

Barron Falls

Site Level Data Report

2001/2002



Joan M Bentrupperbäumer



Rainforest CRC

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For this research:

- | | |
|---|-------|
| ▪ James Cook University Ethics Approval No. | H1272 |
| ▪ Queensland National Parks & Wildlife Service Permit No. | FNQ06 |
| ▪ Wet Tropics Management Authority Contract No. | 654 |

Terms of Reference

Visitor Use Survey

The following Terms of Reference have been extracted directly from the WTMA/Rainforest CRC Contract document.

Background

Measurement of visitation to the WTWHA extends far beyond the estimation of visitor numbers. The collection of basic visitor numbers provides baseline information only. Further visitor specific information is required to provide managers with an understanding of patterns of visitor use, behaviour, perceptions, attitudes, expectations and satisfaction. A comprehensive understanding of these visitor aspects is critical to effective visitor management including minimisation of biophysical impacts and maximising benefits to the land manager, visitor and community.

WTMA commissioned Manidis Roberts Consultants in 1993 to conduct an extensive visitor survey with the aim of providing baseline information for comparison with future visitor use surveys. The Manidis Roberts 1993/1994 visitor survey was conducted over 56 sites and although not comprehensive provided an important first step in visitor monitoring within the WTWHA. The MR survey approach include 3 key elements:

- traffic counts
- site observations
- visitor interviews

A number of subsequent visitor use surveys have taken place throughout the WTWHA, and although they have not taken place in as many sites as the Manidis Roberts 1993/1994 survey, they have been far more comprehensive and complex in order to investigate the variety and complexity of issues identified by management agencies.

Aims:

- To collect, compare and review site-based visitor information against previous survey exercises, including aspects of the MR survey
- To update WTMA's visitor survey system to achieve improved administrative efficiency and capture of key site-based visitor information which will aid land managers and the tourism industry in making informed management decisions
- To contribute to measuring psychosocial indicators for State of Wet Tropics reporting processes
- To provide an integral input or tool for the 'Visitor Monitoring System (VMS) for the Wet Tropics World Heritage Area', a project which is also being undertaken by Rainforest CRC during 2001 to 2002.

(Ref: WTMA Contract # 654 , 2001)

About the Author

Dr Joan M Bentrupperbäumer is a Senior Research Fellow and Project Leader with the Rainforest CRC and Lecturer at TESAG and the School of Psychology, James Cook University, Cairns. Her research interests include human-natural environment transactions using social, psychological and biophysical perspectives. Her research approach incorporates an interdisciplinary perspective on reciprocal relationships indigenous and non indigenous people have with the natural/built/social/cultural environment in the WTWHA and the implications of such relationships for environmental management, tourism and local communities in the region. A particular emphasis in the research is placed on the 'real world' application of results in terms of planning for, managing, monitoring and reporting on the State of the Wet Tropics, and developing practical mechanisms and strategies to mitigate negative impacts on those features of the WTWHA inherent to its World Heritage status.

Acknowledgments

The success of this research project, which was undertaken across ten sites within the Wet Tropics World Heritage Area, has very much depended on the many people involved in various research related tasks. In particular I would like to acknowledge my colleague Dr Joseph Reser who has worked together with me over a number of years now developing and refining the analytical framework, survey instruments, and methodologies for this multidisciplinary research on impacts of visitation and use in protected areas. Together we have finalised a report which brings together the results from the ten site level reports, and discusses in detail the analytical framework, methodologies and procedures which were used to undertake this research (Bentrupperbäumer & Reser, 2002a). I would also like to specially acknowledge my research assistant Sue-Ellen O'Farrell who has made a major contribution to this research by assisting me in every aspect of the administration of the project.

In addition I wish to acknowledge all of those listed below who were involved in various aspects of this research.

A. Data Processors

Bronwyn Guy, Joshua Guy, Charmayne Paul, Sue-Ellen O'Farrell, Lucas Talbot, Sunny Pegoraro and Jenny Butler.

B. Field Assistants across the region

Kristie Ashden, Rosanna Brown, Shannon Bros, Megan Campbell, Margit Cianelli, Campbell Clarke, Laurel Cooper, Cheryl Cornelius, Ian Curtis, Leyla Demis, Mathew Earle, Heidi Freiburger, Malcolm Frost, Michelle George, Paula Gilbard, Bronwyn Guy, Joshua Guy, Kristen Haaland, Alicia Hill, Steve Lawrence, Denise Lievore, Lisa Martin, Rik Morgan, Sue-Ellen O'Farrell, Charmayne Paul, Sunny Pegoraro, Romina Rader, Quinn Ramsden, Hilde Slaatten, Mathew Sutherland, Lucas Talbot, Colin Tonks, Ben Trupperbäumer, Steve Turton, Roger Wilkinson, Robyn Wilson, Cleo Wilson.

C. Field Assistants at Barron Falls

Bronwyn Guy (Field Supervisor), Steven Lawrence, Mathew Sutherland, Charmayne Paul, Rosanna Brown, Josh Guy.
Rik Morgan (Traffic Counter)

D. Research Colleagues

Dr. Robyn Wilson, Assoc. Prof. Steve Turton and Dr Miriam Goosem

E. WTMA Personnel

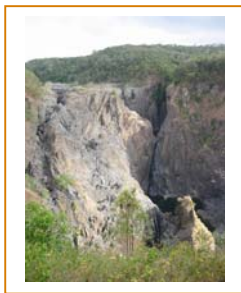
Max Chappell, Campbell Clarke, Dr Steve Goosem and Ellen Weber.

Funding:

This research (Site-Level Visitor Survey across ten WTWHA sites) together with the WTWHA Community Survey (Contract # 654) has been funded by the Wet Tropics Management Authority (20%), the Rainforest CRC (26%), and James Cook University (In-kind infrastructure and services - 54%).

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This Research

Natural resource managers are increasingly aware that the real issue and challenge for them is people management. In a protected area context this requires an informed understanding of the nature and quality of the interaction between people and environment. The multilayered and multidisciplinary site-level approach applied in this research is one that provides such an understanding and has evolved from, built upon and refined earlier research endeavours (Bentrupperbäumer & Reser 2000). The conceptual and methodological framework which assesses and documents this interactive process and which was applied in this research is outlined in Figure 1. This framework differentiates between four primary research layers or domains, one for each of the four key site-level ‘environments’ within the setting: *social and psychological* (psychosocial), *natural and built* (physical) (Reser & Bentrupperbäumer, 2001). Research projects representative of each of these ‘environments’ were conducted simultaneously at the site, which provided a comprehensive and realistic context for measuring, monitoring and reporting on the *impacts* of visitation and use at recreational settings in the Wet Tropics World Heritage Area.

From a management perspective, this site-level research approach provides specific site and situation level data which can directly inform site level decision-making and practice, as well as monitoring and reporting (see Site Level Reports #1 to #10, Bentrupperbäumer 2002a to j). In addition, this site-level sampling allows for an accurate and meaningful aggregate picture of what is happening at a bioregional or World Heritage Area level, as long as data collection sites and data collection are representative (see Report #11, Bentrupperbäumer & Reser, 2002a, *WTWHA Bioregional Level Perspective 2002*). Given that reporting on the State of the Wet Tropics is a statutory requirement, the standardised conceptual and methodological framework used across the ten WTWHA sites and the subsequent information provided by research such as this is critical for continued monitoring and reporting change over time.

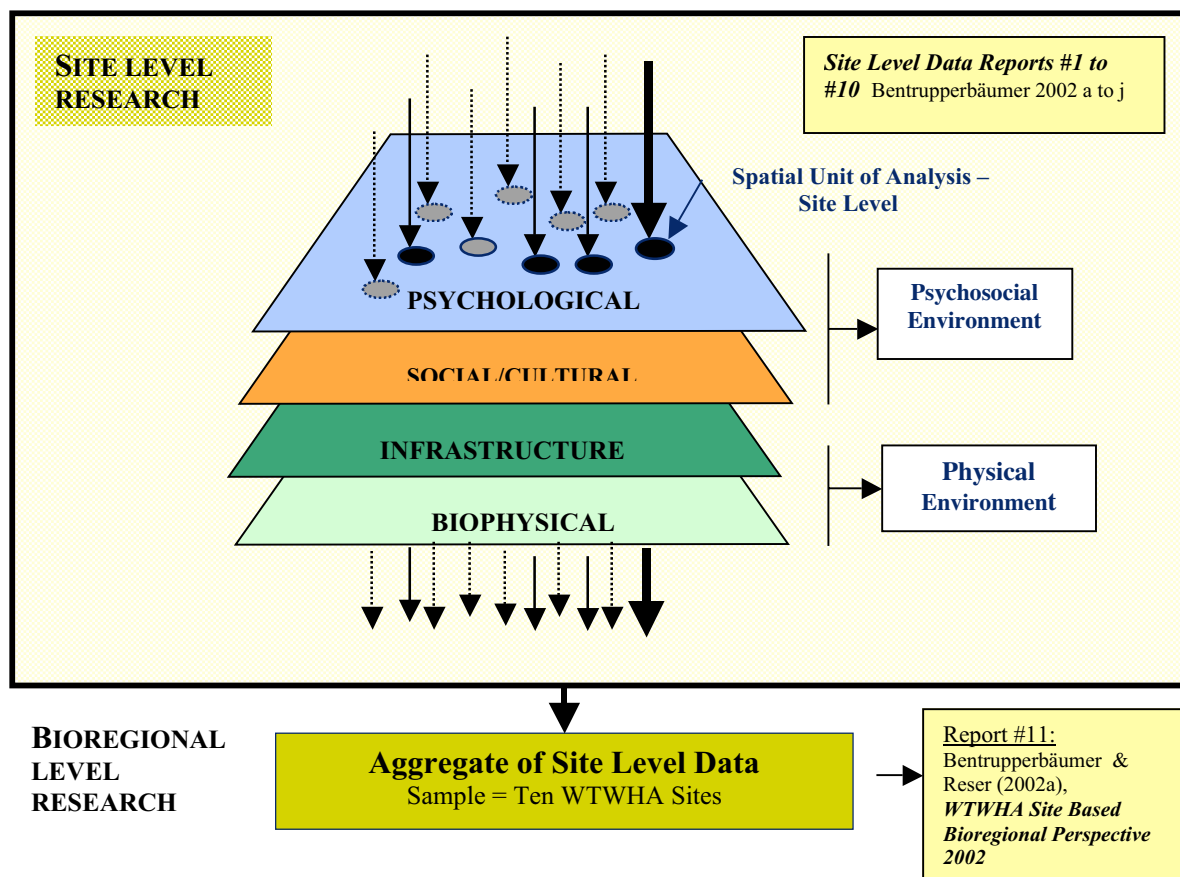


Figure 1: Diagrammatic representation of the research layers, domains and report outputs for this research .

This Report

This report is one of ten site-level reports which presents a comprehensive set of data analyses for the strategic sample of research tasks undertaken across three of the four research domains outlined in Figure 1. The research covered in this report was undertaken at the Queensland Parks and Wildlife Service and Wet Tropics World Heritage site, **Barron Falls**, during 2001 and 2002. Since the primary objective of this report is to provide key site-level data of relevance to all levels of management, from on-ground to policy, planning, monitoring and reporting, details of methodology are not included here. This information is available in a separate but accompanying report (Report #11, Bentrupperbäumer & Reser, 2002a). When *comparative data* from previous studies are available they are included in each relevant section. When such data is from studies other than the authors, methodology and specific measures are often different. The layout of this report, which compliments the research domains presented in Figure 1, is outlined in Figure 2 and the discussion that follows.

SITE LEVEL REPORT

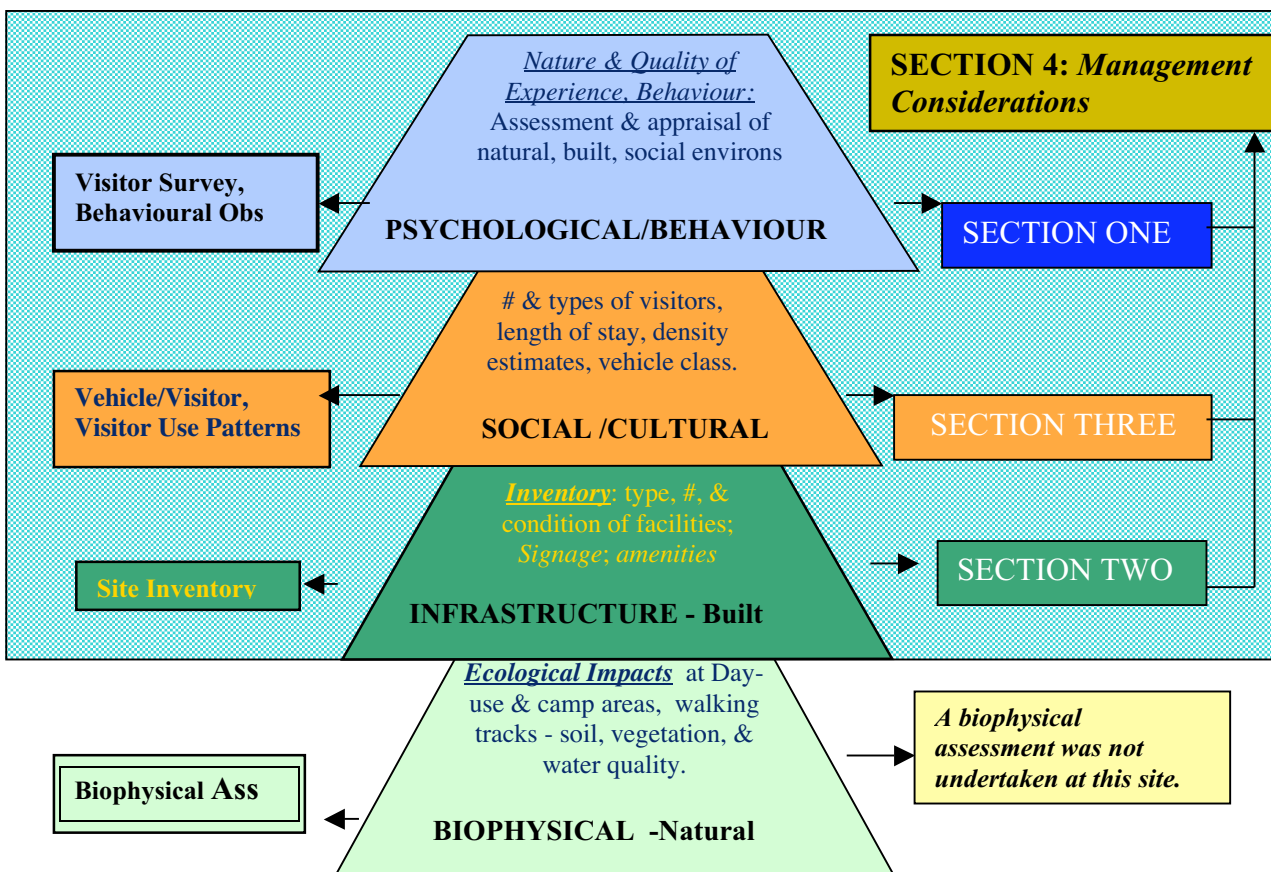


Figure 2: Diagrammatic representation of the report layout and report sections.

