of the survey instrument.

Table 1: Components of the Mossman Gorge visitor survey.

Section A	Background information	Place of residence, occupation, education, age, gender
Section B	Travel and transport	Organised tour or free and independent traveller, travel party, mode of transport, pre- and post-visit of site, experience of protected natural areas
Section C	Reasons for visiting	Motivations, activities, time spent at site, willingness to pay
Section D	Natural environment	Perceptions of the natural environment
Section E	Site facilities	Use of site facilities, expectations of facilities, perceptions of facilities, ranger presence
Section F	Information	Prior information search, perceptions of on-site information, additional information required
Section G	Visitor experience	Aspects of visit that enhanced and detracted from experience, perceptions of crowding
Additional comments		Open-ended to allow for any comments and feedback

2.2 Survey Collection

Surveying was undertaken at the Mossman Gorge visitor site by two experienced research assistants who were stationed in the carpark near the entrance to the short rainforest circuit walk. Using a convenience sampling technique, visitors returning from the walk were approached and asked to complete the survey. Researchers explained the purpose of the survey and the approximate time for completion. A postcard or WTMA cassowary sticker was offered as a token of appreciation to those returning the survey. Table 2 outlines the schedule and collection of surveys for the Mossman Gorge site.

Table 2: Mossman Gorge visitor survey collection times and details (N = 358).

Date	Day	Weather	Visitor Frequency	Percent of Total
22 April 2009	Wednesday	Sunny and overcast	52	14.5
29 April 2009	Wednesday	Overcast	64	17.9
8 May 2009	Friday	Overcast	40	11.2
20 May 2009	Wednesday	Sunny	54	15.1
10 August 2009	Monday	Sunny and overcast	71	19.8
3 September 2009	Thursday	Overcast and raining	77	21.5
Total			358	100.0

Surveys were collected during the shoulder and peak tourist seasons on weekdays between 10:00 am and 3:00 pm (Figure 2). Visitation generally peaked between 11:00 am and 2:00 pm.

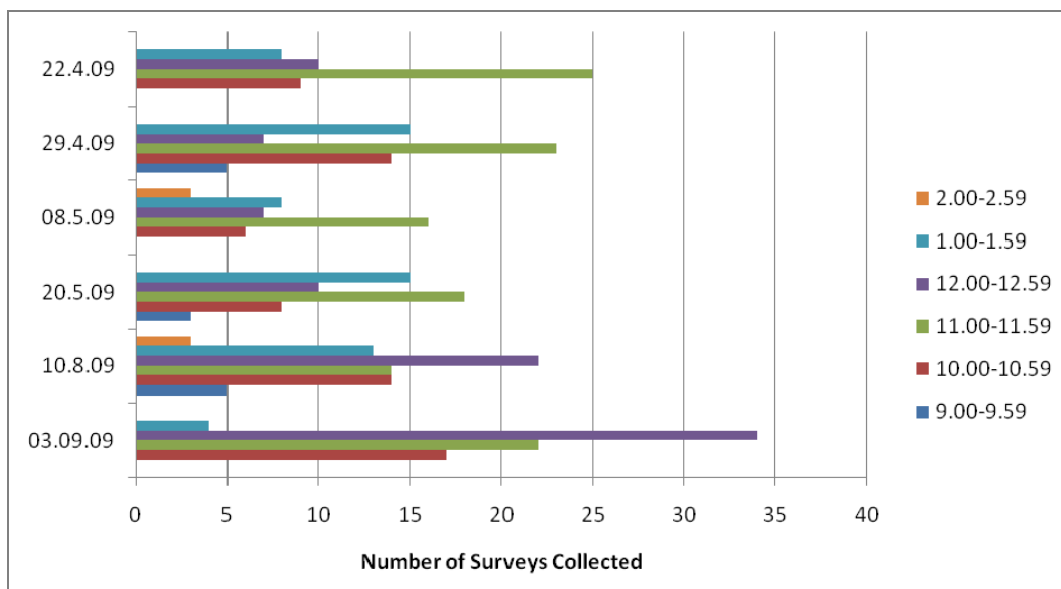


Figure 2: Surveys collected at Mossman Gorge by date and time (N = 358).

2.3 Non-response and Observations

Refusals to complete the survey were recorded on-site and are presented in Table 3. Of the 656 people approached to complete the survey, 45.4% declined (n = 298). One fifth (20.0%) declined on the grounds that they were members of a tour group and had limited time at the site. Other reasons given included not having sufficient time, not being interested and a language barrier.

Table 3: Reasons given for not participating in the Mossman Gorge visitor survey (n = 298).

Reason for not participating in survey	Frequency (n)	Percentage of total number of people approached (n = 656)
With tour group	131	20.0
No time	61	9.3
Not interested	56	8.5
Language barrier	32	4.9
Children – impatient/ upset	17	2.6
Survey too long	1	0.1
Non-Response	298	45.4

Limited observations were made of visitor behaviour during surveying. On two occasions, visitors to Mossman Gorge left a dog in their vehicle while they walked around the short circuit. On 10 August 2009, a juvenile cassowary was observed near the carpark.

2.4 Limitations

There were some limitations associated with the research that should be considered prior to generalising the results:

- First, the survey was conducted using a convenience sampling approach and may not be representative of all visitor segments using the site;
- Second, the sample size was limited by time and budget constraints;
- Third, the survey was only available in English, resulting in a possible under-reporting of some nationalities visiting the site;
- Fourth, there was potential for social desirability bias occurring where respondents offered answers that are seen to be desirable or acceptable but may not reflect their true opinions. In most cases it is difficult to determine the level of social desirability for any given question; and
- Finally while tour groups include Mossman Gorge in their itineraries, only a limited number of tour group members agreed to complete the survey.

Understanding the Results

Both closed questions with specific response options and open-ended questions were used in the visitor survey. The advantage of closed questions is that it allows the researcher to investigate specific issues of interest while open-ended questions provide a good indication of top-of-mind responses and concerns of interviewees. Closed response questions generally asked respondents to use a six-point Likert scale. In the following discussion, the results of closed questions are reported as means and as the percentage breakdown by the six items on the Likert scale. Means are useful for ranking in order of importance while percentage breakdown gives a clearer indication of the strength of agreement or disagreement with a particular given statement. The following discussion should be read with these considerations in mind. It should also be noted that not every question was answered by all respondents, thus the 'n' values of tables and figures may vary. The 'n' value reports valid responses. The 'N' value reports the entire sample.



3. Findings

The results presented in this report are from the Wet Tropics Visitor Site Level Survey distributed at Mossman Gorge in 2009, based on 358 completed surveys.

3.1 Respondent Profile

Slightly more females (52.1%) than males (47.9%) completed the survey.

Place of Residence

Respondents' places of residence are provided in Table 4 (n = 348). It should be noted that nine respondents did not indicate their place of residence. Two-thirds of respondents were domestic visitors with only 4.3% from Far North Queensland. Visitors from Victoria (18.4%) and New South Wales (18.2%) were the largest groups of domestic respondents. International visitors were largely from the United Kingdom (12.6%) and Europe (11.2%).

Table 4: Origin of Mossman Gorge survey respondents (n = 348).

	Frequency (n)	Percent (%)
DOMESTIC		
Victoria	64	18.4
New South Wales	63	18.2
Other Queensland	47	13.5
Western Australia	19	5.5
Far North Queensland	15	4.3
Tasmania	13	3.7
South Australia	10	2.8
Domestic Total	231	66.4
INTERNATIONAL		
England/ UK	44	12.6
Europe	39	11.2
North America	16	4.6
New Zealand	14	4.0
Asia-Pacific	4	1.2
International Total	117	33.6
Total Domestic and International	348	100.0

Occupation

The occupation of respondents is provided in Figure 3. The largest group consisted of domestic professionals (19.6%), followed by domestic retirees/semi-retirees (12.6%) and those who were self-employed and of domestic origin (8.7%).

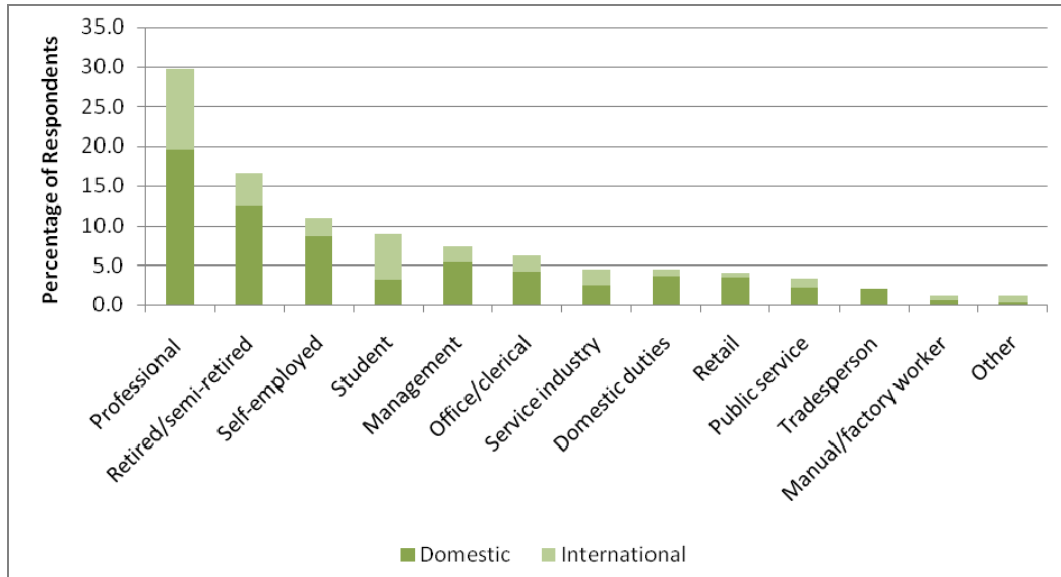


Figure 3: Occupations of Mossman Gorge survey respondents (n = 357).

Age

Figure 4 highlights the age ranges of respondents by whether they were domestic or international visitors. Respondents aged 20-29 years (21.6%) were the largest group overall followed by those aged 30-39 years (19.1%), 50-59 years (17.9%) and 60-69 years (17.0%). Although there were more domestic respondents across all age groups, the 20-29 year age group were significantly ($p < .001$) more likely to be international visitors.

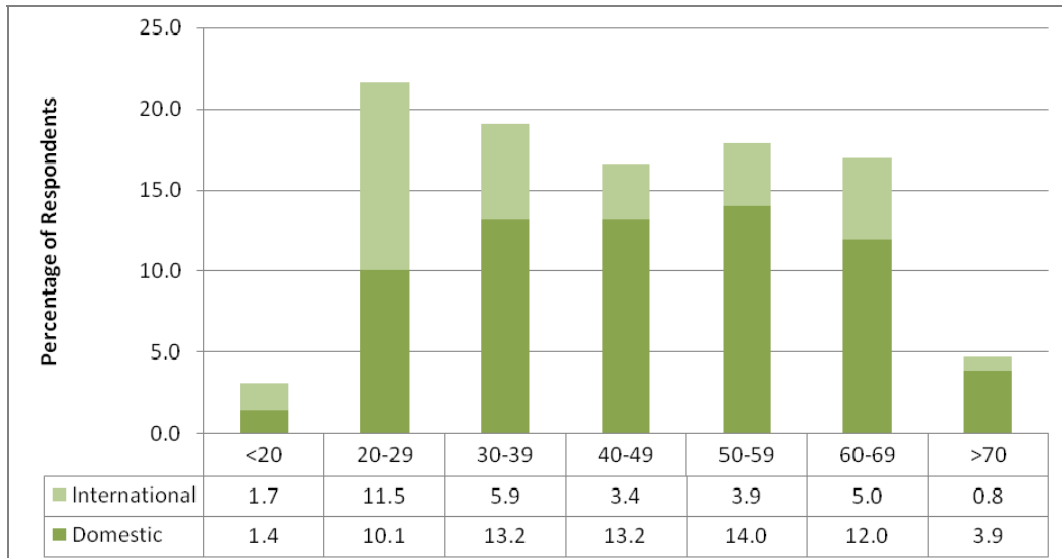


Figure 4: Age groups of Mossman Gorge survey respondents (n = 357).

Education

Figure 5 highlights survey respondents' education levels, where Tertiary A is defined as technical or further education, and Tertiary B is defined as a university qualification. For the whole sample, the largest group of respondents indicated they held a Tertiary B education (51.5%) followed by Tertiary A (23.5%). Further analysis indicated that domestic visitors were significantly ($p < 0.05$) more likely to have attained a secondary education (19.3%) while international visitors were more likely to hold a Tertiary B qualification (20.4%).

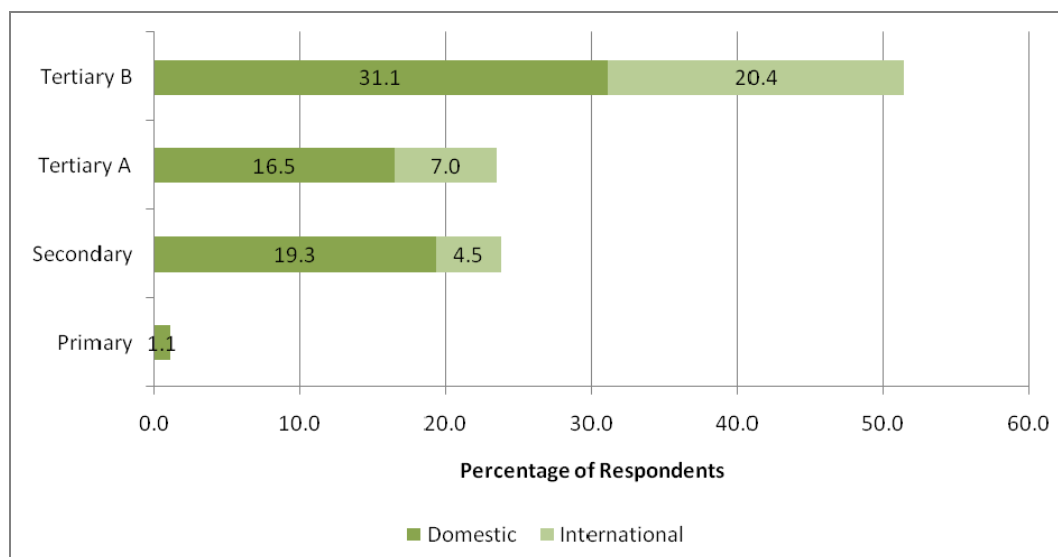


Figure 5: Levels of education attained by Mossman Gorge survey respondents (n = 294).

A cross-tabulation analysis of respondents' age and education is provided in Table 5. The largest group of respondents had achieved a Tertiary B education and was aged 20-29 years (14.3%). More domestic respondents (30.9%) than international respondents (20.5%) held a Tertiary B qualification.

Table 5: Respondents' age and education (n = 356).

Age Group	Primary (%)	Secondary (%)	Tertiary A (%)	Tertiary B (%)
< 20 years	0.3	2.0	0.6	0.3
20-29 years	-	4.2	3.1	14.3
30-39 years	0.3	2.5	4.5	11.8
40-49 years	-	3.7	3.9	8.7
50-59 years	0.6	5.1	5.1	7.3
60-69 years	-	4.8	4.5	7.9
> 70 years	-	1.7	2.0	1.1
Total Respondents (n=290)	1.1% (n = 4)	23.9% (n = 85)	23.6% (n = 84)	51.4% (n = 183)
Domestic	1.1% (n = 4)	19.4% (n = 69)	16.6% (n = 59)	30.9% (n = 110)
International	0% (n = 0)	4.5% (n = 16)	7.0% (n = 25)	20.5% (n = 73)

Travel Party and Mode of Transport

Figure 6 reports on modes of transport used by independent travellers. Seventy percent of respondents reported travelling to Mossman Gorge by hired vehicle, 27.8% travelled by private vehicle, 1.9% travelled by bicycle and 0.4% used public transport (Figure 6). The results indicate that domestic visitors (44.1%) were more likely to use hired vehicles than international respondents (25.9%).

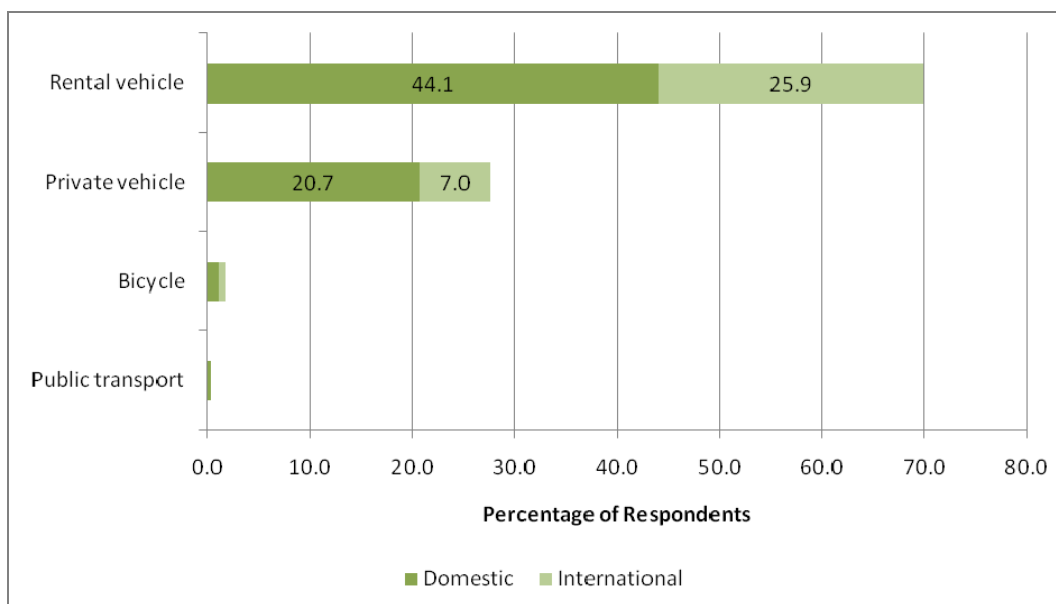


Figure 6: Modes of transport used by survey respondents to travel to Mossman Gorge (n = 270).

Table 6 reports on travel party composition. The largest groups consisted of respondents travelling with a companion but no children (n = 210), followed by parties of four adults with no children (n = 39) and travel groups of three adults with no children (n = 24).

Table 6: Composition of visitor travel parties to Mossman Gorge (n = 329).

	1 adult	2 adults	3 adults	4 adults	5 adults	10 adults
0 children	14	210	24	39	3	1
1 child	-	10	2	9	-	-
2 children	-	7	5	3	-	-
3 children	-	2	-	-	-	-
Adults per vehicle 2.41 ± SD 0.93 (range 1-10)						
Children per vehicle 0.17 ± SD 0.52 (range 0-3)						

Organised Tour Visitors

As noted in the Section 2.4, only a small number of responses were received from tourists travelling with an organised tour group. As a result the data outlined in Table 7 may not be a true reflection of the characteristics of respondents travelling on commercial tours to Mossman Gorge. Most organised tour participants indicated they were travelling with a commercial tour of 15-30 guests.

Table 7: Mossman Gorge survey respondents travelling with an organised tour operator (n = 15).

Tour Operator	Number of guests on the tour				Total
	6 or less	7-14 guests	15-30 guests	30+ guests	
Down Under Tours	-	-	1	-	1
Jungle Tours	-	-	2	-	2
BTS	5	1	1	-	7
Cape Tribulation Connections	-	-	2	-	2
Trek North Safaris	-	1	1	-	2
Viator – booking agent	-	1	-	-	1
Total	5	3	7	-	15

Travel Flow

Respondents were asked about their travel patterns on the day of the survey, including where they had been and where they intended to go after leaving the site. Results are outlined in Tables 8 and 9. Table 8 indicates that more than one-third of all respondents had travelled from Port Douglas (33.2%), Mossman (14.1%) and Cairns (13.5%). Another 9.9% indicated that Mossman Gorge was their first stop. Results also indicate that respondents are more likely to travel to Mossman Gorge from the south (54.2%) rather than from the north (25.8%).

Table 8: Visitors' reported previous stop before arriving at Mossman Gorge (n = 334).