The layout of this report is in four sections. The first three sections present data which reflect the strategic sampling across three research domains, while the fourth section addresses key management considerations. The data in this report is presented in some considerable detail the purpose of which is to allow for the identification in future monitoring of changes in the system over time, however subtle. It also provides management agencies with the detail required for State of Environment reporting and planning, policy and on-ground management decision-making.

Data Sections

Section 1: *Psychological and Behavioural*

In the first section, general descriptive analyses of the two stages of data collection undertaken at this site in September, 2001 and April, 2002, are presented. Data collected includes:

- a) *visitor survey* provides information on visitor profile, reasons for visiting, appraisal of the natural, built, social environment, and signage, visitor activity, prior information sources used, experience and satisfaction. Comparable survey items from Manidis Roberts (1993/1994) are also included.
- b) *behavioural observations*, and
- c) *general comments* by visitors, field assistants and field supervisors.

Section 2: *Infrastructure/Built Environment*

The second section presents an *inventory of site facilities and infrastructure*, including all *signage*, which was undertaken by the author during the same data collection periods. An inventory from previous research (Bentrupperbäumer & Reser 2000) is included for comparison as is signage information from SitePlan (1993).

Section 3: *Social Setting/Visitor Use Patterns*

The third section presents information on the social setting of the site including visitor use patterns. While the research undertaken in this section does not encompass the full meaning of *social*, the information nevertheless provides an overview of visitor use patterns including number and type of visitors accessing the site, length of stay at the site, pattern of use over time, vehicle type, etc. This information was obtained and is presented in two ways.

- a) The first is observer-based information which outlines vehicle and visitor data obtained over 4 x 8 hour observation periods during September 2001 and April 2002.
- b) The second is instrument-based information obtained from the traffic counter which provides monthly, weekly, daily records of vehicle numbers, and visitor numbers calculated from visitor counts in vehicles and Questionnaire item # 8 in the visitor survey. The traffic counter was installed for a continuous period of 12 months from mid September 2001. Traffic counter data from Manidis Roberts (1993/1994), the WTMA Traffic Counter Program (1993-1997), and Bentrupperbäumer and Reser (2000) are included for comparison.

Integrative Section

Section 4: *Management Considerations*

The fourth section of this report addresses management considerations that have emerged through the integration of the data across the above three research domains. These considerations cover topics such as: presentation, protection, opportunities, problems and issues, threatening processes, layout and design, indicators and monitoring.

Site Location & Description

Barron Falls is situated within the Barron Gorge National Park west of Cairns and approximately 6 km east of Kuranda. Barron Falls is a Wet Tropics World Heritage site and occurs in the north east tableland section of Australia's Wet Tropics of Queensland World Heritage Area (WTWHA), which extends from Cooktown southwards to Paluma, encompassing an area of 894,420 hectares (Figure 3).

Natural Environment

At this site two distinct vegetation types are evident. They are the eucalypt woodland forest and small sections of rainforest. Soils on the site were formed from the underlying basalt and granite parent material. These features of the site support a diversity of plants, animals and birds. The primary natural attraction at the site is view of the Barron Falls.

Indigenous and Non indigenous Cultural Environment

Indigenous culture has a long history in the Barron Gorge region. The Djabugay, Bulway and Nyagali are representative of the rainforest people in the Barron Gorge area (DNRM, 2001). For these tribal groups, Barron Falls is a well known story place and sacred site (Bottoms, 1992). It is a widely held dreamtime story that the carpet snake (Budadji), which was ambushed, killed and chopped into pieces and thrown into the bush by greedy birdmen, is the creator of all rivers and creeks of the Barron Gorge (Bottoms, 1999). In the early 1890s, gold was discovered up at Tinaroo creek, and as a consequence, Barron Gorge received the attention of hopeful prospectors (EPA, 1998, cited in DNRM, 2001). As a result of this, the population swelled and placed pressure on a number of indigenous communities due to limited access to water and strip mining (Bain & Draper, 1997; cited in DNRM, 2001).

Built Environment

The Barron Falls site has been designed for day usage only, providing visitors with the following facilities: car park area, seating, a walking track and lookout platforms. Signage is evident at the site, though minimal. The layout of the site is presented in Figure 4. See Section 2 for details of infrastructure/built environment.

Opportunities

Recreational The main activity-based recreational opportunity available at this site is the short walk (see Section 1 for details). There is one walking track present, a highly structured boardwalk and bitumen path which leads to a number of lookout sections and down to the Kuranda Railway Platform. This track is classified as a *Graded Track* (Wet Tropics Walking Strategy, 2001). The current status of the tracks is outlined in detail in Section 2. Visitor comments relevant to these tracks are presented in Section 1. Other recreational opportunities available include: photography and bird/wildlife watching.

Experiential In addition to the activity-based recreational opportunities outlined above, Barron Falls provides an important experiential opportunity such as nature appreciation and experience such as observing scenery and possible wildlife encounters. Solitude is an experience rarely achievable at this site due to the structure of the track and the popularity of the site. Early morning and late afternoon would be the only time this site is not busy.

Visitation

Compared to other sites in the Wet Tropics, Barron Falls experiences medium levels of visitation with approximately 97,000 visitors per year (Mossman Gorge > 400,00 visitors per year). This visitation is lowest in March (1,766 vehicles) and highest in August (7,125 vehicles), and is spread evenly across the week days with a slight increase during weekends.

Site Maps



Wet Tropics World Heritage Area of Australia

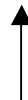


Figure 3: Site location within the Wet Tropics World Heritage Area.

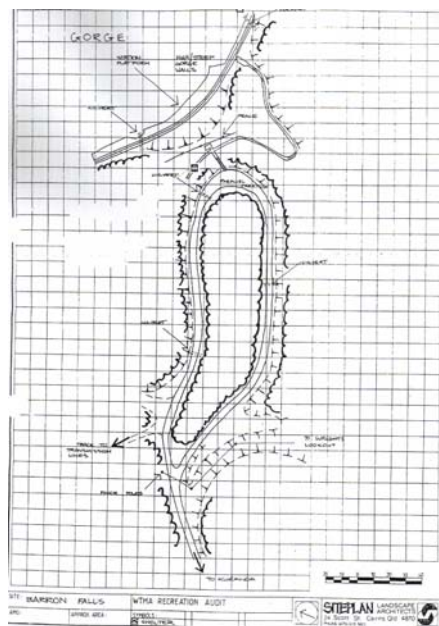


Figure 4: Barron Falls site map.
(Source: SitePlan Landscape Architects, 1993)

Site Management

Queensland Parks and Wildlife Service/Environmental Protection Agency

The Queensland Parks and Wildlife Service/Environmental Protection Agency (QPWS/EPA) is responsible for the on-ground day-to-day management and upkeep of Barron Falls site.

According to the management principles for Queensland's National Parks:

A national park is to be managed to –

- (a) *As the cardinal principle, “provide, to the greatest possible extent, for the permanent preservation of the area’s natural condition and the protection of the area’s cultural resources and values; and*
- (b) *Present the area’s cultural and natural resources, and their values; and*
- (c) *Ensure that the only use of the area is nature-based and ecologically sustainable.”*

(The State of Queensland, EPA, 2001, p.7)

In the context of *sustaining recreational and tourism opportunities* the following principles were identified in the Master Plan for Queensland's Park System (The State of Queensland, EPA, 2001):

A range of opportunities will be provided for visitors to enjoy parks, and interpretive programs will enhance visitor awareness, appreciation and protection of natural and cultural heritage.

The park system will be managed to provide visitors with facilities that are safe and are located, designed, constructed and maintained to meet appropriate safety standards, and with information that will provide visitor awareness of the hazards present in parks and the levels of skill and competence required to cope with the risks they may face.

Wet Tropics Management Authority

The Primary Goal for the Wet Tropics World Heritage Area is to implement Australia's international duty to *“protect, conserve, present, rehabilitate and transmit to future generations the Wet Tropics World Heritage Area, within the meaning of the World Heritage Convention.”*

Site Specific Management Intent

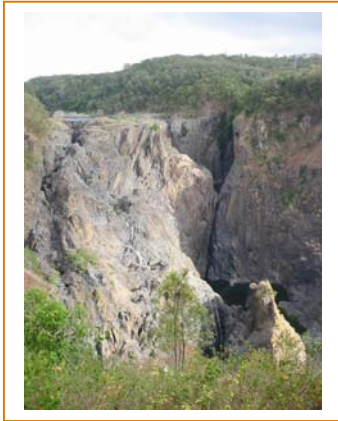
Barron Falls site is classified as a Zone D site by the WTMA's zoning scheme. This zoning system is based on a “distance from disturbance” model. The WTMA management intent for this zone type is described below:

“To accommodate developed visitor facilities to enable visitors to appreciate and enjoy the Area. To ensure that the impact of visitor infrastructure is managed to minimize the effect on the integrity of the Area” (Wet Tropics Management Authority, 1997 p.33).

In addition, the Wet Tropics Management Authority's (WTMA) Visitor Opportunity Class system describes Barron Falls site as a Visitor Facility Node (Class 4). The criteria for this category of site, as defined by the WTMA (1997 p.94), are detailed below:

- An area where a visitor may expect opportunities for presentation, intensive social interaction, and where management presence may be obvious;
- Accessible by vehicle along presentation roads;
- Having developed visitor facilities such as formal car parks, toilets, picnic facilities and camping areas;
- Providing access to a range of recreation opportunities;
- Having the potential for further development of visitor facilities.

Executive Summary



Section One : *Psychological & Behavioural* Visitor Survey & Behavioural Observations 2001 & 2002

Visitor Survey Analyses

The following key findings are based on the visitor survey being undertaken over four days in September 2001 and April 2002, and a respondent number of 367.

Visitor Profile

- Barron Falls is an *important site for domestic Australian and International visitors*.
- It is a site most frequently used by people between *20 and 29 years of age* and who travel in a *private* car.

Prior Information Sources used

- Most people know of Barron Falls because they *have been before*. *Road signs* and *word of mouth* are also important sources of information. Very few visitors to Barron Falls use information centres, tourist leaflets, on the web.

Reasons for Visiting

- The primary reason given for why people visit Barron Falls is to *see the natural features and scenery*.

Visitor Appraisal of Natural Environment

- Visitors find the *natural features* of Barron Falls to be in *good condition and very interesting*.
- *Lack of water* at Barron Falls detracted from *visitor enjoyment* of their visit.

Time Spent and Activities Engaged in

- Visitors spend just enough time at Barron Falls to undertake the *short walk* to the Lookout Platform – *half to one hour*. Very few visitors spend more than one hour at the site.
- Very few visitors spend time looking at signage/interpretation material.

Visitor Appraisal of Signage

- Of the information types available, *natural/ecological information* received the highest assessment.
- Most visitors found the *rules and regulations* and *safety information* easy to determine, understand and locate.
- *Natural, ecological, cultural and historical information* were the type of additional information most frequently sought by visitors.

Visitor Appraisal of Built Environment

- Overall, visitors are satisfied with the *condition of the facilities* and find them *well managed*.

- The most frequently requested additional facility not currently present at the site was *toilets*.

Visitor Knowledge of Management Agencies

- Visitors on the whole are *unfamiliar* with the agency responsible for managing Barron Falls.
- The World Heritage status of Barron Falls is also *unknown* to the vast majority of visitors.

Visitor Appraisal of Social Environment

- *Experienced crowding* does not appear to be a problem for the majority of visitors to Barron Falls.

Experience & Satisfaction

- Visitor *satisfaction* with the site moderately high.

Comments

Most of the visitor *comments* were about the natural environment, built environment and the social environment.

- In regards to the natural environment, visitor satisfaction and enjoyment of the area was reduced by the *lack of water on the falls*. However, most commented that they understood that this was typical for the time of year.
- The *boardwalk* was the focus of the built environment. Positive comments focused on the good *design, easy access, and safety* aspects of the boardwalk. Negative comments on the built environment revolved around there not being a toilet or a place to drink on the walk.
- The social environment was negatively commented on. In most cases, the site was described as *being crowded and very touristy*. Some comments focused on visitors dropping or inappropriately discarding *litter* and as a result this detracting from overall enjoyment of the site.

Behavioural Observations

From the incidental observations made at Barron Falls in September 2001 and April 2002, the following behaviours were the most frequently recorded.

- *Domestic animals*

Dogs were observed in vehicles, walking around the car park and along the boardwalk.

- *Deliberate damage to plants*

In most cases, damage to the plants was the result of cutting track corners or walking along side the track. Children were also observed pulling at plants and hitting trees with sticks.

- *Inconsiderate Behaviour*

Inconsiderate behaviour was observed during both data collection stages. In most cases loud noise was observed coming predominantly from children. Some adults were observed yelling and shouting on the boardwalk. In two instances, a person was observed going to the toilet in the bushes, and another, urinating in the car park.



Section Two:

Infrastructure Inventory and Profile

Key Findings

Site Infrastructure Inventory & Assessment

- Barron Falls contains two distinct activity nodes – *Car Park* and *Walking Track/Boardwalk*.
- Within each of these activity nodes a variety of *infrastructure* has been established.

Car Park

- The car park is highly structured and landscaped, in good condition, and well maintained.
- Minimal litter present in this area and no damage to infrastructure is evident.

Walking Track - boardwalk & bitumen track

- The infrastructure is very good with no evidence of *graffiti or vandalism*.
- *Litter* is evident around the bottom lookout platform.
- Current use of *undesigned trails* is a serious problem particularly when the wet season arrives.

Comparison with previous inventory (1998)

- The walking track/boardwalk at Barron Falls has been upgraded considerably.

Site Information and Signage

- A total of *17 sign structures* containing *32 information types* relevant to Barron Falls were recorded along the main road, access road and at Barron Falls site itself.
- Most of these signs (34.3%) were for the purpose of *visitor orientation*.
- *Visitor advice* was in the form of symbols and text.
- The *interpretive* signage present focused on *Aboriginal significance* of the site.
- No *foreign language* signage was present at this site.



Section Three:

Vehicle and Visitor Monitoring

Key Findings

Vehicle and Visitor Records

- Most common vehicle type accessing Barron Falls was the *car* (67%).
- The highest number of people at the site at one time was **60** (1100 hours 7th April 2002).
- The highest number of vehicles at the site at one time was **22** (1500 hours 7th April 2002).
- Visits to Barron Falls occurred throughout the day, with no particular busy period distinguishable.
- On average, people stayed at Barron Falls for **39 minutes** (just over half an hour).

Traffic Counter Data

- A total of **41,091 vehicles** and **96,975 people** visited Barron Falls in the 12 months September 2001 to 2002.
- On average, **3,465 vehicles** and **8,177 people** visited this site *each month*, range 1,766 to 7,125 vehicles.
- *August* received the *highest number of visitors*.
- On average, **810 vehicles** and **1,912 people** visited Barron Falls *each week*, range 344 to 1,551 vehicles.
- *Daily* vehicle numbers range from **15 to 151**.
- Average *weekday* vehicle number was **105 per day**, which represents a slight increase from previous wet season records (102.1 vehicles, Manidis Roberts, 1993/1994).
- Average *weekend* vehicle numbers was **145 per day**, which represents a decrease from previous wet season records (161.3 vehicles, Manidis Roberts, 1993/1994).



Section Four:

Management Considerations

Key Findings

Presentation

- The presentation of Barron Falls as a World Heritage Area site is problematic as very few visitors are aware of its World Heritage Area status.
- Indigenous cultural attributes of the site are well presented in the context of interpretive signage.
- Natural attributes are well presented in terms of appeal, condition and management of the natural environment but are not well presented in interpretive signage.
- Management identity of the site is not well presented but their performance in terms of managing the built environment is highly regarded as evidenced in visitor appraisal of the condition and management of the built environment.
- Given the reliance on prior knowledge about the site, word of mouth, road signs and maps, presentation of relevant and critical WHA and management information needs to be addressed.
- Site layout and design, infrastructure and facilities are legible and functional, but there is the urgent need for toilet facilities.

Opportunities

- Barron Falls is providing for and facilitating activity-based recreational opportunities in a reasonable way.
- Experienced-based opportunities are very important for visitors and are reasonably well accommodated for at this site.

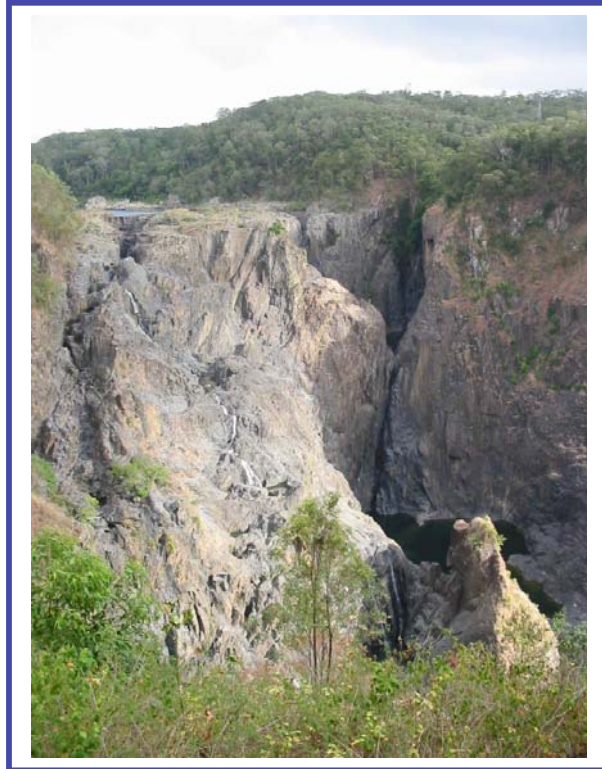
Specific Problems and Issues

- Principal behaviour management problems relate to visitors violating regulations which continue to occur despite the presence of signage. This may require more innovative rule/regulation communication and possibly enforcement strategies.
- Inappropriate behaviour most evident included littering and the use of undesignated tracks which require urgent attention.

Section One

Psychological & Behavioural

Visitor Survey & Behavioural Observations 2001 & 2002



SECTION ONE

-
- Descriptive Analyses of Survey
 - Additional Comments on Survey
 - Comments to Field Assistants
 - Behavioural Observations
-

Visitor Survey of the Wet Tropics Region in North Queensland Dry (Stage 1) and Wet (Stage 2) Season 2001/02

GENERAL DESCRIPTIVE DATA ANALYSES

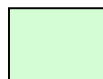
Survey Location: **Barron Gorge National Park – Barron Falls**

	Stage 1	Stage 2
Survey Dates	22 nd & 23 rd September 2001	6 th & 7 th April 2002
Survey Times	0830 to 1700 each day	0830 to 1700 each day
Weather	45.2% Sunny 49.6% Overcast 0.0% Raining 0.4% Hot 4.8% Warm 0.0% Cool	18.1% Sunny 55.9% Overcast 26.0% Raining 0.0% Hot 0.0% Warm 0.0% Cool

This visitor survey was undertaken over two periods, September 2001 and April 2002. For clarity of presentation the data analysis/results corresponding to these data collection periods are represented in two colours, grey and green, and for the combined, dark red:

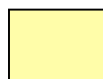


Stage 1: September 2001



Stage 2: April 2002

In addition, where comparative data is available from Manidis Roberts 1993 and 1994 data collection periods this is included in the relevant section and is represented in yellow.



Comparative Data (*Manidis Roberts 1993/1994*)

- Primary data analysis for this section of the report has been undertaken by Bronwyn Guy, James Cook University.

Questionnaire Profile

Because of the layout of Barron Falls it was possible during the survey distribution period to approach almost every visitor to the site who entered from the top car park. Over four days of field work 570 people were approached to take part in this survey. Of the 398 (69.8%) who agreed to participate, 377 surveys were successfully completed and analysed. The results presented in this section are therefore very representative of those using Barron Falls at the time during which surveys were undertaken. The following tables outline the details of respondent participation and survey distribution.

a) Type of Questionnaire Distributed & Returned

A total of 377 questionnaires made up this data set, the majority of which were completed on site. Just under 2% were take-homes and mailed back.

	Stage 1: 2001		Stage 2: 2002		Combined	
	n	Percentage	n	Percentage	n	Percentage
On-Site	246	98.4%	125	98.4%	371	98.4%
Take-Home	4	1.6%	2	1.6%	6	1.6%
Total	250	100%	127	100%	377	100%

b) Status of Questionnaire Returns

Of the 398 questionnaires returned, 5.3% were rejected for the following reasons: they were over 50% incomplete, respondents were too young, or they were posted back well after data entry and analysis had been completed.

	Stage 1: 2001		Stage 2: 2002		Combined	
	n	Percentage	n	Percentage	n	Percentage
Analysed: Completed	250	93.6%	127	96.9%	377	94.7%
Rejected: Incomplete, under age, returned too late etc.	17	6.4%	4	3.1%	21	5.3%
Total	267	100%	131	100%	398	100%

c) Non-Response Information

Of the 570 people approached over four days of survey distribution, 30.2% would either not take part or failed to return the survey. The main reason given by people was that they had *no time*. Field assistants found visitors on the whole to be co operative, interested in the research, and willing to participate.

Reasons	Stage 1: 2001		Stage 2: 2002		Combined	
	n	Percentage total # people approached (377)	n	Percentage total # people approached (193)	N	Percentage total # people approached (570)
Take-homes not returned	28	7.4%	5	2.6%	33	5.8%
Bad weather		-	5	2.6%	5	0.4%
Partner filled in survey	10	2.7%	2	1.0%	12	2.1%
Language difficulties	2	0.5%	8	4.1%	10	1.8%
Had small children	11	2.9%	6	3.1%	17	3%
No time	22	5.8%	26	13.5%	48	8.4%
Not interested	31	8.2%	10	5.2%	41	7.2%
No glasses, can't read	6	1.6%			6	0.5%
Non-Response	110	29.2%	62	32.1%	172	30.2%

a) Background Information**Key Findings****Stage 1: September 2001** *Visitor Profile*

During this first data collection stage,

- The majority of visitors (respondents) to Barron Falls were *Australian* (as opposed to international visitors). Of the Australian visitors, most were *non local* visitors, i.e., they lived outside of the Wet Tropics bioregion;
- *Nonindigenous Australians* were the major ethnic group;
- The highest level of education achieved for the majority of visitors was *Tertiary B (University)*;
- While the average age of visitors was nearly *34 years*, the majority were in the *20 – 29 age class*;
- Slightly more males participated in this survey than females.

Stage 2: April 2002 *Visitor Profile*

Due to the poor weather during this data collection stage, there were fewer respondents in Stage 2 than Stage 1.

- Similar to Stage 1, there were more *Australian visitors* to Barron Falls. However, the percentage of overseas visitors had increased since stage 1 with the bulk of these visitors coming from the U.K.
- *Nonindigenous Australians* were still the major ethnic group;
- The highest level of education achieved for the majority of visitors was *University*;
- The average age of visitors was almost *35 years*, with the majority in the *20 – 29 age class*;
- Unlike Stage 1, more females than males participated in the survey.

Combined Data & General Comments

For the combined data set, the visitor profile was as follows:

- The majority of visitors to Barron Falls were *Australian (63.9%, n = 374)*, which is the same as the 1993 Manidis Roberts results (62.2%, n = 263), with international visitors at 36.1%. There were significantly more domestic Australian and international visitors than local Australian visitors. Of the international visitors, the majority came from the *UK (51.8%)*.
- Of the Australian visitors, the majority were *domestic Australian visitors (63.1%)*.
- Just under half the visitors (44.4%) identified themselves as *Nonindigenous Australians*.

1. *This visitor profile suggests that Barron Falls is an important site for the domestic Australian visitors.*
2. *It is also a site that is used most frequently by people between 20-29 years of age.*
3. *Of the international visitors it is most popular with **English/UK** citizens.*

a) Background Information

QUESTIONS & RESULTS

1. Where do you live?

STAGE 1: (September/October 2001)					STAGE 2: (March/April 2002)						
N* = 248					n* = 126						
Australia 69.0% n = 171					Australia 55.6% n = 70						
Local n = 54 (34.6%) (n = 156 responses)					Local n = 19 (30.6%) (n = 62 responses)						
Cairns & District n = 27		Townsville & District n = 19			Cairns & District n = 7		Babinda & Gordonvale n = 1				
Edmonton n = 1		Mossman n = 1			Innisfail n = 1		Townsville & District n = 9				
Babinda n = 2		Tableland & District n = 4			Tableland & District n = 1						
Non-Local n = 102 (65.4%)					Non-Local n = 43 (69.4%)						
Overseas 31.0% n = 77					Overseas 44.4% n = 56						
Albania	1	Israel	4	Scotland	1	Africa	1	Germany	1	New Zealand	3
Canada	3	Italy	1	South Africa	3	Austria	1	Holland	1	Spain	1
Denmark	1	Netherlands	3	Switzerland	3	Belgium	2	Hong Kong	1	Switzerland	4
Germany	15	New Zealand	6	UK	23	Denmark	1	Hungary	2	UK	34
Indonesia	1			USA	8	Finland	2	Japan	1	USA	1
				Vietnam	1						
Comparative Data 1993: Australian = 62.2% (Local = 26%); Overseas = 37.8% n = 263											

2. How long have you lived there?

Period of Residence: n = 240 \bar{X} = 20.67 years ± SD 15.99 (range 0.1-65) ≤ 10 years = 33.8% > 10 years = 66.2%	Period of Residence: n = 120 \bar{X} = 26.03 years ± SD 17.40 (range 0.1-76) ≤ 10 years = 20.0% > 10 years = 80.0%
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3. How would you describe your ethnic background?

n = 245				n = 124			
Indigenous Australian	3.7%	English /Anglo Saxon	0.4%	Nonindigenous		Belgian	2.4%
Nonindigenous Australian	46.9%	German / Ethiopian	0.4%	Australian	38.7%	Danish	1.6%
American	3.7%	English / NZ	0.8%	Indigenous Australian	3.2%	Dutch	1.6%
Canadian	0.8%	English / Scottish	0.4%	American	1.6%	English/ German	1.6%
French	0.8%	German / French /		German	1.6%	Filipino	0.8%
Swiss	0.8%	Irish / Scottish	0.4%	Swiss	3.2%	Finish	1.6%
Italian	2.9%	Indonesian	0.4%	English	27.4%	Hungarian	1.6%
German	6.5%	Israeli	0.8%	Irish	0.8%	Indonesian	0.8%
English	17.1%	Non Indig European	0.4%	Scottish	3.2%	Irish/ English	0.8%
Irish	2.4%	Non Indig German	0.4%	Other	20.0%	Irish/ Non Indig. Aust	0.8%
Scottish	1.6%	NZ	1.6%	African	0.8%	Lithuanian	0.8%
Chinese	1.6%	South African	0.8%	Asian/ English	0.8%	Non Indig/ Indig Aust	0.8%
Other	10.4%	Vietnamese	0.4%	Austrian	0.8%	NZ	0.8%
Balkan	0.4%	Welsh	0.4%			NZ European	0.8%
Croatian	0.4%	Zambian	0.4%			Spanish	0.8%
Danish	0.4%						
Dutch	1.2%						

4. What is the highest level of formal education you have completed so far?

n = 242			n = 125		
Primary (1-8 years of education)		2.5%	Primary (1-8 years of education)		1.6%
Secondary (9-12 years of education)		28.5%	Secondary (9-12 years of education)		19.2%
Tertiary A (Technical or further educ institution)		23.6%	Tertiary A (Tech or further educ institution)		31.2%
Tertiary B (University)		45.5%	Tertiary B (University)		48.0%

5. Age

n = 232				n = 115			
\bar{X} = 33.90 years ± SD 13.06 (range 12-67)				\bar{X} = 34.78 years ± SD 13.69 (range 13-76)			
Age Categories:				Age Categories:			
< 20 years = 7.3%	40-49years = 12.9%			< 20 years = 8.7%	40-49years = 13.9%		
20-29years = 41.4%	50-59 years = 13.4%			20-29years = 37.4%	50-59 years = 1.3%		
30-39years = 20.7%	> 60 years = 4.3%			30-39years = 22.6%	> 60 years = 16.1%		
Comparative Data 1993: 16-25 = 19%; 26-45 = 64.6%; 45-65 = 14.4% >65 = 2% n = 263							

6. Gender

n = 244 Male 52.0% Female 48.0%	n = 122 Male 45.9% Female 54.1%
Comparative Data 1993: Male = 66.6%; Female = 33.3% n = 263	

b) Transport & Travel Group

Key Findings

Stage 1: September 2001 *Travel Profile*

During this first data collection stage,

- Almost 10% of visitors to Barron Falls were with an *organised tour*;
- On average there were **2.69 people** in each vehicle;
- The major group profile of people visiting the site was *two adults who were not accompanied by children*;
- The majority of visitors travelled in *privately owned* vehicles;
- The **most** important source of prior information about the Barron Falls that respondents used was *“been here before”* followed by *“the road sign”*. The least important source was *“from the web”*.

Stage 2: April 2002 *Travel Profile*

Only slight differences were evident in this second data collection stage.

- Unlike Stage 1, **no visitors** to the Barron Falls were with an *organised tour*;
- There was a slight increase in the average number of people per vehicle to **2.97**;
- The major group profile of people was again *two adults*;
- Just over half of the visitors travelled in *privately owned* vehicles;
- The **two most** important sources of prior information about Barron Falls were the *“road sign”* and *“have been here before”*. Like Stage 1, the least important source used was *“from the web”*.

Combined Data & General Comments

For the combined data set, the visitor profile is as follows:

- Many visitors to Barron Falls were *independent travellers* (94.4%), which is similar to the 1993 Manidis Roberts results (92.8%);
- On average, there were **2.78 people** (n = 329) in each vehicle, which is similar to the 1993 Manidis Roberts results (2.8, n = 263);
- Just over half of the visitors travelled in *privately owned* vehicles (55.4%, n = 325), which is higher than 1993 Manidis Roberts results (48.7%, n = 263);
- **“Have been before”** (32.1%, n = 374) appeared to be the most important source of prior information about Barron Falls. The information source used the least was **“from the web”**.