	Frequency (n)	Percent (%)
Towns north of Mossman Gorge		
Mossman	47	14.1
Cape Tribulation	16	4.8
Daintree	15	4.5
Wonga Beach	6	1.8
Cooktown	2	0.6
Towns south of Mossman Gorge		
Port Douglas	111	33.2
Cairns	45	13.4
Palm Cove	11	3.3
Atherton	4	1.2
Kuranda	2	0.6
Mareeba	2	0.6
Mt Molloy	2	0.6
Sydney	2	0.6
Uluru	1	0.3
Yungaburra	1	0.3
Natural Attractions		
Beach	4	1.2
Rex Lookout	2	0.6
Turtle Creek	1	0.3
Mossman Gorge	1	0.3
Daintree walk	1	0.3
Natural Attractions		
Nowhere/ first stop	33	9.9
Accommodation	9	2.7
Daintree River Cruise	5	1.5

	Frequency (n)	Percent (%)
Kuku Yalanji Dreamtime	4	1.2
Home	2	0.6
Thala Beach Resort	2	0.6
Daintree Discovery Centre	1	0.3
Paronella Park	1	0.3
Information centre	1	0.3
Total	334	100.0

After leaving Mossman Gorge, respondents reported they would mostly travel on to Daintree (22.8%) and Cape Tribulation (14.2%), indicating northwards travel (Table 9). The majority of respondents visited Mossman Gorge between 10.00 am and 12.00 pm indicating a morning rather than afternoon peak. Respondents who reported they were intending to travel to Port Douglas (21.7%) were surveyed throughout the day.

Table 9: Intention of survey respondents to visit other places within the region after Mossman Gorge (n = 351).

	Frequency (n)	Percent (%)
Towns north of Mossman Gorge		
Daintree	80	22.7
Cape Tribulation	50	14.2
Mossman	25	7.1
Cooktown	4	1.1
Cow Bay	3	0.9
Wonga Beach	3	0.9
Cooya Beach	1	0.3
Towns south of Mossman Gorge		
Port Douglas	76	21.6
Cairns	32	9.1
Mareeba	5	1.4
Palm Cove	3	0.9
Ellis Beach	3	0.9
Atherton	2	0.6
Mission Beach	2	0.6
Kuranda	2	0.6
Mt Molloy	2	0.6
Trinity Beach	1	0.3
Sydney	1	0.3
Julatten	1	0.3
Noosa	1	0.3

	Frequency (n)	Percent (%)
Natural Attractions		
Beach	4	1.1
Green Island	2	0.6
Rainforest	1	0.3
Other Attractions		
Don't know	15	4.2
Accommodation	14	3.9
Daintree River Cruise	4	1.1
Karnak Playhouse	3	0.9
Everywhere	3	0.9
Up north	3	0.9
Atherton Tablelands	2	0.6
Home	2	0.6
Restaurant	1	0.3
Total	351	100.0



Mossman Gorge walk (Photo: Julie Carmody)

Visits to Protected Natural Areas

Respondents were asked about the frequency of their visits to protected natural areas in order to gain an understanding of their experiences in natural areas. Figure 7 indicates that 38.2% of respondents visited natural protected areas more than five times per year, while 34.3% visited 2-5 times per year. Domestic visitors were more likely to be repeat natural area visitors than international visitors. There were no significant correlations between respondents' frequency of visitation to protected natural areas and their age, education or occupation. Only 4.8% of respondents indicated that their visit to Mossman Gorge was their first visit to a natural protected area.

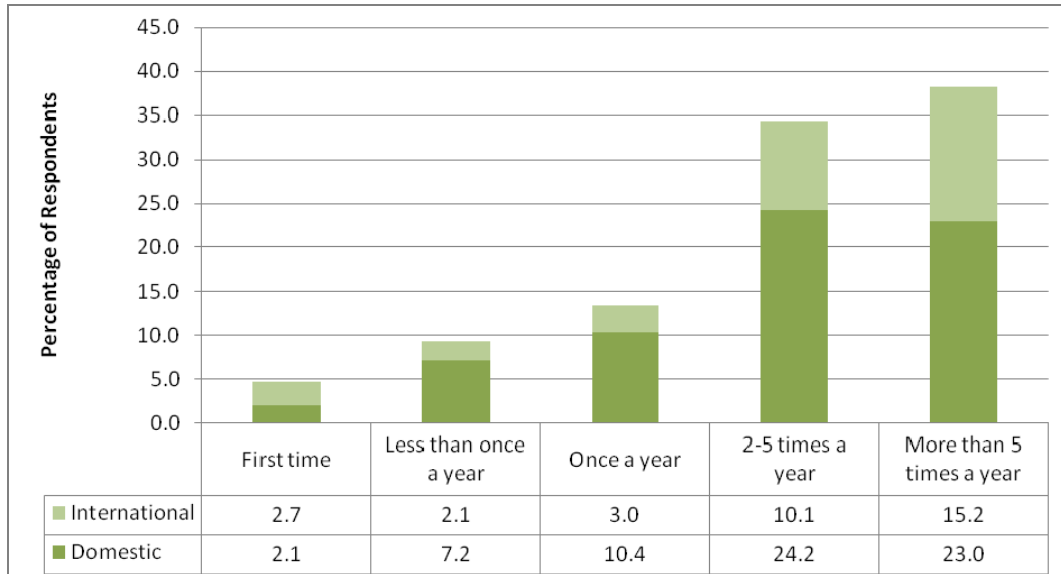


Figure 7: Survey respondents' frequency of visitation to protected natural areas (n = 335).

Reasons for Visiting Mossman Gorge

Respondents were asked to respond to a series of questions about their motivations for visiting Mossman Gorge. A six-point Likert scale of 1 (being 'not important') to 6 ('very important') was used. Table 10 indicates the most important reasons for visiting the site for both international and domestic respondents were to see the natural features and scenery (mean = 5.34), to be close to and experience nature (5.06) and experience tranquillity (4.61). The site's status as a World Heritage Area (mean = 3.98) was less important than its status as a National Park (4.04), although Table 11 highlights both World Heritage and National Park status was considered important. With the exception of learning about native animals and plants and to learn about Aboriginal culture, domestic visitors displayed a higher level of motivation for all remaining items compared to international respondents.

Table 10: Comparative domestic and international visitors' motivations to visit Mossman Gorge.

Motivations to visit Mossman Gorge	n	Overall Mean	Domestic visitors (mean)	International visitors (mean)
See natural features and scenery	347	5.34	5.28	5.45
Be close to/ experience nature	345	5.06	5.01	5.14
Experience tranquillity	342	4.61	4.83	4.14
Outdoor exercise	341	4.10	4.22	3.86
Rest and relax	342	4.03	4.25	3.58
Because it is a National Park	344	4.04	4.13	3.87
Opportunities for short walks	340	4.24	4.32	4.05
Because it is a World Heritage Area	344	3.98	4.10	3.75
Socialise with family or friends	336	3.41	3.54	3.15
Learn about native animals and plants	342	3.82	3.72	4.01
Opportunities for long walks	329	3.60	3.62	3.56
Learn about Aboriginal culture	335	3.18	3.11	3.32

Table 11 shows the level of importance ascribed to each motive on a scale from 'not important' to 'very important'. Results indicate that 94.7% of respondents considered the opportunity to see the natural features and scenery to be the most important motivation for visiting Mossman Gorge. Considering the high levels of visitation to Mossman Gorge, it is surprising that 79.5% of respondents indicated tranquillity was an important factor, and similarly 65.2% were motivated to visit for rest and relaxation.

Table 11: Survey respondents' most cited reasons for visiting Mossman Gorge.

Reasons for visiting Mossman Gorge	Percentage of survey respondents					
	Not important	Slightly important	Moderately important	Important	Quite important	Very important
See natural features and scenery	0.6	1.2	3.5	15.8	16.7	62.2
Be close to/ experience nature	0.9	2.9	8.1	14.8	24.6	48.7
Experience tranquillity	2.6	4.7	13.2	21.4	25.1	33.0
Outdoor exercise	6.5	10.0	16.6	22.6	22.6	21.7
Rest and relax	7.3	9.1	18.4	25.1	18.7	21.4
Because it is a National Park	8.7	8.4	20.3	18.7	20.1	23.8
Opportunities for short walks	6.5	5.9	15.8	22.1	28.8	20.9
Because it is a World Heritage Area	9.3	12.5	18.9	15.4	17.7	26.2
Socialise with family or friends	19.6	13.4	18.2	20.5	11.3	17.0
Learn about native animals and plants	5.6	13.5	25.4	21.9	16.6	17.0
Opportunities for long walks	15.5	13.1	19.1	15.8	21.0	15.5
Learn about Aboriginal culture	15.5	21.5	23.6	18.8	10.0	10.4

Twenty-three respondents provided other reasons for visiting Mossman Gorge that were not included on the survey's Likert rating scale, including the rainforest (nine responses), the beauty of the gorge (six responses), swimming (three responses), nostalgia (three responses) and picnicking (two responses).

Activities

Respondents were asked to indicate which activities they had undertaken at Mossman Gorge. Results are outlined in Figure 8 and show that the main activities undertaken were the short walk (90.3%), the opportunity to observe the scenery (87.6%), photography, painting and/or drawing (65.9%) and relaxing (52.4%). A relatively small number of respondents (22.4%) used the on-site interpretative facilities. The collection of surveys from April to September 2009 – during the cooler months – may have contributed to the small percentage of respondents who indicated swimming at Mossman Gorge (24.3%). There were no significant differences between the activities undertaken by domestic and international visitors.

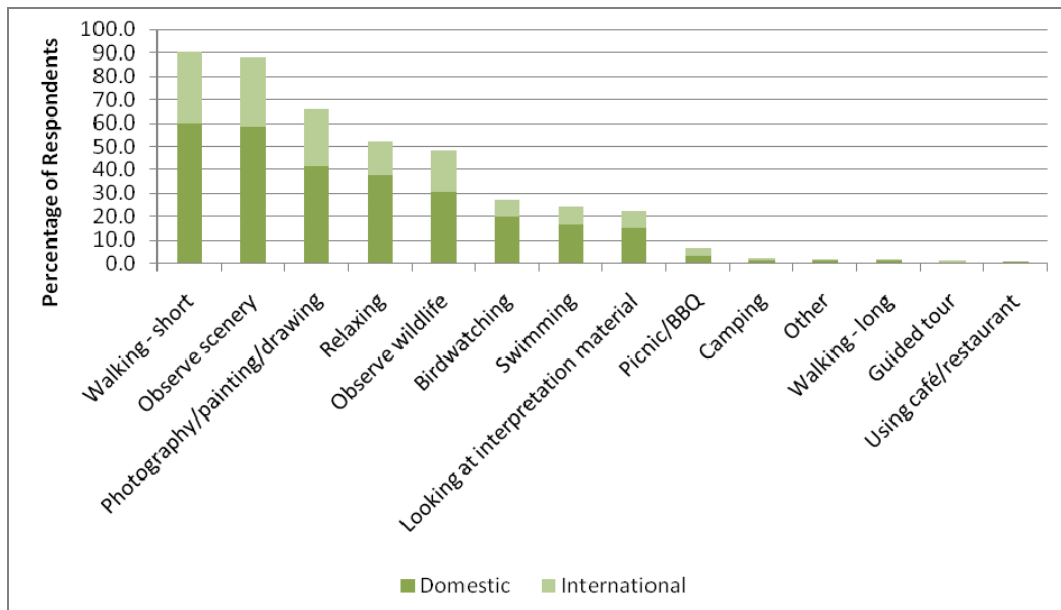


Figure 8: Activities undertaken at Mossman Gorge as cited by survey respondents (n = 358) in response to a multiple-response survey question.