1. *The major group profile of visitors to Barron Falls was two adults.*
2. *Most people know of Barron Falls because they have been before. It is a site that attracts a number of repeat visits. Road signs are also important.*
3. *Very few visitors used the web, tourist leaflets or visitor centres for information about this site.*

b) Transport & Travel Group

QUESTIONS & RESULTS

7. Are you with an organised tour?

n = 247 Yes 9.7% No 90.3% A&E Westbrook n=1 Frontier Safaris n=2 Oz Experience n=11 Tropic Wings n=3 All in a Day n=1	n = 126 Yes 0% No 100%
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8. If you travelled in a private or hired vehicle, how many people including yourself are in your vehicle?

n = 213 People per Vehicle $\bar{X} = 2.69 \pm SD 1.18$ (range 1-11) Adults per vehicle $\bar{X} = 2.37$ (n = 510) Children per vehicle $\bar{X} = 0.27$ (n = 57) Private vehicle 57.7% Hired Vehicle 41.8% Bicycle 0.5%	n = 112 People per Vehicle $\bar{X} = 2.97 \pm SD 1.35$ (range 1-8) Adults per vehicle $\bar{X} = 2.68$ (n = 300) Children per vehicle $\bar{X} = 0.29$ (n = 33) Private vehicle 50.5% Hired Vehicle 47.7% Train 1.8%
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Comparative Data 1993: People per vehicle = 2.8 n = 263
 Private vehicle = 48.7%; Hired vehicle = 44.1%; Commercial = 0.4%; Other = 6.8%

9. How did you obtain prior information about this site?

n = 248	n	%	n = 126	n	%
Have been here before	84	33.9%	Have been here before	37	29.4%
Road sign	64	25.8%	Road sign	41	32.5%
Word of mouth	56	22.6%	Word of mouth	26	20.6%
Map which said it was a tourist site	28	11.3%	Map which said it was a tourist site	28	22.2%
Tourist information centre in Nth Qld	14	5.6%	Tourist information centre in Nth Qld	11	8.7%
Tourist information centre	5	2.0%	Tourist inform	2	1.6%
Tourist leaflet	7	2.8%	Tourist leaflet	9	7.1%
Travel guide or book	39	15.7%	Travel guide or book	13	10.3%
From the web	2	0.8%	From the web	1	0.8%
Trip included in a package tour	7	2.8%	Trip included in a package tour	1	0.8%
Other	17	6.9%	Other	12	9.5%
Came with a relative/partner/friend/group	6	2.4%	Came with relative/partner/group of locals	4	3.1%
Told by locals/tourist centres	4	1.6%	Recommended by Concierge	1	0.7%
Inspired by tourist brochure/photo/postcard	4	1.6%	Information on Qantas	1	0.7%
Visiting a friend	1	0.4%	Information from Hire Car	1	0.7%
Followed my nose here	1	0.4%	Just turned up	1	0.7%
Map	1	0.4%	Am local	3	2.1%
			Am a host dad	1	0.7%

Specify:
 Tourist inform centre: Marlin Cove, Perth Tourist Info,
 Tourist leaflet: Tropic Wings Kuranda,
 Travel guide or book : Go Australia, Lonely Planet

Specify:
 Tourist inform centre: Kuranda
 Tourist leaflet: Din Din, Kuranda
 Travel guide or book : Australian Rough Guide, Lonely Planet, Oz Expert

c) Reasons for Visiting

Key Findings

Stage 1: September 2001

During this first data collection stage,

- The most important reasons given for why people visit Barron Falls were *experiential*, followed by *activity-based* reasons. *Educational* reasons were least important;
- To *see the natural features and scenery* was the most important reason given with 52.9% of visitors rating this as *very important*;
- This was followed by three other experiential reason - *be close to/experience nature, experience the Wet Tropics*, and, closely linked to these two, *experience tranquillity*;
- Activity-based reasons were rated moderately important to important. Of these, *opportunities for short walks* rated the highest;
- Educational reasons were just slightly important to important. *Learning about Aboriginal culture* was the least important.

Stage 2: April 2002

During this second data collection stage, slight differences in responses were evident.

- The most important reasons for why people visit Barron Falls were again *experiential*, followed by *activity-based* reasons. Educational reasons were least important.
- To *see the natural features and scenery* was the most important reason given;
- This was followed by two other experiential reason - *be close to/experience nature* and to *experience the Wet Tropics*;
- Activity-based reasons were rated moderately important to important. Of these, *opportunities for short walks* again rated the highest;
- Educational reasons were between slightly important and moderately important. *Learning about Aboriginal culture* was the least important with just under one third of the respondents considering this as *not important*.

Combined Data & General Comments

- The most important reason given for visiting the site was rated *very important* by 56.5% of visitors - *see natural features & scenery*; Visitors rated the experiential reasons *significantly higher* than activity reasons [t(369) = 15.86; p = 0.00];
- *Learn about aboriginal culture* was the least important reason given and was rated *not important* by 46% of visitors - Visitors rated the two educational reasons *significantly lower* than experiential [t(360) = -22.66; p = 0.00], and activity reasons [t(358) = -8.66; p = 0.00].

1. *The primary reason given for people visiting Barron Falls was to see the natural features of the site.*
2. *Activity-based reasons were secondary for most people.*
3. *Learning about the natural and cultural features of the site does not appear to be why people visit this site.*

c) Reasons for Visiting

QUESTIONS & RESULTS

10. We would like to know how important the following <u>reasons</u> were for you visiting this site today.									
		1 = Not important		2 = Slightly important		3 = Moderately important		4 = Important	
		4 = Important		5 = Quite important		6 = Very important			
		Not Important				Very Important			
		n	1	2	3	4	5	6	\bar{X} *
a) Learn about native animals and plants <i>(Educational)</i>	233	21.0%	21.0%	24.9%	16.3%	10.3%	6.4%	2.93	
	124	15.3%	21.0%	24.2%	17.7%	6.5%	15.3%	3.25	
b) Learn about Aboriginal culture <i>(Educational)</i>	233	30.0%	25.8%	21.9%	9.9%	7.7%	4.7%	2.54	
	121	31.4%	19.8%	21.5%	9.9%	5.8%	11.6%	2.74	
c) See natural features and scenery <i>(Experiential)</i>	242	1.2%	1.2%	4.5%	14.5%	25.6%	52.9%	5.21	
	127	0.0%	0.8%	0.8%	12.6%	22.0%	63.8%	5.47	
d) Be close to/experience nature <i>(Experiential)</i>	242	5.0%	3.3%	9.9%	22.3%	27.7%	31.8%	4.60	
	123	1.6%	2.4%	7.3%	22.0%	30.1%	36.6%	4.86	
e) Socialise with family/friends <i>(Experiential)</i>	236	24.6%	10.6%	13.1%	19.1%	19.1%	13.6%	3.38	
	119	21.8%	8.4%	18.5%	16.0%	16.0%	19.3%	3.54	
f) Rest and relax <i>(Experiential)</i>	236	10.2%	8.5%	16.1%	22.0%	22.0%	21.2%	4.01	
	120	10.0%	10.0%	15.0%	16.7%	23.3%	25.0%	4.08	
g) Experience tranquility <i>(Experiential)</i>	231	7.4%	7.8%	17.3%	21.6%	23.4%	22.5%	4.13	
	121	2.5%	5.8%	11.6%	19.8%	31.4%	28.9%	4.59	
h) Experience the Wet Tropics <i>(Experiential)</i>	241	8.7%	6.2%	15.4%	18.7%	24.5%	26.6%	4.24	
	123	3.3%	3.3%	7.3%	19.5%	26.0%	40.7%	4.84	
i) Outdoor exercise <i>(Activity)</i>	238	13.4%	10.1%	16.4%	22.3%	18.9%	18.9%	3.80	
	122	9.0%	14.8%	23.0%	21.3%	19.7%	12.3%	3.65	
j) Opportunities for short walks <i>(Activity)</i>	240	9.6%	11.3%	17.1%	22.1%	21.3%	18.8%	3.90	
	122	9.8%	9.8%	20.5%	17.2%	25.4%	17.2%	3.90	
k) Opportunities for long walks <i>(Activity)</i>	235	22.6%	18.3%	19.1%	17.9%	11.5%	10.6%	3.09	
	118	23.7%	16.9%	26.3%	15.3%	12.7%	5.1%	2.92	
l) Other	248	2.0%	0.8%	0.4%	0.8%	1.6%	3.2%	N/A 91.1%	
	114	0.9%	0.0%	0.0%	0.9%	0.9%	3.5%	N/A 93.9%	
Specify other reasons: <i>Reasons provided have been placed into three major categories. Those that are related to activity, experience, education. The fourth category is "other".</i>	12	<u>Activity:</u> Showing guests 1 Exercise 1 Rock Climbing 2 School Holidays 1 Swimming 1	n 1 1 2 1 1	<u>Experiential:</u> Change of environment 1 Gods Country 1 Peace 1 See Australia 2	n 1 1 1 2	<u>Educational:</u> European History 1	n 1		
	11	<u>Activity:</u> Have Lunch 1 Motorbike riding 1 See the Falls 2	n 1 1 2	<u>Experiential:</u> Enjoying the weekend 1 Have fun 1 With overseas guest 1	n 1 1 1	<u>Educational:</u> Comparison with NZ nature/bush <u>Other:</u> Break from work Was just near this place / drove by	n 1 1 2		

\bar{X} = The mean of the categories are presented despite this being ordinal data and the precautions necessary in interpreting this data.

d) Natural Environment**Key Findings****Stage 1: September 2001** *Visitor Appraisal*

During this first data collection stage,

- Overall, *visitor appraisal* of the positive aspects of the natural environment at Barron Falls was **high**;
- In particular, the majority of visitors found the natural environment to be ***in good condition, appealing, interesting and well managed***;
- Over **82.0%** of visitors ***somewhat to strongly agreed*** that the natural environment was ***well managed***;
- Just over half of visitors indicated ***some level of concern*** about the ***impacts of human activity*** on the natural environment at Barron Falls, while the majority of visitors did not consider the site to be disturbed or impacted;
- Those few visitors expecting to find other ***natural features at the site that were not present***, were mostly expecting to see ***more water in the falls***.

Stage 2: April 2002 *Visitor Appraisal*

During this second data collection stage,

- Again, *visitor appraisal* of the positive aspects of the natural environment was **high**;
- The majority of visitors (45.7%) ***strongly agreed*** that Barron Falls was ***interesting***;
- In terms of the condition of the natural environment, **82.6% *somewhat to strongly agreed that it appeared to be good***;
- Just over **86%** of visitors ***somewhat to strongly agreed*** that the natural environment was ***well managed***;
- Just over half of the visitors were ***concerned to some degree*** about the ***impacts of human activity*** on the natural environment, but, did not consider the site to be disturbed or impacted.

Combined Data & General Comments

For the combined data set,

- Aspects of the natural environment that were most highly rated were the ***condition & management*** ($\bar{X} = 5.19$), ***interesting*** ($\bar{X} = 5.18$), and ***appeal of natural attractions and scenic beauty*** ($\bar{X} = 5.17$).
- Few visitors (19.8%) appeared to have any particular expectations of what they would find or encounter.

-
1. ***These results suggest that, overall, visitors find the natural features of Barron Falls to be in good condition, well managed and interesting.***
 2. ***Of the natural features that the small number of visitors reported expecting to find at Barron Falls but were unable to, most were related to lack of water at the Falls.***

d) Natural Environment

QUESTIONS & RESULTS

11. The following statements are about the natural features of this site. Please rate the extent to which you agree or disagree with each statement by circling the number that best reflects your level of agreement /disagreement.

**1 = Strongly Disagree 2 = Somewhat Disagree 3 = Mildly Disagree
4 = Mildly Agree 5 = Somewhat Agree 6 = Strongly Agree**

	n	Strongly Disagree			Strongly Agree			\bar{X}^*
		1	2	3	4	5	6	
a) The natural environment at this site is interesting.	247	0.4%	0.8%	2.0%	20.6%	31.6%	44.5%	5.16
	127	0.0%	1.6%	5.5%	10.2%	37.0%	45.7%	5.20
b) I would like to spend more time exploring this natural environment.	247	0.8%	3.6%	10.5%	30.4%	28.7%	25.9%	4.60
	124	0.0%	4.0%	11.3%	21.8%	34.7%	28.2%	4.72
c) In terms of natural attractions and scenic beauty this site is appealing.	245	0.4%	0.4%	1.6%	19.6%	35.9%	42.0%	5.16
	124	0.8%	1.6%	4.0%	12.9%	32.3%	48.4%	5.19
d) The condition of the natural environment at this site appears to be good.	246	0.4%	0.4%	3.7%	14.6%	38.2%	42.7%	5.18
	127	0.8%	1.6%	2.4%	12.6%	34.6%	48.0%	5.23
e) The natural environment at this site is well managed.	245	1.2%	1.2%	3.7%	11.4%	42.0%	40.4%	5.13
	126	0.8%	0.0%	1.6%	11.1%	36.5%	50.0%	5.33
f) I am concerned about the impacts of human activity on the natural environment at this site.	245	12.7%	13.9%	17.1%	22.0%	13.5%	20.8%	3.72
	124	12.1%	22.6%	12.9%	17.7%	18.5%	16.1%	3.56
g) This site appears to be disturbed and impacted.	243	23.5%	30.0%	20.2%	14.4%	7.0%	4.9%	2.66
	124	28.2%	29.0%	22.6%	11.3%	4.8%	4.0%	2.48

12. At this site were there any natural features you were expecting to find which were not present?

n = 245		Yes	17.1%	No	82.9%	n = 124		Yes	25.8%	No	74.2%
If yes, please specify: <i>Responses provided have been placed into three major categories. Those related to natural/biological features, natural/physical features, and the built/structural features of the environment.</i>	36	<u>Natural/Biological:</u> Animals Butterflies Birds Cassowaries	n 9(1) 2 4(1) 1	<u>Natural/Physical</u> More water in falls Rainforest Swimming Hole	n 14(1) 1 1	<u>Built/Structural</u> Boardwalk Toilets Train Water fountains on path	n 1 1 1 1				
	32	<u>Natural/Biological:</u> Birds & more insects Cassowaries Wildlife Snake	n 2 1 3 1	<u>Natural/Physical</u> Water / Big Waterfalls	n 23	<u>Built/Structural</u> Information about history Information on plants & wildlife	n 1 1				

e) Time Spent and Activities

Key Findings

Stage 1: September 2001 *Activity Profile*

During this first data collection stage,

- The majority of visitors, **70.8%**, spent between ***half and one hour*** at the site;
- Besides ***observing scenery***, the activity most visitors engaged in was taking a ***short walk*** on the boardwalk;
- ***Photography*** was also an activity quite a number of people engaged in;
- Of those visitors who would have liked to engage in other activities, to use a ***rest room facility*** and ***obtain more site information*** were the most frequently identified.

Stage 2: April 2002 *Activity Profile*

During this second data collection stage, the responses were similar to Stage 1.

- Again, the majority of visitors, **81.7%**, spent between ***half to one hour*** at the site;
- Besides ***observing scenery***, most visitors took the ***short walk*** along the boardwalk;
- ***Photography*** was also a popular activity for just under half of the visitors;
- Of those visitors who would have liked to engage in other activities, ***viewing more water at the waterfalls*** was the most frequent response.

Combined Data & General Comments

1. *These results suggest that, overall, visitors spend just enough time at Barron Falls which allow them to do the short walk to lookout – **half to one hour**. Very few visitors spend more than one hour at the site(4.5%).*
2. *Many visitors use the site for photography (46%).*
3. ***Only 17.9%*** of visitors spend the time looking at ***interpretation material***.

e) Time Spent and Activities

QUESTIONS & RESULTS

13. How long have you spent at this site today?

<u>n = 247</u>		%			%	<u>n = 126</u>		%			%
less than 1/2 hour	24.3%		About 3 hours	0.8%	less than 1/2 hour	12.7%	About 3 hours	0.8%			
About 1/2 hour	44.5%		About 4 hours	1.2%	About 1/2 hour	49.2%	About 4 hours	0.8%			
About 1 hour	26.3%		More than 4 hours	1.2%	About 1 hour	32.5%	More than 4 hours	0.0%			
About 2 hours	1.6%		Overnight	0.0%	About 2 hours	4.0%	Overnight	0.0%			

Comparative Data 1993: <1/2 hr = 89.4%, <1 hr = 46.8%, 1-<2hrs = 1.5%; 2-<4hrs = 0%, n = 263

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

<u>n = 247</u>		%	<u>n = 127</u>		%
Observing scenery	91.1%		Observing scenery	92.9%	
Bird watching	16.6%		Bird watching	15.7%	
Observe other wildlife	19.4%		Observe other wildlife	20.5%	
Photography/painting/drawing	45.7%		Photography/painting/drawing	45.7%	
Picnic/barbeque	2.0%		Picnic/barbeque	3.9%	
Using café/restaurant	3.2%		Using café/restaurant	2.4%	
Camping	0.8%		Camping	0.0%	
Walking – Short (1 hr or less)	72.9%		Walking – Short (1 hr or less)	81.9%	
Walking – Long (1-6 hours)	4.0%		Walking – Long (1-6 hours)	0.8%	
Swimming	2.0%		Swimming	0.8%	
Guided tour	2.0%		Guided tour	1.6%	
Looking at interpretation material	17.0%		Looking at interpretation material	20.5%	
Relaxing	34.8%		Relaxing	37.8%	
Other	3.6%		Other	0.8%	
Cycling	0.4%		Eating	0.8%	
Butterfly observation	0.4%				
Child minding	0.4%				
Quality time	0.4%				
Rock climbing	0.8%				
Observe waterfall	0.4%				
Completing this survey	0.4%				
Travelling	0.4%				

Comparative Data 1993: Walking(short) = 40.7%; Photography = 44.5%; Relaxing = 18.3%; Scenic viewing = 78.7%; n = 263

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

<u>n = 234</u>		Yes	18.8%	No	81.2%	<u>N = 105</u>		Yes = 16.2%	No = 83.8%
If yes, please specify: <i>Responses provided have been placed into five major categories. Those activities related to natural, built, or social environment, and rules/regulations.</i>	<u>n = 41</u>	<u>n</u>	<u>Natural Environ</u>	<u>n</u>	<u>Built Environ</u>	<u>n</u>	<u>Social Environ</u>	<u>n</u>	
		3	Flora & fauna	1	Buy a drink	1	Bungy Jump	1	
		1	Feed the birds	1	Water fountains	1	Relax	1	
		1	Get rain water	5	Site information (w'fall & geological history)	3	<u>Rules/regulation</u>	1	
		2	See more water on falls	5	Better viewing	5	Get off the b'walk	7	
				1	A longer track	1	Climb & swim – falls	1	
				6(1)	See hydro station	1(1)	Less management		
				1(1)	Toilet				
					Table				
		<u>n = 17</u>	<u>n</u>	<u>Natural Environ</u>	<u>n</u>	<u>Built Environ</u>	<u>n</u>	<u>Social Environ</u>	<u>n</u>
	4	4	Birdwatching	2	Toilet	1	Drink beer	1	
	9	9	View the waterfalls (more water)						
	1	1	Swim						

f) Information

Key Findings

Stage 1: September 2001 Information/Signage Use

During this first data collection stage,

- Most visitors strongly agreed that *directive signage* was easy to locate, slightly fewer agreed that such signage enabled them to find their way round Barron Falls;
- Just under one third of visitors were able to clearly *determine* (30.5%) the *rules and regulations* and clearly identify what was *acceptable activity* (29.5%);
- Over half of the visitors somewhat agreed to strongly agreed that *safety* information was *easy to locate* (54.5%) and **58.1%** somewhat to strongly agreed that it was *understandable*;
- Visitor assessment of the *natural / ecological* information was moderately high.
- Around *two thirds* of the visitors *agreed to some degree* that the *indigenous cultural information* was *interesting* and *clearly presented*. Just under *half mildly to somewhat agreed* that the cultural information explained *the significance of the area for indigenous Australians*.

Stage 2: April 2002 Information/Signage Use

During this second data collection stage, visitor assessment of all information was slightly higher.

- Visitor assessment of the *directive signage* at Barron Falls was slightly higher for this data collection stage compared to the first. Such signage was considered to be easier to locate and wayfinding easier;
- Overall, visitor assessment of the *rules and regulations* at Barron Falls was slightly higher for this data collection stage compared to the first;
- Around two thirds of people somewhat agreed to strongly agreed that *safety* information was easy to *locate* (61.5%), and that it was *understandable* (64.1%);
- Visitor assessment of the *natural / ecological* information was slightly higher for this data collection stage compared to the first, with approximately one quarter of people *strongly agreeing* that the information was *interesting* (25.6%), and *clearly presented* (24.1%).

Combined Data & General Comments

- While overall most visitors found the maps at Barron Falls easy to locate ($\bar{X} = 4.80$, n = 349), wayfinding ability as determined by presentation of information on the maps did not receive as high an assessment ($\bar{X} = 4.51$, n = 322);
- Most visitors agreed that *rules and regulations* at Barron Falls were easy to determine and enabled them to identify acceptable activity, very few disagreed (15%);
- Most visitors agreed that *safety* information was *easy to locate* and was *easy to understand*;
- Apart from the maps the presentation of the *natural/ecological* information received the highest assessment.

f) Information

QUESTIONS & RESULTS

16. Did you refer to any of the information available at this site today?	<u>n = 239</u>	Yes	58.6%	No	41.4%
	<u>n = 125</u>	Yes	67.2%	No	32.8%

		Strongly Disagree				Strongly Agree			\bar{X}
		1	2	3	4	5	6		
<i>All of the signs from (a) to (d) were present at Barron Falls though natural/ecological information was embedded in other information sources (see Section 2 for details).</i>		n							
a) The maps and directions at this site: i) were easy to locate	232	3.4%	3.4%	7.3%	17.7%	33.6%	34.5%	4.78	
	117	2.6%	4.3%	5.1%	19.7%	33.3%	35.0%	4.82	
	210	6.7%	6.7%	7.1%	20.0%	29.0%	30.5%	4.50	
	111	3.6%	8.1%	8.1%	18.0%	36.0%	26.1%	4.53	
ii) helped me to find my way round	233	5.6%	6.9%	8.6%	20.6%	27.9%	30.5%	4.50	
	113	6.1%	4.4%	7.9%	17.5%	23.7%	40.4%	4.59	
	224	7.1%	6.7%	10.3%	18.8%	27.7%	29.5%	4.42	
	111	4.5%	9.0%	9.0%	19.8%	22.5%	35.1%	4.52	
b) The rules and regulations at this site: i) were easy to determine	233	8.6%	8.2%	10.3%	18.5%	24.0%	30.5%	4.33	
	117	6.8%	6.8%	8.5%	16.2%	23.9%	37.6%	4.56	
	222	7.7%	6.3%	10.8%	17.1%	24.3%	33.8%	4.45	
	114	6.1%	4.4%	7.9%	17.5%	23.7%	40.4%	4.69	
ii) was easy to understand	233	1.7%	4.3%	10.7%	27.9%	31.3%	24.0%	4.55	
	117	1.7%	3.4%	11.1%	20.5%	37.6%	25.6%	4.66	
	224	1.3%	3.6%	9.4%	26.8%	34.8%	24.1%	4.63	
	115	0.9%	5.2%	10.4%	18.3%	38.3%	27.0%	4.69	
c) The safety information at this site: i) was easy to locate	225	2.7%	7.1%	13.8%	26.7%	27.6%	22.2%	4.36	
	114	1.8%	4.4%	14.9%	21.1%	36.8%	21.1%	4.50	
	213	13.1%	11.3%	17.4%	26.3%	20.2%	11.7%	3.64	
	113	14.2%	8.0%	23.9%	19.5%	21.2%	13.3%	3.65	
d) The natural/ecological information at this site: i) was interesting	219	13.2%	8.7%	17.8%	29.2%	19.2%	11.9%	3.68	
	115	12.2%	7.0%	22.6%	26.1%	17.4%	14.8%	3.74	
	215	11.2%	7.4%	17.7%	29.3%	20.9%	13.5%	3.82	
	114	11.4%	5.3%	17.5%	26.3%	21.9%	17.5%	3.95	
	213	13.1%	11.3%	17.4%	26.3%	20.2%	11.7%	3.64	
	113	14.2%	8.0%	23.9%	19.5%	21.2%	13.3%	3.65	
e) The indigenous cultural information at this site: i) was interesting	115	12.2%	7.0%	22.6%	26.1%	17.4%	14.8%	3.74	
	215	11.2%	7.4%	17.7%	29.3%	20.9%	13.5%	3.82	
	114	11.4%	5.3%	17.5%	26.3%	21.9%	17.5%	3.95	
	213	13.1%	11.3%	17.4%	26.3%	20.2%	11.7%	3.64	
	113	14.2%	8.0%	23.9%	19.5%	21.2%	13.3%	3.65	
	113	14.2%	8.0%	23.9%	19.5%	21.2%	13.3%	3.65	
ii) helped me better understand the ecological processes of this area	213	13.1%	11.3%	17.4%	26.3%	20.2%	11.7%	3.64	
	113	14.2%	8.0%	23.9%	19.5%	21.2%	13.3%	3.65	
f) The indigenous cultural information at this site: i) was interesting	219	13.2%	8.7%	17.8%	29.2%	19.2%	11.9%	3.68	
	115	12.2%	7.0%	22.6%	26.1%	17.4%	14.8%	3.74	
	215	11.2%	7.4%	17.7%	29.3%	20.9%	13.5%	3.82	
	114	11.4%	5.3%	17.5%	26.3%	21.9%	17.5%	3.95	
	213	13.1%	11.3%	17.4%	26.3%	20.2%	11.7%	3.64	
	113	14.2%	8.0%	23.9%	19.5%	21.2%	13.3%	3.65	
ii) was clearly presented	215	11.2%	7.4%	17.7%	29.3%	20.9%	13.5%	3.82	
	114	11.4%	5.3%	17.5%	26.3%	21.9%	17.5%	3.95	
ii) helped me to understand the significance of this area for indigenous Australians	213	13.1%	11.3%	17.4%	26.3%	20.2%	11.7%	3.64	
	113	14.2%	8.0%	23.9%	19.5%	21.2%	13.3%	3.65	

g) Site Facilities & Management Issues

Key Findings

Stage 1: September 2001

Visitor Appraisal

During this first data collection stage,

- The **viewing platform**, **boardwalk** and **walking track** at Barron Falls were the **most frequently** used of all facilities present. The most frequently requested additional facility was **a toilet**.
- The overall **condition** of facilities was rated the highest followed by how **well maintained** they were;
- Just under two thirds of the visitors (60.3%) **agreed** to some extent that the presence of a **ranger** was important;
- Of those who did agree to the ranger's presence, the reason most frequently identified was to **provide information/education**.

Stage 2: April 2002

Visitor Appraisal

During this second data collection stage, visitor appraisal of facilities varied slightly.

- Like Stage 1, the **boardwalk**, **walking track** and **viewing platform** were the **most frequently** used of all facilities present. Similar to stage 1, the most frequently requested additional facility was **a toilet facility**;
- The overall **condition** of facilities was rated the highest followed by their attractiveness (appealing) and management;
- Half of the visitors **agreed** to some extent that the presence of a **ranger** was important;
- The reasons most frequently identified were to **provide information/education** and to **answer questions**.

Combined Data & General Comments

- As expected the **boardwalk**, **viewing platform** and **walking track** were the most frequently used facilities at Barron Falls;
- The facility most often requested was a **toilet** – currently none exists at the site which is a serious problem;
- **Condition of facilities** received the highest rating ($\bar{X} = 5.08$), with 78.8% of visitors somewhat and strongly agreeing that the condition was good;
- Of the visitors for whom the presence of a ranger was important, the majority identified **providing information/education** as the reason.

1. As expected, the **walking track** at Barron Falls is the most popular facility at this site.
2. Overall, visitors are satisfied with the **condition of facilities** at Barron Falls but request a toilet.

g) Site Facilities & Management Issues

QUESTIONS & RESULTS

19. What facilities have you used at this site today?

n = 244			n = 124			n = 263				
Picnic table	5.3%	Walking track 68.0% Boardwalk 76.6% Viewing platform/lookout 77.0% Fire place 2.5% Barbeque 3.3% Other (carpark, boardwalk rails, viewing seats) 2.9%	Picnic table	4.0%	Walking track 69.4% Boardwalk 81.5% Viewing platform/lookout 79.0% Fire place 0.8% Barbeque 0.8% Other 0.0%					
Shelter shed	5.7%		Shelter shed	22.6%						
Restaurant/café	3.3%		Restaurant/café	0.8%						
Rubbish bin	11.5%		Rubbish bin	8.1%						
Toilet	9.8%		Toilet	4.8%						
Tap	4.5%		Tap	1.6%						

Comparative Data 1993: Walking track = 53.2%; viewing platform from lookout = 60.0%; Shelter shed = 2.7%

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

n = 229				n = 107			
Yes	13.5%	No	86.5%	Yes	16.8%	No	83.2%
If yes, please specify:							
n = 28		n		n = 17		n	
Barbeque	1	Railings on boardwalk	1	Toilets	13	Refreshments	1
Bin on track	4	Table	1	Tables, chairs, BBQ	2	Cassowary bird cage	1
Drinking fountains	1						
Toilets	20(2)						

21. Please rate the extent to which you agree or disagree with each of the following statement about the facilities and management at this site by circling one number for each statement.

	n	Strongly Disagree					Strongly Agree		\bar{X}
		1	2	3	4	5	6		
a) This site is appealing in terms of the character and attractiveness of the facilities.	238	0.0%	1.3%	6.7%	22.7%	36.6%	32.8%	4.93	
	123	0.8%	0.8%	4.9%	19.5%	40.7%	33.3%	4.98	
b) The facilities at this site are adequate .	238	1.7%	1.7%	8.8%	21.8%	39.5%	26.5%	4.75	
	124	2.4%	1.6%	8.1%	25.0%	33.9%	29.0%	4.73	
c) The overall condition of the facilities at this site appears to be good.	238	0.4%	1.3%	4.2%	14.3%	44.1%	35.7%	5.08	
	125	0.8%	0.0%	0.0%	22.4%	41.6%	35.2%	5.10	
d) The facilities and infrastructure at this site are well managed .	236	0.0%	1.7%	2.5%	18.6%	44.9%	32.2%	5.03	
	122	1.6%	0.0%	2.5%	14.8%	48.4%	32.8%	5.07	
e) The presence of a ranger at sites like this is important to me.	234	12.0%	10.3%	17.5%	21.8%	19.7%	18.8%	3.83	
	120	11.7%	13.3%	25.0%	17.5%	12.5%	20.0%	3.66	

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

n = 221			n = 122		
To provide information/education	103	46.6%	To provide information/education	54	44.3%
To answer questions	88	39.8%	To answer questions	51	41.8%
To take us on guided walks	28	12.7%	To take us on guided walks	24	19.7%
For safety/security	83	37.6%	For safety/security	39	32.0%
To give directions	51	23.1%	To give directions	24	19.7%
For lodging complaints about other behaviour	24	10.9%	For lodging complaints about other behaviour	13	10.7%
For site maintenance	66	29.9%	For site maintenance	31	25.4%
Other			Other		
Camper van	1	0.4%	For visitors to give feedback about environment	1	0.8%
Litter	1	0.4%	Teaching knowledge	1	0.8%

g) Site Facilities & Management Issues Cont'd**Key Findings****Stage 1: September 2001**

During this first data collection stage,

- Just under one quarter of visitors identified Barron Falls as having *special significance*. The most frequent unprompted response was because of the *aboriginal heritage / culture*, followed by its *World Heritage listing*;
- The majority of visitors, **67.2%**, either *did not know* or *answered incorrectly* as to who the management agency responsible for Barron Falls was;
- Of those who did identify an agency only **32.8% identified National Parks** (in its various formats) as the management agency;
- When provided with a choice, *most visitors* labelled Barron Falls a *National Park* and **14%** identified it as a *National Park and World Heritage Area*;
- Most visitors preferred sites with *fairly well developed facilities*.