Using an open-ended survey question, respondents were asked to indicate if there were activities that they would have liked to have participated in, but could not. Results are outlined in Table 12. One hundred and fifty respondents (41.9% of the sample) answered this question, providing 156 activities. References to the longer walk (88 responses) and Rex Swinging Bridge (35 responses) were made during the collection period when these facilities were closed for safety reasons and maintenance. Other responses included swimming (eight respondents stated that it was too cold to swim), using the toilet (six responses) and getting close to nature, due to the site being crowded and noisy (five responses). The toilet was closed on the 8 May 2009.

Table 12: Activities which survey respondents would like to have undertaken at Mossman Gorge, but could not (n = 150).

Activities	Overall (n)	Domestic (n)	International (n)
Longer walk – closed	88	52	36
Rex swinging bridge – closed	35	21	14
Swim – too cold; poor weather	8	4	4
Use toilet – closed	6	4	2
Get close to nature – too crowded and noisy	5	2	3
Coffee shop	3	2	1
Observe birdlife	2	2	-
Wash hands properly – no soap	2	2	-
More information about area and ecosystem	2	1	1
Seeing lots of things	1	1	-
See wildlife	1	1	-
Bring family dog	1	1	-
Photography – raining	1	1	-
Aboriginal guided walk	1	1	-
See more – raining	1	1	-
Access information about site	1	-	1
Longer walk closed	1	-	1
See turtles	1	-	1
Total Responses	160*	96	64

* Note, multiple suggestions were received from some respondents.

Respondents were asked to state the length of time they spent at the Mossman Gorge site. Half of all respondents (49.9%) spent about one hour at the site, while another 30.5% stayed for about thirty minutes (34.6%). In all, 86.0% of respondents spent one hour or less at Mossman Gorge. Domestic respondents (8.6%) were more likely to spend two hours or more at the site compared to international visitors (5.4%).

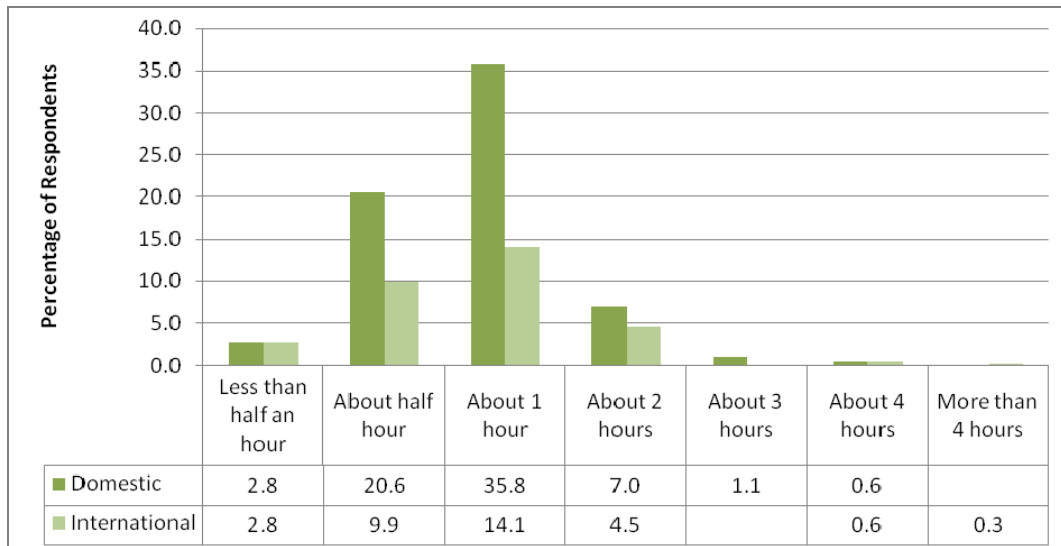


Figure 9: Approximate time spent at Mossman Gorge by both domestic and international visitors (n = 355).

Willingness to Pay

Currently, visitors to protected natural areas in Queensland are not charged an access/entry fee. Respondents were asked to indicate how much they would be prepared to pay if an entrance fee was introduced at the Mossman Gorge site.

As shown in Figure 10, 30.7% of respondents were not willing to pay anything, while 35.4% said they would be willing to pay between \$2 and \$5, and 19.6% would pay up to \$10. The largest groups of respondents who reported they were either not willing to pay an entrance fee or were only prepared to pay between \$1 and \$2 were international students and those aged 20-29 years ($p < 0.05$).

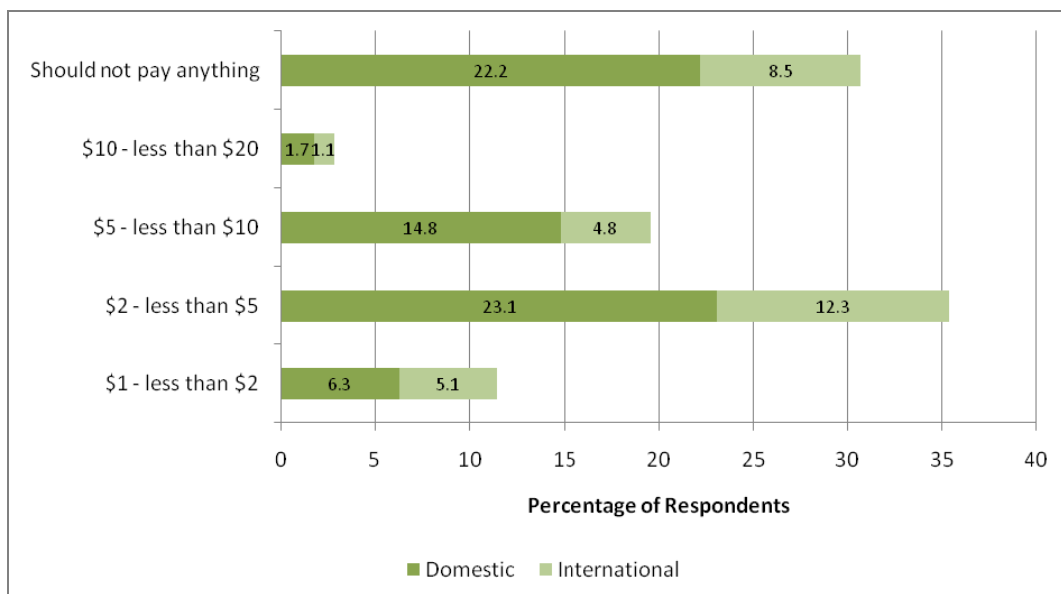


Figure 10: Survey respondents' willingness to pay an access/entrance fee to visit Mossman Gorge (n = 351).

3.2 Perceptions of the Natural Environment

A series of statements were used to gather respondents' views on the natural environment at Mossman Gorge. Respondents were asked to indicate their views using a Likert scale where 1 = 'strongly disagree' and 6 = 'strongly agree'. Table 13 summarises the results: respondents considered the site to be interesting (mean = 5.45), in good condition (5.41), appealing in terms of scenic beauty (5.34) and well managed (5.25). There were low levels of concern with the site being disturbed and impacted (2.64). Domestic respondents had higher levels of satisfaction with the site's natural environment than did international respondents, however international respondents were more concerned with the impacts of human activity (mean = 4.18) and the site appearing to have been disturbed (2.66).

Table 13: Domestic and international visitors' perceptions of the natural environment at Mossman Gorge.

Perceptions of the natural environment at Mossman Gorge	n	Overall Mean	Domestic visitors (mean)	International visitors (mean)
The natural environment at this site is interesting.	355	5.45	5.56	5.22
The condition of the natural environment at this site appears to be good.	352	5.41	5.54	5.15
In terms of natural attractions and scenic beauty this site is appealing.	354	5.34	5.48	5.04
The natural environment at this site is well managed.	351	5.25	5.33	5.09
I would like to spend more time exploring this natural environment.	353	4.95	5.09	4.68
I am concerned about the impacts of human activity on the natural environment at this site.	351	4.09	4.05	4.18
This site appears to be disturbed and impacted.	349	2.64	2.63	2.66

The levels of agreement/disagreement with given statements about the site's natural features are summarised in Table 14. Two-thirds of respondents (66.7%) were concerned about the impacts of human activity on the site but only 27.2% agreed the site appeared to be disturbed and impacted. On a positive note, 97.8% of the respondents agreed the condition of the natural environment appeared to be good, 96.9% agreed the site was interesting, 96.3% agreed the site was appealing and 96.0% agreed the site was well managed. A desire to spend more time at the site was indicated by 91.8% of the sample.

Table 14: Survey respondents' perceptions of the natural features at Mossman Gorge.

Perceptions of the natural environment at Mossman Gorge	Percentage of survey respondents					
	Strongly disagree	Somewhat disagree	Mildly disagree	Mildly agree	Somewhat agree	Strongly agree
The natural environment at this site is interesting.	-	-	3.1	7.0	31.9	58.0
The condition of the natural environment at this site appears to be good.	-	1.1	1.1	9.4	31.9	56.5
In terms of natural attractions and scenic beauty this site is appealing.	0.4	0.8	2.5	10.7	31.9	53.7
The natural environment at this site is well managed.	0.6	1.1	2.3	11.1	38.5	46.4
I would like to spend more time exploring this natural environment.	1.1	2.0	5.1	22.4	30.9	38.5
I am concerned about the impacts of human activity on the natural environment at this site.	7.1	12.0	14.2	21.7	21.1	23.9
This site appears to be disturbed and impacted.	21.8	32.1	18.9	17.4	7.2	2.6

3.3 Perceptions and Use of the Site Facilities

Respondents were asked to comment on the facilities that were available. A Likert scale of 1 = 'strongly disagree' to 6 = 'strongly agree' was used to gather respondents' perceptions. Results reported in Table 15 indicate that respondents were less impressed with the site's built facilities than they were about the surrounding natural environment, that is, the site facilities overall were perceived to be of lower quality than the natural environment at Mossman Gorge. Domestic respondents were generally more positive than international respondents. However, overall there is scope for a higher standard of site facilities. There was only moderate support for a ranger to be stationed at the site (mean = 3.96).

Table 15: Domestic and international visitors' perceptions of the site facilities at Mossman Gorge.