Stage 2: April 2002

During this second data collection stage, visitor responses changed slightly.

- Similar to stage 1, just under one quarter of visitors identified Barron Falls as having special significance. The most frequent unprompted response was because it was a *World Heritage Area*;
- Just over three quarters of visitors to Barron Falls, **77.2%**, either *did not know* or *answered incorrectly* as to who the management agency responsible for the site was;
- Of those who did identify an agency, **22.8% identified National Parks** (in its various formats) as the management agency;
- When provided with a choice, *most visitors (39.3%)* labeled Barron Falls a *National Park*, **23%** identified it as a *World Heritage Area*, and **18%** identified it as a *National Park and World Heritage Area*;
- Again, most visitors preferred sites with *fairly well developed facilities*.

Combined Data & General Comments

- The majority of visitors either *did not know* or provided an *incorrect answer* when asked who manages Barron Falls;
- When given a choice the majority believed the site to be managed by *National Parks*.
- Only 25% of visitors identified Barron Falls as a World Heritage Area.

1. *Visitors remain unfamiliar with the agency responsible for managing this site.*
2. *The World Heritage status is also not known by the vast majority of the visitors.*
3. *These results clearly suggest that the role of different land management agencies is not understood.*

g) Site Facilities & Management Issues cont'd

QUESTIONS & RESULTS

23. Does this area you have visited today have any special status or significance that you are aware of?									
n = 237	Yes	24.1%	No	75.9%	n = 118	Yes	24.6%	No	75.4%
If yes, please specify:									
n = 46		n		n	n = 26		n		n
Aboriginal heritage / culture	13		I like it	1	Aboriginal heritage / culture	3 (1)	Major project in its day		1
Hydro Station	4		National Park	3	Wet Tropics	1	National Park		1
View	1		Natural Beauty	5	Beauty	1	Nature		1
Falls	1		Dam	(1)	Rainforest	2	Railway construction site /		
History of railway track	4 (1)		Rainforest Canopy	1	Historical dam	1	Transport history		4
Water catchment	1		Learn about nature	1	Hydro scheme	1	Waterfall		1
			World Heritage	11			World heritage area		9

24. What agency or department do you think manages this site?							
n = 232		n	%	n = 127		n	%
Management Agency or Department:				Management Agency or Department:			
National Parks/Parks & Wildlife/QPWS		76	32.8%	National Parks/Parks & Wildlife/QPWS		29	22.8%
Environment Department		13	5.6%	DNR		5	3.9%
DNR		5	2.2%	EPA		3	2.3%
Government		5	2.2%	DEH		3	2.3%
Forestry Department		3	1.3%	Wildlife & Forestry		2	1.6%
Wildlife		3	1.3%	Qld Department of tourism / tourist board		2	1.6%
JCU		2	0.9%	Mareeba shire/ council		2	1.6%
World Heritage		2	0.9%	Government department		2	1.6%
Wet Tropics		2	0.9%	Local government		2	1.6%
Department of lands		2	0.9%	Qld NP&W, NP, Council		1	0.8%
Tourism & Conservation		2	0.9%	NP&W Indigenous		1	0.8%
Kuranda State Forest		1	0.4%	Local Indigenous		1	0.8%
Land Agency		1	0.4%	World Heritage		1	0.8%
Management Agency		1	0.4%	CALM		1	0.8%
Mareeba Shire Council		1	0.4%	Agency		1	0.8%
National agency		1	0.4%				
Conservation & Land management		1	0.4%	Unanswered /Don't Know		71	55.9%
Kuranda Village		1	0.4%				
Qld State		1	0.4%				
Unanswered /Don't Know		109	47.0%				

25. Which of the following labels applies to this site?							
n = 242	%		%	n = 122	%		%
National Park (NP)	48.3%	NP & WHA	14.0%	National Park (NP)	39.3%	NP & WHA	18.0%
State Forestry (SF)	3.3%	NP & SF	4.1%	State Forestry (SF)	2.5%	NP & SF	0.8%
World Heritage Area (WHA)	18.6%	SF & WHA	0.4%	World Heritage Area (WHA)	23.0%	SF & WHA	0.0%
Don't know	8.7%	NP, SF, WHA	2.5%	Don't know	11.5%	NP, SF, WHA	4.9%

26. Which of the following natural areas do you most prefer visiting?					
n = 244		%	n = 126		%
Natural area with:			Natural area with:		
no facilities (eg. no toilets, no designated camp ground)		3.3%	no facilities (eg. no toilets, no designated camp ground)		4.8%
few facilities (eg. rough walking tracks)		13.1%	few facilities (eg. rough walking tracks)		16.7%
limited facilities (eg. walking tracks evident , some directional signage)		26.2%	limited facilities (eg. walking tracks evident , some directional signage)		21.4%
fairly well developed facilities (eg. well marked tracks, extensive signage)		36.1%	fairly well developed facilities (eg. well marked tracks, extensive signage)		41.3%
very well developed facilities (eg. camp grounds, visitor centre)		13.1%	very well developed facilities (eg. camp grounds, visitor centre)		12.7%
don't know/don't care		8.2%	don't know/don't care		3.2%

h) Other Visitors & Experience

Key Findings

Stage 1: September 2001

During this first data collection stage,

- The majority of visitors ***did not think*** there were ***too many other people*** at Barron Falls;
- They also ***did not feel*** that the people who were there ***impacted on their own behaviour or experience*** of the site;
- Most visitors agreed that other visitors at the site were on the whole environmentally responsible;
- In terms of their experience of Barron Falls, visitors rated their ***enjoyment*** of the site ***highest*** with many strongly disagreeing that there were disappointing aspects;
- Just over half of the visitors ***mildly to somewhat agreed*** that their visit had been a ***special experience***.

Stage 2: April 2002

During this second data collection stage, visitor responses were slightly different.

- Just under half of the visitors ***strongly disagreed*** that there were ***too many people*** at Barron Falls;
- In both cases, over half of the visitors ***did not feel*** that the people who were at Barron Falls ***impacted on their own behaviour (62.7%) or enjoyment (54%)*** of the site;
- The majority of visitors agreed that other visitors were on the whole environmentally responsible;
- Visitors rated Barron Falls as being ***well worth the money*** the highest, followed by their ***enjoyment*** of the site, with many strongly disagreeing that there were disappointing aspects;
- Most visitors (59.5%) ***mildly to somewhat agreed*** that their visit was a ***special experience***.

Combined Data & General Comments

- The majority of visitors were not concerned about the number, presence or behaviour of people at Barron Falls;
- Visitor experience of the site was highest in terms of ***enjoyment*** and ***worth the money***.

1. ***Experienced crowding, as measured by number, presence and behaviour of others, does not appear to be a problem at Barron Falls.***
2. ***Reported visitor satisfaction, as measured by enjoyment, worth the money, disappointment, was moderately high.***

h) Other visitors**QUESTIONS & RESULTS**

27. The following statements are about other visitors at this site today. Please rate how strongly you agree or disagree with each statement by circling one number for each statement.

	n	Strongly Disagree			Strongly Agree			\bar{X}
		1	2	3	4	5	6	
a) There were too many people at this site today.	245	34.3%	24.5%	19.6%	12.2%	4.9%	4.5%	2.42
	127	47.2%	22.0%	15.7%	8.7%	3.1%	3.1%	2.08
b) The presence of other people at this site prevented me from doing what I wanted to.	243	51.0%	23.9%	13.6%	5.3%	4.1%	2.1%	1.94
	126	62.7%	21.4%	7.9%	2.4%	2.4%	3.2%	1.70
c) The behaviour of other visitors at this site has been on the whole environmentally responsible.	241	19.1%	5.4%	7.9%	14.1%	24.1%	29.5%	4.07
	126	15.9%	5.6%	6.3%	17.5%	24.6%	30.2%	4.20
d) The behaviour of some visitors at this site detracted from my enjoyment of this site.	244	52.5%	21.7%	11.5%	7.4%	2.9%	4.1%	1.99
	126	54.0%	27.0%	7.9%	7.1%	2.4%	1.6%	1.82

i) Experience**QUESTIONS & RESULTS**

28. The following statements are about your experience of this site. Please rate the extent to which you agree or disagree with each statement by circling one number.

	n	Strongly Disagree			Strongly Agree			\bar{X}
		1	2	3	4	5	6	
a) I experienced a real sense of involvement and connection with this place.	235	5.1%	9.4%	22.6%	36.2%	15.7%	11.1%	3.81
	121	0.0%	9.1%	25.6%	43.8%	12.4%	9.1%	3.87
b) For me visiting this site has been a special experience.	239	2.5%	7.9%	20.5%	35.1%	18.8%	15.1%	4.05
	126	0.8%	4.8%	20.6%	38.9%	20.6%	14.3%	4.17
c) I thoroughly enjoyed my visit to this site today.	244	0.4%	0.8%	7.0%	23.4%	39.3%	29.1%	4.88
	127	0.0%	1.6%	7.1%	22.0%	33.9%	35.4%	4.94
d) It was well worth the money I spent to come to this site.	224	2.7%	1.3%	10.3%	26.8%	28.6%	30.4%	4.68
	113	1.8%	0.0%	9.7%	19.5%	26.5%	42.5%	4.96
e) I was disappointed with some aspects of this site.	238	32.8%	23.9%	17.2%	14.3%	7.1%	4.6%	2.53
	122	36.1%	23.8%	21.3%	7.4%	7.4%	4.1%	2.39

j) Additional Open-ended Items

Key Findings

Stage 1: September 2001

During this first data collection stage,

- **Additional information** requirements were predominantly related to *natural and ecological* information followed by *cultural and historical* information;
- While a number of issues were identified as **enhancing visitor enjoyment**, most were related to the *facilities* of the site in particular the *boardwalk* and *viewing platform*;
- The most frequently reported aspects of the visit that **detracted from visitor experience** were related to the *natural / biophysical* aspects of the site – *particularly, the lack of water at the falls*.

Stage 2: April 2002

During this second data collection stage, visitor responses were similar.

- **Additional information** requirements were again predominantly related to *natural and ecological* information followed by *cultural and historical* information;
- Issues most frequently identified with **enhancing visitor enjoyment** were related to *the facilities* especially the *boardwalk and viewing platform*.
- The most frequently reported aspects of the visit that **detracted from visitor experience** were those to do with the *lack of water at the falls*.

Combined Data & General Comments

1. *Natural, ecological, cultural and historical information* were the type of additional information most frequently sought by visitors.
2. *The natural features at Barron Falls* were what enhanced visitor enjoyment of their visit.
3. *Lack of water at the falls* detracted from visitor enjoyment of Barron Falls.

k) Additional Open-Ended Items

Questions & Results

18. If you were to visit this site again what additional information would you like?
Responses provided have been placed into five major categories. Information related to maps/orientation, natura/ecological information, cultural/historical information and general information.

Of the 49 respondents to this questions, 1 indicated that no more additional information was required;				There were 25 respondents to this question.			
Maps/Orientation	n	Natural/Ecological/Geological	n	Maps/Orientation	n	Natural/Ecological	n
How to get out of here	1	Flora & Fauna	10 (2)	Better sign posting	1	Height of falls & amount of water	2
Signs for facilities	1	Best time of year to view falls	4	Directions to rafting facilities	1	How much power water produces	1
		Geological History	4			Wildlife	5 (2)
		Height of falls	1			Plant / Flora & Fauna	3 (2)
Rules/Regulations/Safety		Natural info	2	Rules/Regulations/Safety		Natural & Ecological	1 (1)
More safety signs	1	Rainforest	1	Construction of walkway	1		
		Cultural/Historical Information				Cultural/Historical Information	
General:		History	3(1)	General:		Indigenous culture / history	4
Any relevant info (leaflet)	6	Indigenous Info	9	More about the site	1	History of the site	1
I haven't seen any info	2			Picnic area	1		
More detail	1			Take away leaflet	2		
Video	1			Why the dam was built	1		
		*1 respondent indicated that they were not interested in Indigenous information.					

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

n = 238	Yes	26.5%	No	73.5%	n = 118	Yes	29.7%	No	70.3%
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If yes, please specify:

Natural:	n	PsychoSocial:	n	Natural	n	Psychosocial	n
Falls	2	Few people	1	Waterfalls	4	Friends / Family	3
Canopy experience	2	Peacefulness / Relaxing	3	Great scenery	1		
Scenery (gorge, falls, r' forest)	9 (1)			Nature aspects	1	Other	
Butterflies	2	Other:		Rainforest	1	No Ranger (dog owner)	1
		Climate (weather)	3				
Facilities:		Railway	2	Facilities			
Accessible for all	3			Boardwalk	11(1)		
Boardwalk	19			Viewing platform	4(1)		
Viewing platform	6			Appeared very safe	1		
Parking	1			Very well prepared	1		
Seats on boardwalk	1			Good access & parking	2		

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

n = 240	Yes	14.6%	No	85.4%	n = 123	Yes	21.1%	No	78.9%
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If yes, please specify:

Natural/Biophysical:	n	Other:	n	Natural/Biophysical:	n	Facilities:	n
Lack of waterfall	9	Completing survey	4	Lack of water in waterfalls	19	No toilets	2
Lack of scenery	1			Lack of cassowaries	1	Cigarette butts near platform	(1)
View disturbed by trees	1	Facilities:		View of gorge	1	Lack of signage	1
Weeds	2	Lack of water fountains	1 (1)			The 'butt' holder at the	
		Toilets	2(1)	Rules/Regulations/safety		lookout	1
Rules/Regulations/safety		Lack of flora & fauna info	2	Slippery track & boardwalk	1	Other:	
No access to water	1	New b'walk disturbs enviro	1			More information	1
Safety issues	1	Too structural	1	PsychoSocial:		Survey	(1)
				Lots of people off train	2		
PsychoSocial:				Past human impact	1		
Crowded platform	3						
Idiots who drop their litter	2						
Screaming children	1						
Smokers	1						

Comments on Questionnaire

Key Findings

The following are key findings in the comments made by visitors to Barron Falls.

Stage 1: September 2001

- The majority of comments centered around the three main environments: the *natural environment*, *built environment* and the *social environment*.
- In regards to the natural environment, visitor satisfaction and enjoyment of the area was reduced by the *lack of water on the falls*. However, most commented that they understood that this was typical for the time of year.
- The *boardwalk* was the focus of the built environment. Positive comments focused on the *design, easy access, and safety* of the boardwalk. Negative comments on the built environment revolved around there not being a toilet or a place to drink on the walk.
- The social environment was negatively commented on. In most cases, the site was described as *being crowded and very touristy*. Some comments focused on visitors dropping their *litter* and as a result this detracting from the overall enjoyment of the site.

Stage 2: April 2002

- The comments for Stage 2 were varied.
- Some comments focused on *additional information* that should be supplied. Additional information requested was more *indigenous cultural, ecological and water information*.
- Like Stage 1, the *boardwalk* was also commented on. A positive comment focused on how the boardwalk was *unobtrusive* and *blended in with the environment*. Negative comments focused on the *cigarette butt holder* at the lookout, the *absence of a toilet*, and that the walking track should be in a circle so different scenery can be observed on the walk back.

Barron Falls: October 2001

ADDITIONAL COMMENTS MADE BY RESPONDENTS ON QUESTIONNAIRE

The following are comments made by 22 respondents who completed the questionnaire at Barron Falls.

Date	Comments on site.
22.09.01	In terms of number of people at the site, the train we were on was rather full, but I don't think numbers should be cut. Great day, great scenery. <i>(Australian visitor, female, 53 years).</i>
22.09.01	Enjoyment of the site was reduced because insufficient rainfall caused area to be drier than would have liked to see. <i>(Australian visitor, female, 56 years).</i>
23.09.01	Track too long a walk, particularly when you can see your destination in front of you at the top viewing platform before you set out. <i>(Australian visitor, male, age: ?).</i>
23.09.01	Too expensive for families. <i>(Australian visitor, male, age: ?).</i>
23.09.01	Too crowded. <i>(Irish visitor, female, 41 years).</i>
23.09.01	Too many visitors. <i>(German visitor, female, 22 years).</i>
23.09.01	Insufficient walking tracks. <i>(Irish visitor, male, 26 years).</i>
23.09.01	Boardwalk is fabulous! <i>(Australian visitor, female, 41 years).</i>
23.09.01	A well-designed and built site in all aspects. <i>(Australian visitor, male, 46 years).</i>
23.09.01	Little water at falls (result of time of year) – detracted from my enjoyment of site. <i>(Australian visitor, female, 48 years).</i>
23.09.01	Very pretty, and a safe, easy walk to the falls. <i>(Australian visitor, female, 43 years).</i>
23.09.01	My enjoyment of the site was enhanced by the well-constructed walkway. The weeds detracted from my satisfaction in the site. <i>(Australian visitor, female, 44 years).</i>
23.09.01	The design of the boardwalk increased my enjoyment. My enjoyment of Barron Falls was detracted by the poor site specific or spot interpretation. <i>(Australian visitor, male, 44 years).</i>
23.09.01	Easy access accentuated my enjoyment, while the fact that Barron Falls is very touristy took away from my enjoyment of this site. <i>(Australian visitor, male, 24 years).</i>
23.09.01	The litter just left around detracted from my satisfaction with the site. <i>(Australian visitor, female, 19 years).</i>
23.09.01	The idiots who just dump their rubbish wherever they want, - ie. off the train onto the railway tracks – reduced my enjoyment of Barron Falls. <i>(Australian visitor, male, 25 years).</i>
23.09.01	In terms of the aspects which took away from my enjoyment of this site: Needing a drink and toilet on route reduced my satisfaction. <i>(Australian visitor, female, age: ?).</i>
23.09.01	I should love to stay longer. <i>(Dutch visitor, female, 58 years).</i>
23.09.01	Would like to see falls after wet season. <i>(Australian visitor, male, 67years).</i>
23.09.01	My satisfaction with the site was reduced by there being not much water over the falls: but can't help that! <i>(English visitor, male, 24 years).</i>

- 23.09.01 I expected more water in the falls.
(Dutch visitor, male, 29 years).
- 23.09.01 The lack of a new path detracted from my enjoyment: some areas are disturbed, but I am sure it will grow.
(Australian visitor, female, 29 years).

Barron Falls: **April 2002**

ADDITIONAL COMMENTS MADE BY RESPONDENTS ON QUESTIONNAIRE

The following are comments made by some respondents who completed the questionnaire at Barron Falls.

Date	Comments on Site.
06.04.02	Aspects that detracted enjoyment of site: No toilets and cigarette butts discarded near water tank at rail platform. <i>(Australian visitor, male, 40 years)</i>
06.04.02	The information supplied was satisfactory – maybe a bit more about aboriginal culture and ecology of site. <i>(UK visitor, female, 23 years)</i>
07.04.02	I would like the university students not to be sitting in front of one of the information boards!!! Reason for presence of ranger: for visitors to provide feedback to Ranger. Gives visitors a positive feeling that we are proactive about our environment. I thought that the construction of the boardwalk was unobtrusive and blended magnificently with the environment. The ‘butt’ holder at the look out detracted my enjoyment of this site. <i>(Australian visitor, female, 34 years)</i>
07.04.02	The scenery was great, but the walking track could be in a circle so we can see different scenery on the way back. <i>(Australian visitor, female, unknown age)</i>
07.04.02	Additional information on what they use the water (electricity) and how much power they produce – then I understand why there was no water. <i>(Swiss visitor, male, 31 years)</i>

Comments to/by Field Assistants

Key Findings

The following comments were most frequently reported to the field assistants at Barron Falls.

Stage 1: September 2001

There were very few comments made to field assistants.

- A visitor was interested in what the field assistants were doing.

Stage 2: April 2002

Like Stage 1, very few comments were made to field assistants.

- The field assistants noted that on both days of collection, the car park had a sewerage odour.

ADDITIONAL COMMENTS MADE BY RESPONDENTS TO FIELD ASSISTANTS

September 2001

The following are comments made by 2 visitors to the field assistants at Barron Falls.

Date	Comments
22.09.01	Very interested in what we were doing. (Anon.)
22.09.01	Family with one child – specifically here to sight-see. (Anon.)
22 & 23 .09.01	Of those who would not participate in the survey, ten identified the lack of a toilet as being a real problem, particularly with the children.

April 2002

The following are comments made by 1 visitor to the field assistants at Barron Falls.

Date	Comments
07.04.02	Both days car-park smells like sewerage. (Anon.)
	Of those who would not participate in the survey, three identified the lack of a toilet as being a real problem.

BEHAVIOURAL EVENTS

Key Findings

Combined Data Sets

From the behaviours recorded at Barron Falls in September 2001 and April 2002, the following three events were the most frequently observed. It is interesting to note that most of the behaviours were only observed during one stage of the data collection periods and not the other.

- *Domestic animals*

Domestic animals were only observed during Stage 2. Dogs were observed in vehicles, walking around the car park and on leads on the boardwalk.

- *Deliberate damage to plants*

Damage to plants was only observed during Stage 1. In most cases, damage to the plants was the result of cutting track corners or walking along side the track. Children were also observed pulling at plants and hitting trees with sticks.

- *Inconsiderate Behaviour.*

Inconsiderate behaviour was observed during both stages. In most cases loud noise was observed coming predominantly from children. Some adults were observed yelling and shouting on the boardwalk. In two instances, a person was observed going to the toilet in the bushes, and another, urinating in the car park.

BEHAVIOURAL EVENTS

The following are critical incidental observations of behavioural events made opportunistically by field assistants during the period of administration of surveys and counts of vehicles/visitors.

Behavioural Topic	Comment : SEPTEMBER 2001	Comment: April 2002
Domestic Animals	<ul style="list-style-type: none"> N/A 	06.04.02 <ul style="list-style-type: none"> Dog in caravan – wandered around car park a little, then lay under van. 13.45 hrs. Dog in truck. 14.45 hrs. Two dogs on lead on boardwalk. 16.15 hrs.
Deliberate Damage to Plants	22.09.01 <ul style="list-style-type: none"> Cutting track corners. 09.58, 09.59, 13.29, 15.34 hrs. Damaging plants. 10.00 hrs. Kids pulling plants. 10.00 hrs. Direct damaging of plants. 11.30 hrs. Cutting track corners. 13.29, 15.34 hrs. Walking on side of track. 13.31 hrs. 23.09.01 <ul style="list-style-type: none"> Kids banging bark with stick. 13.30 hrs. Walking on edge of track. 15.00 hrs. 	<ul style="list-style-type: none"> N/A
Undesignated Area Use	22.09.01 <ul style="list-style-type: none"> Cutting through bush. 15.25 hrs. 	<ul style="list-style-type: none"> N/A
Speeding	<ul style="list-style-type: none"> 11.15 hrs. 	<ul style="list-style-type: none"> N/A
Risk Activity	<ul style="list-style-type: none"> Two male abseilers. 09.00 - 10.45 hrs. Riding bike up from railway. 14.45 hrs. 23.09.01 <ul style="list-style-type: none"> Screaming kids in way of cars. 10.26 hrs. 	<ul style="list-style-type: none"> N/A
Aggressive Behaviour	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> N/A
Other	22.09.01 <ul style="list-style-type: none"> Going to toilet in bushes. 10.57 hrs. Loud music: In car. 12.17 hrs. In grounds. 10.51 hrs. Inconsiderate Behaviour: Loud shouting. 10.57, 13.10 hrs. Yelling children. 09.37 hrs. Noisy motorbike. 14.35 hrs. Standing on benches. 15.35 hrs. Littering: At information sign. 08.30 hrs. In car park. 08.30. Fell out of pocket. 11.30, 12.00, 12.45 hrs. Out train window. 15.37, 15.40 hrs. 23.09.01 <ul style="list-style-type: none"> Urinating in car park. Loud music: 12.20 hrs 	06.04.02 <ul style="list-style-type: none"> Littering: Cigarette butts on platform, despite butt bins located on platform. Inconsiderate Activity: Adults making loud noises while walking along boardwalk. Kids being loud/playful. Noisy kids on boardwalk. 14.30 hrs. Yelling adults – swearing on boardwalk. 15.15 hrs. Dog barking. 14.45 hrs. Banging/yelling; dog barking; adults yelling; kids running. 15.30 hrs. Loud music: Radio in car loud.

Section Two

Infrastructure Inventory and Profile



SECTION TWO

-
- Site Infrastructure Inventory
 - Site Information and Signage
-

BARRON FALLS

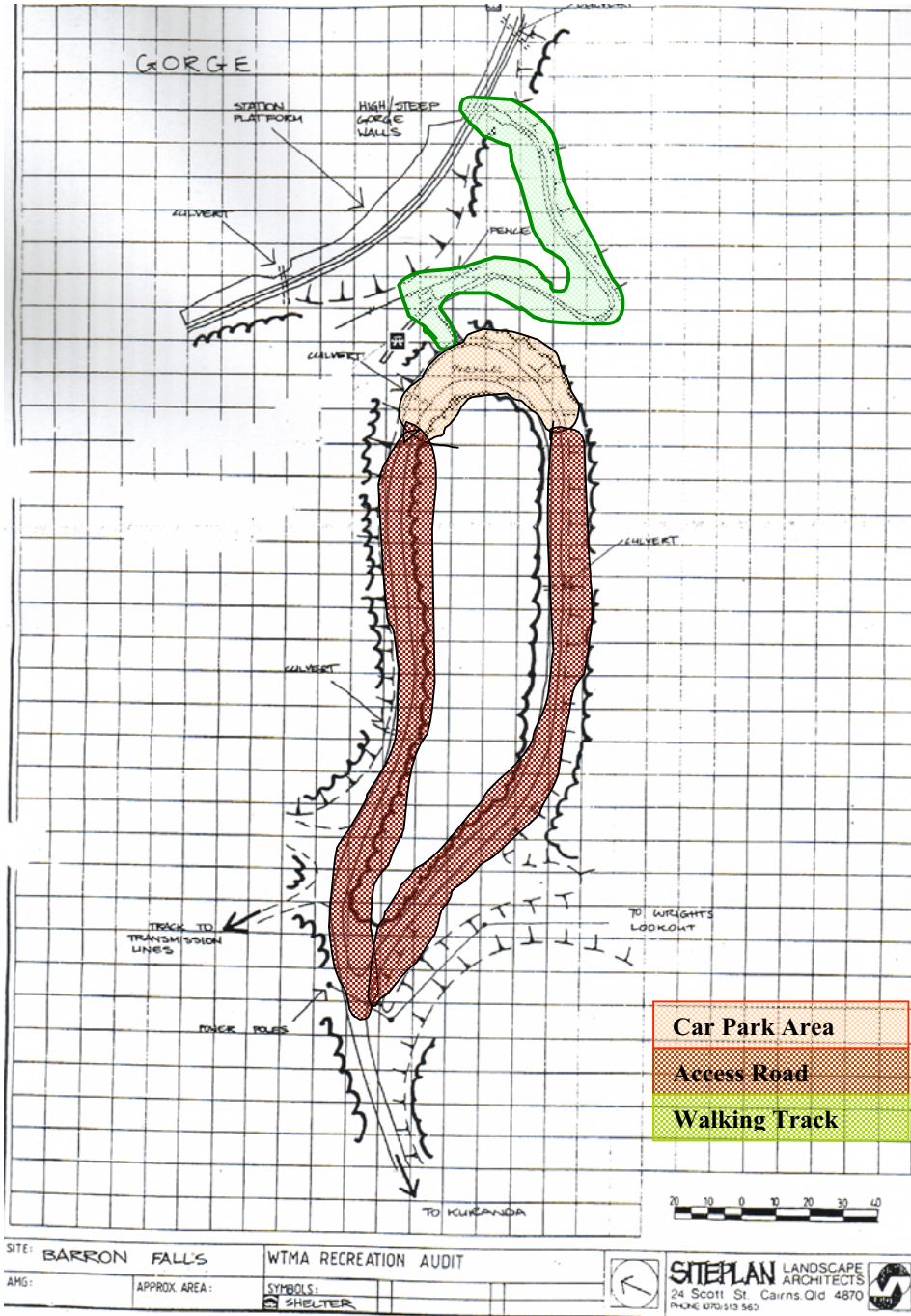


Figure 1: Barron Falls site map (Source: SitePlan 1993, modified to include activity nodes).

Site Infrastructure Inventory

The following table is a summary version of the inventory of features/facilities recorded by the author at the site first in November 1998 (yellow shading) and again in November 2002. Details of signage and facilities are presented in the following pages.