Perceptions of site facilities at Mossman Gorge	n	Overall Mean	Domestic visitors (mean)	International visitors (mean)
The overall condition of the facilities at this site appears to be good.	333	4.75	4.81	4.64
This site is appealing in terms of the character and attractiveness of the facilities.	336	4.70	4.85	4.39
The facilities and infrastructure at this site are well managed.	333	4.66	4.72	4.55
The facilities at this site are adequate.	338	4.62	4.71	4.43
The presence of a ranger at sites like this is important to me.	337	3.96	4.02	3.82

Table 16 provides the percentages for the respondents' levels of agreement with each statement. Most respondents thought the site's facilities were in good condition (88.2%), and were appealing (86.0%), well managed (86.4%) and adequate for the site (84.8%). Just over one-third of all respondents (37.7%) did not support the presence of a ranger on the site.

Table 16: Survey respondents' perceptions of the site facilities at Mossman Gorge.

Perceptions of site facilities at Mossman Gorge	Percentage of survey respondents					
	Strongly disagree	Somewhat disagree	Mildly disagree	Mildly agree	Somewhat agree	Strongly agree
The overall condition of the facilities at this site appears to be good.	1.5	2.1	8.1	25.5	33.4	29.4
This site is appealing in terms of the character and attractiveness of the facilities.	3.0	1.8	9.2	24.4	31.5	30.1
The facilities and infrastructure at this site are well managed.	2.4	1.8	9.3	26.7	33.4	26.4
The facilities at this site are adequate.	1.8	3.3	10.1	26.3	33.4	25.1
The presence of a ranger at sites like this is important to me.	11.0	9.8	16.9	20.2	19.0	23.1

Presence of a Ranger On-site

As shown in Figure 11, almost half of all respondents felt that a Park Ranger would be able to provide information and education (57.9%), answer questions (47.7%) and enhance safety and security (46.2%). Only 12.2% thought a ranger would be helpful for lodging complaints about the behaviour of other visitors. Further analysis indicates domestic visitors were more likely to agree that an on-site ranger would be good for site maintenance ($p < .005$).

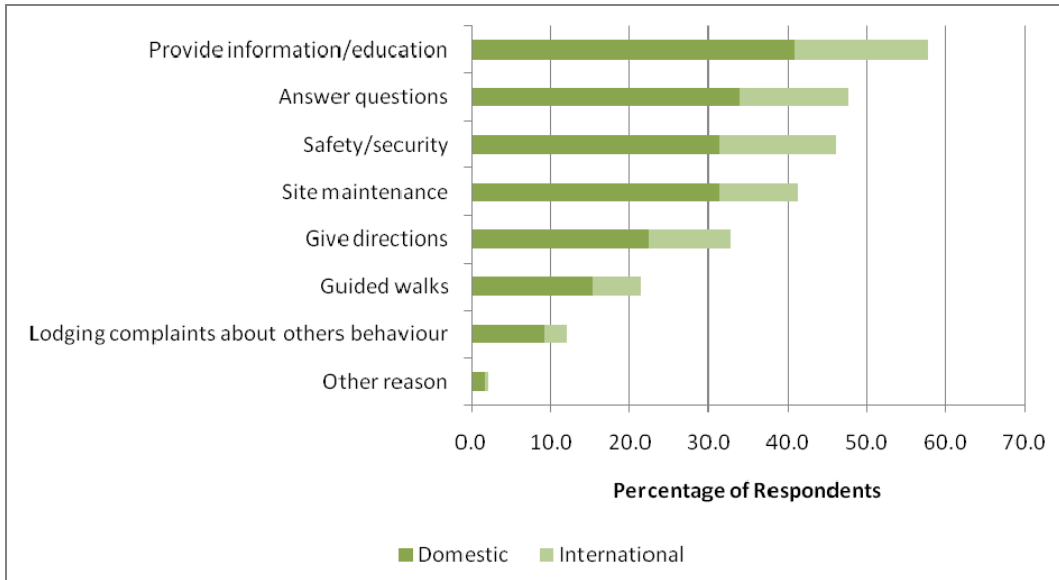


Figure 11: Survey respondents' suggested uses of an on-site Park Ranger at Mossman Gorge in response to a multiple-response survey question (n = 344).

Use of Site Facilities

A multiple-response format was used to ensure respondents had the opportunity to indicate the facilities they had used at the Mossman Gorge site. Results outlined in Figure 12 show the walking track was used by 88.9% of respondents while 83.6% used the viewing platform. The boardwalk was used by 74.8% of respondents. There were no significant differences between the domestic and international visitors using any of the facilities provided at the site.

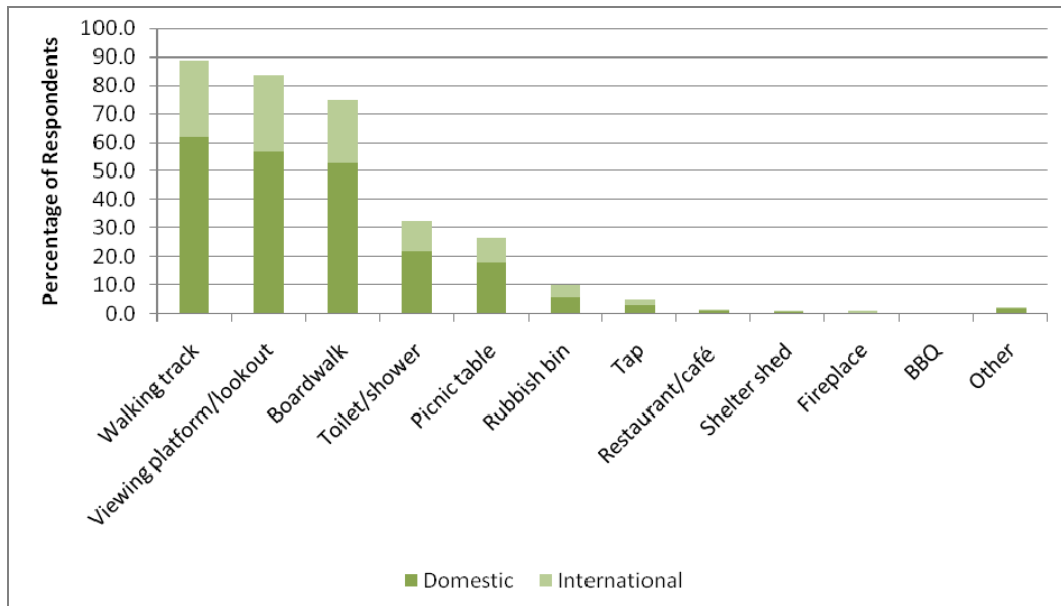


Figure 12: Most popular Mossman Gorge site facilities used by survey respondents, cited in response to a multiple-response survey question (n = 294).

Expected Site Facilities

Respondents were asked to indicate if there were facilities that they would have liked to have seen at the Mossman Gorge site. Sixty-seven respondents (18.7% of the sample) responded to this question indicating eighty expectations (Table 17). Many expectations were related to facilities that were closed for maintenance or safety when the survey was carried out, including the swinging bridge (27 responses), toilets (14 responses) and the long walking track (10 responses).

Table 17: Facilities expected to be available at Mossman Gorge by survey respondents (n = 67).

Expectation	Overall	Domestic	International
That the swinging bridge would be open	27	19	8
That the toilets would be open	14	9	5
That the long walking track would be open	10	7	3
Canteen	6	5	1
Walking tracks	6	5	1
Rubbish bin	5	4	1
Signage	3	3	-
Barbeques and firewood	2	2	-
To view more of the gorge	1	1	-
Shower	1	1	-
Mirror	1	1	-
Picnic tables	1	1	-
Shelter over picnic tables	1	1	-
Disabled access	1	1	-
Braille signage	1	1	-
Total Responses	80*	61	19

* Note, multiple suggestions were received from some respondents.

Information about Mossman Gorge

Survey respondents were asked to indicate the sources they had used to gain information about the Mossman Gorge site prior to their visit. Figure 13 indicates the main information sources used were word-of-mouth (41.8%), a travel guide or book (28.5%) or knowledge from a previous visit (27.3%). Other sources used were road signs and visitor information centres. Domestic respondents were significantly ($p < .001$) more likely to have visited Mossman Gorge previously (23.5%) while international visitors were more likely to have used travel guides (14.8%). Tourist information centres (3.5%), brochures (7.0%) and the internet (7.8%) were the least popular sources of information.

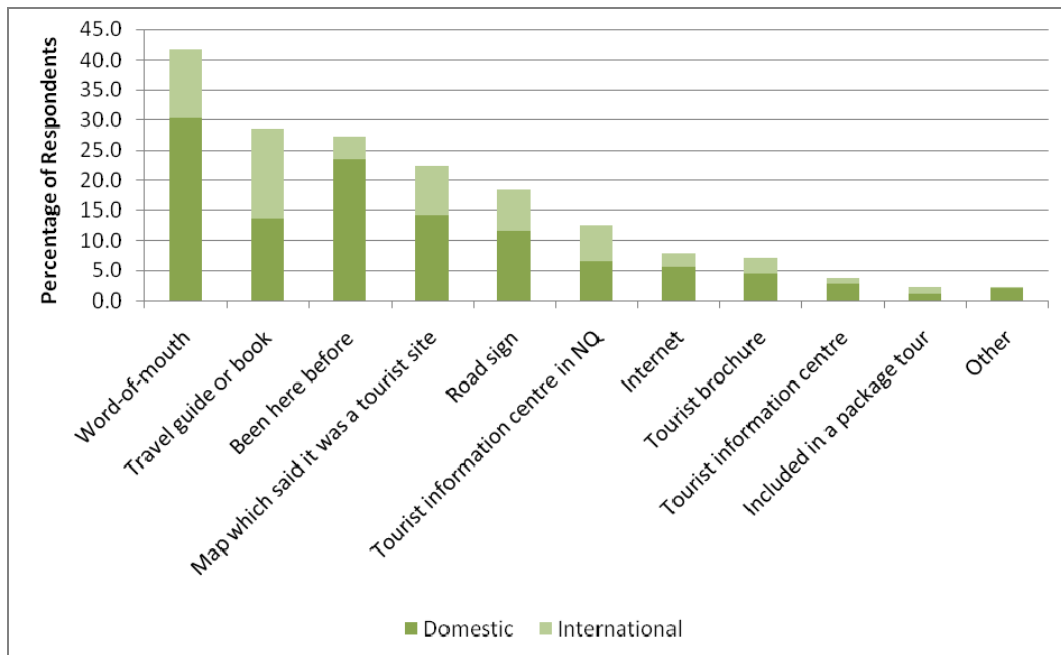


Figure 13: Sources of information consulted by survey respondents prior to visiting Mossman Gorge (n = 344).

Eighty-six percent of respondents indicated that the information they had referred to prior to visiting Mossman Gorge was accurate. Table 18 provides comments from 21 respondents who thought their prior information was not accurate. Concerns were raised about the longer circuit tack being closed (eight responses) and the lack of information available about the site (six responses). One respondent provided positive feedback, suggesting the site was more pleasant than anticipated.

Table 18: Survey respondents' comments regarding the inaccuracy of information about Mossman Gorge sourced prior to their visit (n = 21).

Comments	Frequency (n)
The circuit track is closed.	8
Hardly any or no information available on how to get here and what is to be seen – just that it is here.	6
Not a good site to come and connect with nature – it's too crowded.	2
Expected a bigger gorge, more grand scale beauty.	2
Site was more pleasant and offered a more interesting experience than anticipated.	1
Brochures suggested swimming was OK but on arrival signs stated swimming can be dangerous.	1
Brochure suggested facilities for purchasing food.	1
Total Responses	21

On-site Signage

Interpretative and directional signs are important features of the infrastructure at any visitor site. Visitors were asked to rate given statements about on-site signage and interpretation using a Likert scale of 1 = 'strongly disagree' to 6 = 'strongly agree'. As shown in Table 19, respondents strongly agreed that the signs, maps and directions were easy to find (mean = 5.30) and the rules and safety information was easy to understand (5.39). There was overall mild agreement that the Aboriginal cultural information provided on-site was interesting (mean = 3.96) and assisted in understanding the significance of the area (3.90).

Table 19: Domestic and international survey respondents' perceptions of on-site signage at Mossman Gorge.

Perceptions of on-site signage at Mossman Gorge	n	Overall Mean	Domestic visitors (mean)	International visitors (mean)
Signs, maps and directions				
Were easy to find	332	5.30	5.26	5.37
Helped me to find my way around	328	5.21	5.16	5.32
The rules and safety information				
Were easy to understand	327	5.39	5.41	5.36
Addressed my interests and concerns	321	5.09	5.13	4.99
The information about natural features and values				
Was interesting and informative	323	5.04	5.06	5.02
Helped me to better appreciate the special natural features of the area.	321	5.03	5.06	4.96
The Aboriginal cultural information				
Was interesting and informative	279	3.96	4.06	3.74
Helped me to understand the significance of this area for rainforest Aboriginal people	279	3.90	3.98	3.74

Table 20 provides the actual percentage of responses for each level of agreement / disagreement to the survey question about on-site information. Almost all respondents agreed that the signs, maps and directions were easy to find (96.1%) and 95.8% indicated that they helped them to find their way around the site. Almost one-third of respondents did not think the Aboriginal cultural information was interesting and informative (32.6%) and 34.5% did not think the signage helped them to understand the site's cultural significance to rainforest Aboriginal people.

Table 20: Survey respondents' perceptions of on-site tourism information provided at Mossman Gorge.

Perceptions of on-site information at Mossman Gorge	Percentage of survey respondents					
	Strongly disagree	Somewhat disagree	Mildly disagree	Mildly agree	Somewhat agree	Strongly agree
Signs, maps and directions						
Were easy to find	0.6	1.2	2.1	11.7	32.8	51.6
Helped me to find my way around	0.9	0.9	2.4	14.9	33.2	47.7
The rules and safety information						
Were easy to understand	0.3	0.6	0.9	11.3	31.5	55.4
Addressed my interests and concerns	0.9	0.6	3.1	19.9	34.9	40.6
The information about natural features and values						
Was interesting and informative	0.6	0.3	2.8	23.3	36.5	36.5
Helped me to better appreciate the special natural features of the area.	0.6	0.9	3.7	21.8	35.5	37.5
The Aboriginal cultural information						
Was interesting and informative	7.5	11.5	13.6	28.7	21.9	16.8
Helped me to understand the significance of this area for rainforest Aboriginal people	7.9	10.8	15.8	29.7	20.4	15.4

Using an open-ended question, survey respondents were asked for suggestions on additional interpretative information they would like to see at the site. Sixty-five respondents (18.2% of the sample) thought there should be additional interpretative information about various aspects of the site's flora and fauna (25 responses) and Aboriginal culture (19 responses) (Table 21).

Table 21: Survey respondents' suggested additional visitor information that could be made available at the Mossman Gorge site (n = 65).

Additional Information	Overall	Domestic	International
Cultural Information			
Aboriginal information on-site	19	12	7
Flora and Fauna			
Forestry information	9	5	4
Botanical information at base of trees	5	4	1
Crocodile information	2	2	-
More comprehensive understanding of the ecosystem & animal species	2	1	1
More information about natural features and wildlife	2	2	-
Fish identification	1	1	-
How the vines are essential to the rainforest	1	1	-
Wildlife identification charts	1	1	-
Birdlife information	1	1	-
Look out for snakes warning	1	1	-
Walk Information			
Maps to use during the walk	2	1	1
Map directions	1	1	-
Guided walks	1	1	-
Timing for walks	1	1	-
Other			
Discovery dates and by who; simple heritage information and age of environment	9	9	-
Status of facilities posted on sign near Mossman	2	1	1
Surrounding areas	1	1	-
Handguides with information	1	-	1
What makes it so special? Why is it UNESCO listed?	1	1	-
Who gets water supply from here?	1	1	-
Tactile for blind people	1	1	-
Total Responses	65	49	16

3.4 Visitor Experience

Visitors were asked to comment on aspects of their visit that enhanced or increased their enjoyment of the site. An open-ended question generated 151 responses from 122 respondents (36.3% of the sample). Results were grouped into four categories: natural, facilities, psycho-social and 'other' (Table 22). Clearly, swimming was an enjoyable activity (21.2%) and the lookouts (9.2%) helped visitors to appreciate the site. From a natural perspective, the unspoilt nature of the site (8.6%) and the water (5.4%) enhanced the visitor experience.

Table 22: Aspects that visitors considered enhanced or increased their enjoyment of Mossman Gorge (n = 122).

	Frequency (n)	Percentage (%)
Natural		
Unspoilt nature of the site	13	8.6
Water/ waterfall/ clear water	8	5.3
Beautiful place	6	3.9
Seeing lots of fish in the water	5	3.3
View	4	2.5
Great weather	3	2.0
The wildlife	3	2.0
Nature – plants and wildlife	3	2.0
Rainforest	2	1.3
Seeing a forest dragon	2	1.3
Rain	2	1.3
Watching a bush turkey eating someone's lunch	1	0.7
Saw a platypus	1	0.7
Seeing the Mossman River at this time of year	1	0.7
Seeing bird species	1	0.7
Facilities		
Platforms/ water lookouts helping for a better view and photo	14	9.2
Maintained walkways and boardwalk	10	6.6
Wonderful information about the site	4	2.5
Recycled material	3	2.0
Well maintained facilities	2	1.3
Reading that the water can move the huge boulders	2	1.3
Easy walking for limited ability/ mobility	1	0.7
Stairs with handrails	1	0.7
The drive in is beautiful	1	0.7
Sign regarding turtles	1	0.7
Easy access	1	0.7
Easy parking	1	0.7
Facilities are adequate	1	0.7

	Frequency (n)	Percentage (%)
Information about the site	1	0.7
Psycho-social		
Swimming	32	21.1
Peace and tranquillity	7	4.6
The walk	3	2.0
Few other tourists	3	2.0
Being with a small group who conversed about natural features (blind person)	1	0.7
Isolation	1	0.7
Socialising/ friend's company	1	0.7
Interaction with nature	1	0.7
Other people were quiet and respected the environment	1	0.7
Other		
Getting here early	1	0.7
Free short tour	1	0.7
Helicopter interesting to watch	1	0.7
Total Responses	151*	100.0

* Note, multiple suggestions were received from some respondents.

Respondents were also asked for their views on aspects of the site that detracted from their enjoyment (Table 23). A total of 123 responses were received from 115 respondents (33.0% of the entire sample) and divided into five categories generally paralleling the categories used to indicate the appealing aspects of the site: 'nature', 'facilities', 'psycho-social', 'rules/regulations/safety' and 'other'. Closures of the longer walking track (23.5%) and the Rex Swinging Bridge (14.6%) caused the most dissatisfaction. There was also some concern about the number of people at the site (9.6%).

The overall conclusions that can be drawn from the results reported in Tables 22 and 23 are that respondents considered the Mossman River to be a key feature, and that the site was unspoilt but a little crowded. A number of respondents voiced their displeasure about the closure of the longer walking track and swinging bridge.

Table 23: Aspects visitors considered took away or detracted from their enjoyment of Mossman Gorge (n = 115).

	Frequency (n)	Percentage (%)
Natural		
Crocodiles	3	2.4
Rain	2	1.7
Expected big huge gorge	1	0.8
Didn't see any animals	1	0.8
Snake	1	0.8
Facilities		
Closure of the 2 km walking track	29	23.6
Closure of the Rex Swinging Bridge	18	14.6
Locked toilets	6	4.9
Little Aboriginal information	1	0.8
No soap	1	0.8
Rules/ Regulation/ Safety		
People feeding scrub turkeys	3	2.4
Inability to go swimming	1	0.8
Danger signs	1	0.8
See people swim down rapids	1	0.8
Psycho-social		
Too many people	12	9.6
Tour groups	2	1.7
Daughter scared of scrub turkeys	1	0.8
Other		
Helicopter flying overhead	8	6.5
Litter on track	7	5.7
People smoking and dropping butts on ground	6	4.9
Cars/ congested carpark	5	4.1
Toilet paper/ some litter	3	2.4
Rebuilding	2	1.7
Young people behaving irresponsibly	2	1.7
Noisy people	2	1.7
People smoking and drinking on lookout platform	1	0.8
Have to leave and go back to work	1	0.8
Couldn't see enough	1	0.8
Photos	1	0.8
Total Responses	123*	100.0

* Note, multiple suggestions were received from some respondents.

Other Visitors

The behaviour of other visitors at a site can affect the level of enjoyment an individual derives from visiting that site. In circumstances where overcrowding occurs the overall level of enjoyment could be expected to fall. However, the link between perceived crowding and satisfaction is weak and is dependent on personal norms, situational variables and site infrastructure (West, 1981; Stankey and McCool, 1984; Kalisch and Klaphake, 2007). A series of statements were presented in the survey and respondents were asked to comment using a Likert scale of 1 = strongly disagree to 6 = strongly agree. Table 24 illustrates that there was relatively little concern expressed about the behaviour of other visitors detracting from overall enjoyment of the site (mean = 2.13) and that the presence of other people prevented respondents from doing what they wanted to do (2.32). Respondents indicated a moderate level of agreement that too many people were at the site on the day of their visit (mean = 3.01), particularly so for international visitors (mean = 3.31).

Table 24: Domestic and international visitors' perceptions of other site visitors.

Perceptions of other site visitors	n	Overall Mean	Domestic visitors (mean)	International visitors (mean)
The behaviour of other visitors at this site has been on the whole environmentally responsible.	335	4.17	4.19	4.11
There were too many people at this site today.	335	3.01	2.86	3.31
The presence of other people at this site prevented me from doing what I wanted to.	335	2.32	2.17	2.62
The behaviour of some visitors at this site detracted from my enjoyment of this site.	333	2.13	2.12	2.15

Table 25 provides respondents' levels of agreement/disagreement with given statements relating to other visitors at the site. Most respondents (73.4%) agreed the behaviour of other visitors was environmentally responsible, and their behaviour was not of great concern. Given the high visitation levels at Mossman Gorge, it is interesting that 62.1% of respondents disagreed there was too many people at the site, and 79.1% disagreed that other people had prevented them from doing what they intended. Results such as this suggest there is a good flow of visitor traffic both into the site and around the site's walking paths.

Table 25: Perceptions of other visitors at Mossman Gorge.

Perceptions of other site visitors	Percentage of survey respondents					
	Strongly disagree	Somewhat disagree	Mildly disagree	Mildly agree	Somewhat agree	Strongly agree
The behaviour of other visitors at this site has been on the whole environmentally responsible.	14.6	6.9	5.1	15.2	37.0	21.2
There were too many people at this site today.	24.8	17.9	19.4	17.0	11.3	9.6
The presence of other people at this site prevented me from doing what I wanted to.	39.1	25.4	14.6	10.1	6.9	3.9
The behaviour of some visitors at this site detracted from my enjoyment of this site.	43.9	25.8	12.9	9.6	6.3	1.5

3.5 Additional Comments

The survey instrument provided respondents with the opportunity to record comments on any aspect of their visit. Forty responses (11.1% of the sample) were received; most of them positive. Negative comments were concerned with the closure of the longer walking track and the toilets.

Date	Comment
22 April 2009	<p>'This is truly a lovely park.'</p> <p><i>Western Australian visitor, female, 62 years</i></p>
22 April 2009	<p>'I think that the improved walking tracks are great. It's nice that more money is being put into caring for something that is used by locals and tourists. I do think though, that as tourist operators are making money from bringing people here, perhaps a percentage of that money should go into the upkeep.'</p> <p><i>Far North Queensland visitor, female, 26 years</i></p>
22 April 2009	<p>'Love it here, so peaceful and tranquil.'</p> <p><i>Victorian visitor, female, 31 years</i></p>
22 April 2009	<p>'As the tree roots attempt to encroach under the paths, I would like to see bitumen paths replaced by boardwalks to allow the tree roots to breathe.'</p> <p><i>Other Queensland visitor, female, 66 years</i></p>
22 April 2009	<p>'If you ever travel to Scotland, do visit Rambling Bridge Gorge. It is on the A823 Road from Crieff to Dunfermline, situated just off the Kinross-Kincardine Bridge Road. Very spectacular after heavy rain.'</p> <p><i>UK visitor, female, 59 years</i></p>
22 April 2009	<p>'Many visits to this area in past years, some very good improvements.'</p> <p><i>Western Australian visitor, male, 59 years</i></p>
22 April 2009	<p>'Love this place. Come here once a year and really enjoy it.'</p> <p><i>Other Queensland visitor, male, 30 years</i></p>
22 April 2009	<p>'Maybe some more walking tracks.'</p> <p><i>Other Queensland visitor, male, 26 years</i></p>
22 April 2009	<p>'It is a beautiful place which needs to be managed well as it has a delicate ecosystem. This information could be put up on signs to help people appreciate the importance of all of the plants and creatures that dwell in the forest.'</p> <p><i>UK visitor, male, 26 years</i></p>
22 April 2009	<p>'Beautiful.'</p> <p><i>New Zealand visitor, female, 50 years</i></p>

Date	Comment
22 April 2009	<p>'I really enjoyed my time in the gorge. It's a beautiful, interesting place and I hope it will stay like this. The facilities are enough, no need of a restaurant or café in such a natural place.'</p> <p><i>French visitor, female, 20 years</i></p>
22 April 2009	<p>'I expected the gorge to be high and tall. In the states out west, gorges are very high, tall and rocky. This was like our rivers in the state of GA except of course you had the rainforest, beautiful.'</p> <p><i>USA visitor, female, 46 years</i></p>
8 May 2009	<p>'No public conveniences were open – even the disabled toilet. My wife suffers from a back injury which, whilst not causing her walking problems, prevents her from crouching and rising from that position. Such actions could cause paralysis! She was forced to 'use a bush' which affected her walking ability afterwards. In particular the closure of the disabled toilets is not acceptable. You need a ranger to hold keys if it is necessary to close toilets.'</p> <p><i>UK visitor, male, 63 years</i></p>
8 May 2009	<p>'I have three broken vertebrae (following bone cancer) and have difficulty bending and standing up again. I had to go to the toilet in the bushes and was unable to stand up again on my own. It took all of my husband's strength to lift me to a vertical position – I was badly shaken and was unable to walk for several minutes. It spoilt what otherwise would have been a visit to a truly beautiful place.'</p> <p><i>UK visitor, female, 62 years</i></p>
8 May 2009	<p>'Well boardwalked with great non-slip plastic boards. Lovely paths that still had some rocks on them to make it interesting. I would not like to see this any more developed. It's great the way it is.'</p> <p><i>Victorian visitor, female, 33 years</i></p>
8 May 2009	<p>'Enjoyable and informative short walk.'</p> <p><i>UK visitor, female, 24 years</i></p>
8 May 2009	<p>'Everything was nice; it was just quite short and underwhelming. I would not make the drive to return or recommend this location to others.'</p> <p><i>Other Queensland visitor, male, 28 years</i></p>
8 May 2009	<p>'Thank you for natural environment and easy access/car parking and NO entrance fee.'</p> <p><i>UK visitor, male, 64 years</i></p>
20 May 2009	<p>'It is a very nice spot, it's a pity there are not more tracks available in the Mossman Gorge.'</p> <p><i>Other Queensland visitor, male, 52 years</i></p>

Date	Comment
20 May 2009	<p>'Some rubbish visible.</p> <p>I would be prepared to pay a small entry fee, but would not like to see the introduction of an entry fee prevent others from enjoying the experience of this area.</p> <p>Entry fee (if applied) to go entirely to the upkeep of the natural environment.'</p> <p><i>New South Wales visitor, female, 65 years</i></p>
20 May 2009	<p>'I would tell any of my friends to make it a must.'</p> <p><i>Other Queensland visitor, male, 74 years</i></p>
20 May 2009	<p>'Excellent experience, beautiful.'</p> <p><i>Other Queensland visitor, male, 26 years</i></p>
20 May 2009	<p>'We as Australians should be very proud and diligent in preserving our wonderful natural heritage. More must be done to appreciate our youth, beauty and future.'</p> <p><i>Victorian visitor, female, 49 years</i></p>
10 August 2009	<p>'I used to come here as a child (20-25 years ago) and it is just as beautiful now as it was then. It's great that it's still free and unspoilt.'</p> <p><i>New South Wales visitor, female, 30 years</i></p>
10 August 2009	<p>'It's a fabulous spot – would love to see it in flood. Are visitors allowed in when the river is in full flood, or is it too dangerous?'</p> <p><i>New Zealand visitor, female, 62 years</i></p>
10 August 2009	<p>'I hope the changes to vehicle access and more involvement of the Aboriginal people proceed quickly.'</p> <p><i>Far North Queensland visitor, male, 58 years</i></p>
10 August 2009	<p>'Very beautiful place – looks pristine, hope it stays that way.'</p> <p><i>South Australian visitor, female, 62 years</i></p>
10 August 2009	<p>'Blind people require proper steps. Take rails just a little bit further to help vision impaired people.'</p> <p><i>Other Queensland visitor, female, 64 years</i></p>
10 August 2009	<p>'Thoroughly enjoyed the short walk, plenty to see. Missed the swing bridge.'</p> <p><i>Other Queensland visitor, female, 71 years</i></p>
10 August 2009	<p>'Changed a lot in 30 years.'</p> <p><i>Other Queensland visitor, male 65 years</i></p>
10 August 2009	<p>'Well presented, keep up the good work.'</p> <p><i>Australian visitor, male, 55 years</i></p>
3 September 2009	<p>'It would be nice to have rubbish bins placed along the walkways or in the carpark that are easy to find.'</p> <p><i>Tasmanian visitor, male, 20 years</i></p>

Date	Comment
3 September 2009	<p>'I would definitely have liked to have been able to walk further. It was frustrating that the longer track was closed. If open, it would have seemed like there were fewer people here.'</p> <p><i>Victorian visitor, male, 30 years</i></p>
3 September 2009	<p>'Lovely, hopefully it doesn't get ruined by people.'</p> <p><i>New South Wales visitor, female, 19 years</i></p>
3 September 2009	<p>'Great spot, love just how it is now.'</p> <p><i>New South Wales visitor, female, 47 years</i></p>
3 September 2009	<p>'This site should be better maintained by reducing tourist numbers and keeping the site as is, without introducing more or new walking tracks.'</p> <p><i>Victorian visitor, male, 22 years</i></p>
3 September 2009	<p>'I like to be able to walk areas without many boardwalks. Rough tracks are fine. Signs saying NO ENTRY when in National Parks are a pet hate of mine. Advice, but no restrictions on my movements (accepting protections of features) is preferred.'</p> <p><i>Other Queensland visitor, male, 50 years</i></p>
3 September 2009	<p>'Plenty of potential, but don't make it just another profit maker.'</p> <p><i>New South Wales visitor, male, 63 years</i></p>
3 September 2009	<p>'Not good to see young men walking in with open bottles of beer.'</p> <p><i>Tasmanian visitor, male, 66 years</i></p>
3 September 2009	<p>'Glass drink containers taken to swimming sites could be hazardous if dropped. Alcohol use not a good idea here.'</p> <p><i>Tasmanian visitor, female, 64 years</i></p>

4. Management Considerations

The findings presented in this report suggest management consideration is given to the following matters:

- When necessary, signage announcing the temporary closure of walking tracks, swinging bridge or other facilities should be installed both the site and this information also made known on the DERM website.
- The toilets need regular attention.
- There is support for the provision of interpretative signage about the Aboriginal culture of the area, the identification of flora and fauna, and European history of the site. Aboriginal interpretative signage explaining the Kuku Yalanji culture could be erected within the picnic area.
- The site facilities are considered adequate and of a moderate standard. Basic refreshment of the facilities including painting will improve the aesthetic landscape of site facilities.
- It is recommended that interpretative signage on the walks be cleaned regularly to improve their presentation (see Appendix 2).
- The site's World Heritage status was not a major 'pull factor' for visiting the site. This finding highlights the need for a more vigorous and coordinated strategy to promote the Wet Tropics' World Heritage status. One element of this strategy may be to encourage destination marketing collateral to include the World Heritage logo.
- Installation of a visitor counter (similar to toilet counter) at the entrance to the boardwalk is recommended to develop a more detailed picture of visitor numbers and daily visitor patterns. Data of this nature, combined with the results of this survey will give managers a better understanding of how the site is used on a daily, weekly and monthly basis.

5. References

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Appendix 1: Site Survey Instrument



Visitor Site Survey in the Wet Tropics World Heritage Area

Interviewer:

Survey Location:

Survey Date: Time:

Weather: Sunny Overcast Raining Hot Warm Cool

Other Comments: (e.g. windy, smoky, mist)

.....

Dear Visitor,

We are researchers from James Cook University, School of Business – Tourism, and on behalf of the Wet Tropics Management Authority we are exploring visitors’ expectations and experiences of this Wet Tropics site. We would be very grateful if you would participate in the study by completing this questionnaire.

Your participation will help to improve visitor services and the continued management of sites by understanding visitors’ needs and views.

The questionnaire is **voluntary** and all **responses remain completely anonymous**.
The questionnaire will take approximately **15 minutes** to complete.
Thank you very much for your participation.

If you would like any more information about this project please contact the project manager. If you would like to discuss any ethical matters regarding this project please contact the Ethics Administrator. This project has Human Ethics approval H3100 from James Cook University.

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

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9. In your travels today, where did you **previously visit** before coming to this site?
(e.g. township, visitor site)

.....

10. In your travels today, where do you plan to go **after leaving this site**?

.....

11. How often do you **visit natural areas** like this (e.g. National Parks)?

- This is my first time
- Less than once a year
- Once a year
- Between 2 and 5 times a year
- More than 5 times a year

SECTION C: REASONS FOR VISITING

12. Please indicate how important the following **reasons** were for you **visiting this site** today.

	Not important	Slightly important	Moderately important	Important	Quite important	Very important
See natural features and scenery	1	2	3	4	5	6
Be close to / experience nature	1	2	3	4	5	6
Social with family or friends	1	2	3	4	5	6
Rest and relax	1	2	3	4	5	6
Experience tranquility	1	2	3	4	5	6
Outdoor exercise	1	2	3	4	5	6
Opportunities for short walks	1	2	3	4	5	6
Opportunities for long walks	1	2	3	4	5	6
Because it is a World Heritage Area	1	2	3	4	5	6
Because it is a National Park	1	2	3	4	5	6
Learn about native animals and plants	1	2	3	4	5	6
Learn about Aboriginal culture	1	2	3	4	5	6
Other (please specify)	1	2	3	4	5	6

13. What **activities** did you engage in at this site today?

- | | |
|---|---|
| <input type="checkbox"/> Observing scenery | <input type="checkbox"/> Walking – short (1 hour or less) |
| <input type="checkbox"/> Bird watching | <input type="checkbox"/> Walking – long (1-6 hours) |
| <input type="checkbox"/> Observe wildlife | <input type="checkbox"/> Swimming |
| <input type="checkbox"/> Photography / painting / drawing | <input type="checkbox"/> Guided tour |
| <input type="checkbox"/> Picnic / barbeque (BBQ) | <input type="checkbox"/> Looking at interpretation material |
| <input type="checkbox"/> Using café / restaurant | <input type="checkbox"/> Relaxing |
| <input type="checkbox"/> Camping | <input type="checkbox"/> Other (please specify): |

.....
.....

14. Were there particular things you wanted to do today at this site which you were unable to do?

- Yes
 No

If you answered 'Yes', please specify:

.....
.....

15. How **long** have you spent at this site today?

- | | |
|--|--|
| <input type="checkbox"/> Less than half an hour | <input type="checkbox"/> About 3 hours |
| <input type="checkbox"/> About half an hour | <input type="checkbox"/> About 4 hours |
| <input type="checkbox"/> About 1 hour | <input type="checkbox"/> More than 4 hours |
| <input type="checkbox"/> About 2 hours | <input type="checkbox"/> Overnight |
| <input type="checkbox"/> Days (please specify) | |

16. If an **entrance fee** were introduced to access this site today, how much would you be willing to pay?

- \$1 – less than \$2 (AUD)
 \$2 – less than \$5 (AUD)
 \$5 – less than \$10 (AUD)
 \$10 – less than \$20 (AUD)
 I do not think I should pay anything to access this site as a day visitor.

SECTION D: NATURAL ENVIRONMENT

17. The following statements are about the **natural features** of this site. Please rate the extent to which you agree or disagree with each statement.

	Strongly disagree	Somewhat disagree	Mildly disagree	Mildly agree	Somewhat agree	Strongly agree
The natural environment at this site is interesting.	1	2	3	4	5	6
I would like to spend more time exploring this natural environment.	1	2	3	4	5	6
In terms of natural attractions and scenic beauty this site is appealing.	1	2	3	4	5	6
The condition of the natural environment at this site appears to be good.	1	2	3	4	5	6
The natural environment at this site is well managed.	1	2	3	4	5	6
I am concerned about the impacts of human activity on the natural environment at this site.	1	2	3	4	5	6
This site appears to be disturbed and impacted.	1	2	3	4	5	6

SECTION E: SITE FACILITIES

18. What facilities have you used at this site today? (Tick as many as applicable)

- | | |
|---|---|
| <input type="checkbox"/> Picnic table | <input type="checkbox"/> Walking track |
| <input type="checkbox"/> Shelter shed | <input type="checkbox"/> Boardwalk |
| <input type="checkbox"/> Restaurant / café | <input type="checkbox"/> Viewing platform / lookout |
| <input type="checkbox"/> Rubbish bin | <input type="checkbox"/> Fire place |
| <input type="checkbox"/> Toilet / showers | <input type="checkbox"/> Barbeque |
| <input type="checkbox"/> Tap | |
| <input type="checkbox"/> Other (please specify) | |
| | |

19. Were there particular **facilities at this site you were expecting** to find which were not available?

- Yes
- No

If you answered 'Yes', please specify:

.....

.....

20. Please rate the extent to which you agree or disagree with each of the following statements about the **facilities and management** at this site.

	Strongly disagree	Somewhat disagree	Mildly disagree	Mildly agree	Somewhat agree	Strongly agree
The site is appealing in terms of the character and attractiveness of the facilities.	1	2	3	4	5	6
The facilities at this site are adequate.	1	2	3	4	5	6
The overall condition of the facilities at this site appears to be good.	1	2	3	4	5	6
The facilities and infrastructure at this site are well managed.	1	2	3	4	5	6
The presence of a ranger at sites like this is important to me.	1	2	3	4	5	6

21. If you **agreed the presence of a ranger was important**, what are the reasons for this?

- To provide information / education
- To give directions
- To answer questions
- For lodging complaints about others' behavior
- To take us on guided walks
- For site maintenance
- For safety / security
- Other (please specify)

.....

SECTION F: INFORMATION

22. How did you **find out about this site**?

- | | |
|---|---|
| <input type="checkbox"/> Have been here before | <input type="checkbox"/> Travel guide or book |
| <input type="checkbox"/> Road sign | <input type="checkbox"/> From the web |
| <input type="checkbox"/> Word of mouth | <input type="checkbox"/> The trip here was included in a package tour |
| <input type="checkbox"/> Map which said it was a tourist site | <input type="checkbox"/> Tourist brochure (which one?) |
| | |
| <input type="checkbox"/> Tourist information centre in North Queensland | <input type="checkbox"/> Tourist information centre (other) |
| | |
| <input type="checkbox"/> Other (please specify): | |

23. If you obtained **prior information** about this site, was the information accurate?

- Yes
 No

If you answered 'No', please specify:

.....

24. Did you refer to any of the information available at this site today? Yes
 No

25. Please rate the extent to which you agree or disagree with the following statements about **information available** at this site.

	Strongly disagree	Somewhat disagree	Mildly disagree	Mildly agree	Somewhat agree	Strongly agree
Signs, maps and directions...						
were easy to find	1	2	3	4	5	6
helped me to find my way around	1	2	3	4	5	6
The rules and safety information...						
were easy to understand	1	2	3	4	5	6
addressed my interests and concerns	1	2	3	4	5	6
The information about natural features and values...						
was interesting and informative	1	2	3	4	5	6
helped me to better appreciate the special natural values of the area	1	2	3	4	5	6
The Aboriginal cultural information...						
was interesting and informative	1	2	3	4	5	6
helped me to understand the significance of this area for Rainforest Aboriginal people	1	2	3	4	5	6

26. If you were to visit this site again, is there any **additional information** you would like?

Yes

No

If you answered 'Yes', please specify:

.....

SECTION G: VISITOR EXPERIENCE

27. Were there any particular aspects of your visit that **increased / enhanced your enjoyment** of this site?

Yes

No

If you answered 'Yes', please specify:

.....

28. Were there any particular aspects of your visit that **took away / detracted from your enjoyment** of this site?

Yes

No

If you answered 'Yes', please specify:

.....

29. Please rate how strongly you agree or disagree with the following statements about **other visitors at this site** today.

	Strongly disagree	Somewhat disagree	Mildly disagree	Mildly agree	Somewhat agree	Strongly agree
There were too many people at this site today.	1	2	3	4	5	6
The presence of other people at this site prevented me from doing what I wanted to do.	1	2	3	4	5	6
The behavior of other visitors at this site has been on the whole environmentally responsible.	1	2	3	4	5	6
The behavior of some visitors at this site detracted from my enjoyment of this site.	1	2	3	4	5	6

ADDITIONAL COMMENTS:

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

THANK YOU VERY MUCH FOR YOUR PARTICIPATION

Appendix 2: Site Photographs

Barron Falls site signage



Photographs by Julie Carmody

APPENDIX 2 – SITE PHOTOGRAPHS



Photographs by Julie Carmody

Barron Falls visitor facilities



Photographs by Julie Carmody