BARRON FALLS		Wet Tropics Site No. : Management Agency: EPA/QPWS		Dates Assessed: November 1998 & November 2002					
Site Parameters		1998		2002					
Annual vehicle/visitor #		Vehicle s / Visitors = no traffic counter in place		Vehicle s = 41,091; Visitors = 96,975					
Site Access:		Road		Road					
Road Type:		Sealed		Sealed					
Road Conditions:		Good		Good					
		Car Park		Barron Falls Lookout		Train Platform Lookout			
Facilities / Infrastructure		1998		2002		1998		2002	
Landscaping:		Hard = bitumen, stone retaining walls		Hard = bitumen, stone retaining walls		Hard = timber/steel/iron stone/bitumen		Hard = timber/steel/Stone/bitumen	
Signage:		Absent		1		2		1	
Corporate Identity		Absent		1		1		Absent	
Visitor Orientation		1		1		3		3	
Visitor Advice		1		1		3		Absent	
Regulatory		1		Absent		1		Absent	
Interpretative		Absent		1 (Aboriginal)		3 (cultural + natural)		2 (Aboriginal mural & text)	
Foreign Language		Absent		Absent		1 (danger - German /Japan Well designed boardwalk & viewing platform		Absent	
Capacity / Description:		Bitumen, park bays = 34 cars, 3 buses, 1 disabled		Bitumen, park bays = 32 cars, 3 buses, 2 disabled		Board walk, viewing platform, shelter shed		Gravel track to rail.	
Boardwalk / Description:		Boardwalk across rail line to lookout		Boardwalk across rail line to lookout		Boardwalk across rail line to lookout		Boardwalk across rail line to lookout	
Amenities / Utilities		Absent		Absent		Absent		Absent	
Toilets:		Absent		Absent		Absent		Absent	
Showers:		Absent		Absent		Absent		Absent	
Bins:		Absent		Absent		Absent		3	
Water:		Absent		Water Tank		Absent		Absent	
Power:		Absent		Absent		Absent		Absent	
Telephone:		Absent		Absent		Absent		Absent	
Other		Absent		Absent		a) 1 bench b) shelter shed		a) 1 bench b) 2 shelter shed + 1 bench	
Appeal		Nil – new native plantings		Low – native plantings		Boardwalk/track		Boardwalk/track	
Attractiveness:		Medium		Medium		High		High	
Naturalness (within)		Medium		Nil		Nil		Nil	
Naturalness (surroundings)		Medium		Nil		High		High	
Nuisance insects		High - new		High		80-90%		80-90%	
Built environment		15-20%		15-20%		Medium – new construction		Nil	
Shade		Medium - cars & people		Low		Medium – new construction		Medium – new construction	
Noise (human origin):		Medium - cars & people		Low		Medium – new construction		Medium – new construction	
Biophysical		Level		Level		Level		Steep	
Landform:		Level		Level		Level		Steep	
Altitude:		Schlerophyll/Woodland		70%Rainforest, 30% Sclerophyll		Sclerophyll		Sclerophyll	
Vegetation:		Metamorphic		Metamorphic		Metamorphic		Metamorphic	
Geology:		Absent		Absent		Absent		Gorge	
Water body:		Absent		Absent		Absent		Gorge	
Impact Assessment		Low		Low		Low		Low	
Condition Indicators:		High < 20 items		Low - 2 items		Low		Nil	
Litter (visual impact)		Paper, cig butts, plastic		Paper		-		-	
Litter (amount)		Nil		Nil		Nil		Nil	
Litter (type)		Nil		Nil		Nil		Nil	
Waste Management		Nil		Nil		Nil		Nil	
Wear on facilities		Low-1bollard		Nil		Low		Low	
Vandalism / graffiti		Nil		Nil		Nil		Nil	
Environmental Indicators:		Nil		Nil		Low		Medium	
Soil erosion		Low		Low		Nil		Medium	
Exotic weeds		Nil		Nil		Nil		Low	
Exotic ornamentals		No mutilation, no breakage		No mutilation, no breakage		No breakage, no mutilation		Low breakage, med mutilation	
Vegetation		No mutilation, no breakage		No mutilation, no breakage		No breakage, no mutilation		Low breakage, low mutilation	
Wildlife		No evidence of habituation		No evidence of habituation		No evidence of habituation		No evidence of habituation	
Additional Notes		1998: Car park just recently redeveloped		2002: New plantings well established		2002: New structure from first platform to 2 nd shelter shed.		1998: Dangerous crossing railline to lower lookout 2002: Nine short cut trails identified – between paths, into bush, around boardwalk	

Site Infrastructure Inventory

Details

A. Car Park

Road access to the car park is sealed and one way traffic only.

Parking Area: One parking area services the walking tracks (boardwalk) to the lookouts and Kuranda/Barron Falls Railway Platform. This car park is sealed and separated into six parking bays by plantings and stone walls. Parking bays are clearly demarcated though in some sections the paint is fading. The total capacity is 34 cars and three buses. Many vehicles are known to park along the exit road side when car park is full. Parking becomes a concern in terms of erosion, bog holes and a cause of conflict when vehicles park haphazardly along road edge. No amenity block with toilet and water is present which is a concern as at times the place smells and many people were observed urinating in the nearby bushes. A walkway to the boardwalk is situated along the edge of the car park and is separated from it by plantings.

B. Boardwalk – Barron Falls Lookout Platform #1

Boardwalk: The track to the first Barron Falls Lookout Platform is a timber and steel construction. No steps are present which allows for wheel chair access along the whole of this section of the boardwalk.

Lookout Platform Area: The platform is very well constructed from timber and steel. It appears to be in good structural condition. A shelter shed containing a mural (aboriginal) is present on this boardwalk.

From the first lookout platform the boardwalk continues through the forest well above the forest floor and gullies. Once in the sclerophyll forest the track is constructed of bitumen and bordered with stone walls and timber to the second shelter area. Again the whole of this section allows for wheel chair access.

Facilities	#	Type/Condition
Rails	continuous	Steel verticals
Platform	1	Timber & steel
Sitting Benches	2	timber
Shelter shed	1	Steel & iron

B. Boardwalk – Barron Falls Lookout #2

From the second shelter the track continues as bitumen. Just prior to the railway line the boardwalk section begins again and is suspended above the railway track. Again the whole of this section allows for wheel chair access. Along this track a total of nine undesignated tracks were identified some of which have caused severe erosion.

Falls Lookout Area: This lookout area is just above the train platform and is constructed of timber and steel.

A. Parking Area



Car Park (entrance section)



Car Park (exit section)



Information section prior to walkway

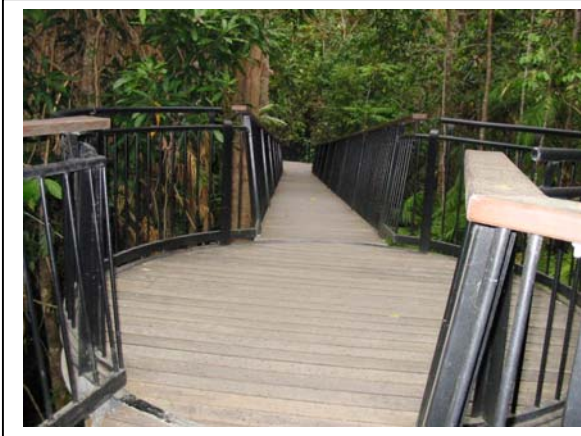
B. Barron Falls Walkway & Lookout Platforms



Shelter #1 & Mural



Lookout Platform #1



Section of Boardwalk



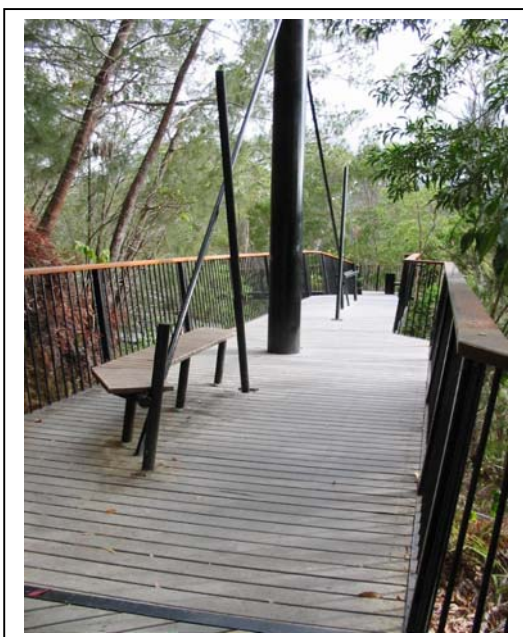
Second shelter shed



Bitumen/stone section of track



Short cuts between sections of track



← **Section of Boardwalk across railway line**



▲ **Second Barron Falls Lookout Platform**

Site Information and Signage

The information and signage for this site (main and access roads, carpark area, and walkway) has been grouped according to the Department of Natural Resources' five broad sign categories. This inventory does not include the signage at the railway platform itself. Details of signage content has not been recorded or analysed in this research.

Key Findings

- A total of **17 sign structures containing 32 information types** relevant to Barron Falls were recorded along the main road, access road and at Barron Falls site itself (Table 1).
- Most of these signs (34.3%) were for the purpose of **visitor orientation**.
- Most of the **visitor advice** and **regulations** were in the form of symbols and text.
- The **interpretive** signage present focused on **Aboriginal significance** of the site and was located at the entrance of the walkway and just before the first Lookout Platform.
- No **foreign language** signage was present at this site.

Table 1: Number and type of signs at Barron Falls.

Sign Category	Main Road	Access Road	Parking Area	Barron Falls Walkway – to Lookout Platform #2	TOTAL
Interpretive			2	1 mural + 1 text (Aboriginal)	3 (2)
Visitor orientation	3	5	2	1	11 (3)
Visitor advice		4	3	2	9 (1)
Regulatory		3	3	1	7 (3)
Corporate Identity		2		1	3 (2)
TOTAL 2002	3	14	10	5	32
# Actual Sign Structures	7	3	2	5	17
<i>SitePlan 93</i>					(11)

Comparative Data Set

SitePlan undertook an audit of signage at Barron Falls in April 1993. Information from this audit has been included in the above table (*italics and parenthesis*) for comparative purposes.

Main Road & Access Road

Main Road:

- #1. BARRON FALLS
TURN OFF RIGHT 300M
- #2. 6 BARRON FALLS x 2

Access Road:

- #1. BARRON FALLS
- #2. BARRON FALLS 2.8KM
- #3. BARRON FALLS 1.2KM



Car Park Area (entrance to walkway)



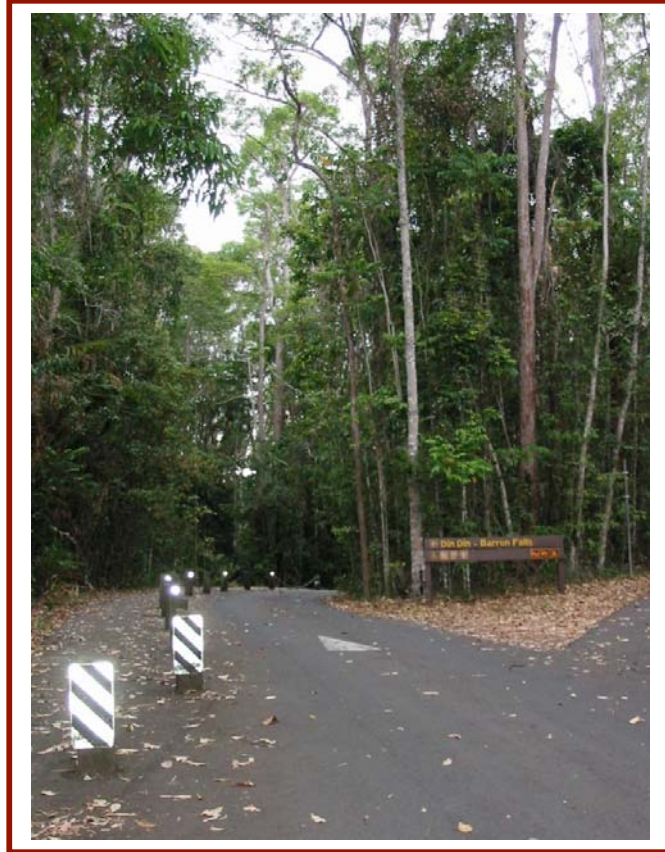
Barron Falls Walkway





Section Three

Vehicle and Visitor Monitoring



S E C T I O N T H R E E

-
- Vehicle and Visitor Records
 - Traffic Counter Data
-

Vehicle and Visitor Records: *Barron Falls*

Summary table of visitor and vehicle records established over four x eight hour observation periods.

	Visitors					Vehicles				
	Type	# in 8hrs	# per vehicle	Highest # at one time	Time	Type	# in 8hrs	Highest # at one time	Time	Length of Stay
22 Sept 2001	Couples 49%	226	2.35	34	1600	Cars 67%	96	15	1545	44mins
23 Sept		395	2.48	60	1100		159	20	1210	35mins
6 April 2002	Couples 63%	218	2.76	31	1545	Cars 67%	79	11	1210	38mins
7 April		327	2.64	60	1500		124	22	1500	39mins

Traffic Counter Data: *Barron Falls*

Summary table of traffic counter data for a twelve month period (September 2001-2002).

	Visitors					Vehicles		
	Average #	Highest #	Time Of Highest	Lowest #	Time Of Lowest	Average #	Highest #	Lowest #
Yearly	96,975					41,091		
Monthly	8,177	16,814	August	4,168	March	3,465	7,125	1,766
Weekly	1,912	3,660	July Week 3	812	March Week 1	810	1,551	344
Daily Weekdays	248	597	10 th January	42	25 th March	105	253	22
Daily Weekends	342	973	21 st July	130	22 nd December	145	336	55

Vehicle and Visitor Records

Key Findings

Data for these records were established from eight hours of continuous observations of vehicles and vehicle occupancy during each day of the survey distribution periods, Stage 1 (22nd & 23rd September 2001) and Stage 2 (6th & 7th April 2002). This is the first time this type of data has been collected at Barron Falls and so previous data is unavailable for comparative purposes.

Stage 1: 22nd and 23rd September 2001

Pattern of access to and use of Barron Falls

Figure 1

General

- **Vehicle Type:** The majority of vehicles using the site over the two days of observation were *cars (67%)*.
- **Visitor Category:** Barron Falls appears to be favoured by *independent visitors with couples* (two people) making up the major visitor category over these two days (49%).

Day 1 (29th September 2001 - Saturday)

- A total of **226 people** in **96 vehicles** visited Barron Falls during this eight hour observation period.
- There were **two distinct peaks** in vehicle and visitor numbers around **1230 and 1600 hours**;
- The highest number of visitors at the site at any one time was **34 at 1600 hours**. At 1230 hours visitor numbers were 32. Visitor numbers remained between 20 and 35 for most of the day (from 1045 to 1700 hours).
- The highest number of vehicles at the site at any one time was **15 at 1545 hours**. For most of the day number of vehicles at the site remained below 10.
- The quietest period was between 0900 and 0930 hours.

Day 2 (30th September 2001 - Sunday)

- A total of **395 people** in **159 vehicles** visited Barron Falls during this eight hour observation period.
- There was **one distinct peak** in visitor numbers **at 1100 hours**.
- The highest number of visitors at the site at any one time was **60 at 1100 hours**. For most of the day the number of visitors at the site at any one time remained between 30 and 60.
- The highest number of vehicles at the site at any one time was **20 at 1210 hours**. For most of the day number of vehicles at the site remained between 10 and 20.
- The quietest period was between 0900 and 0930 hours.

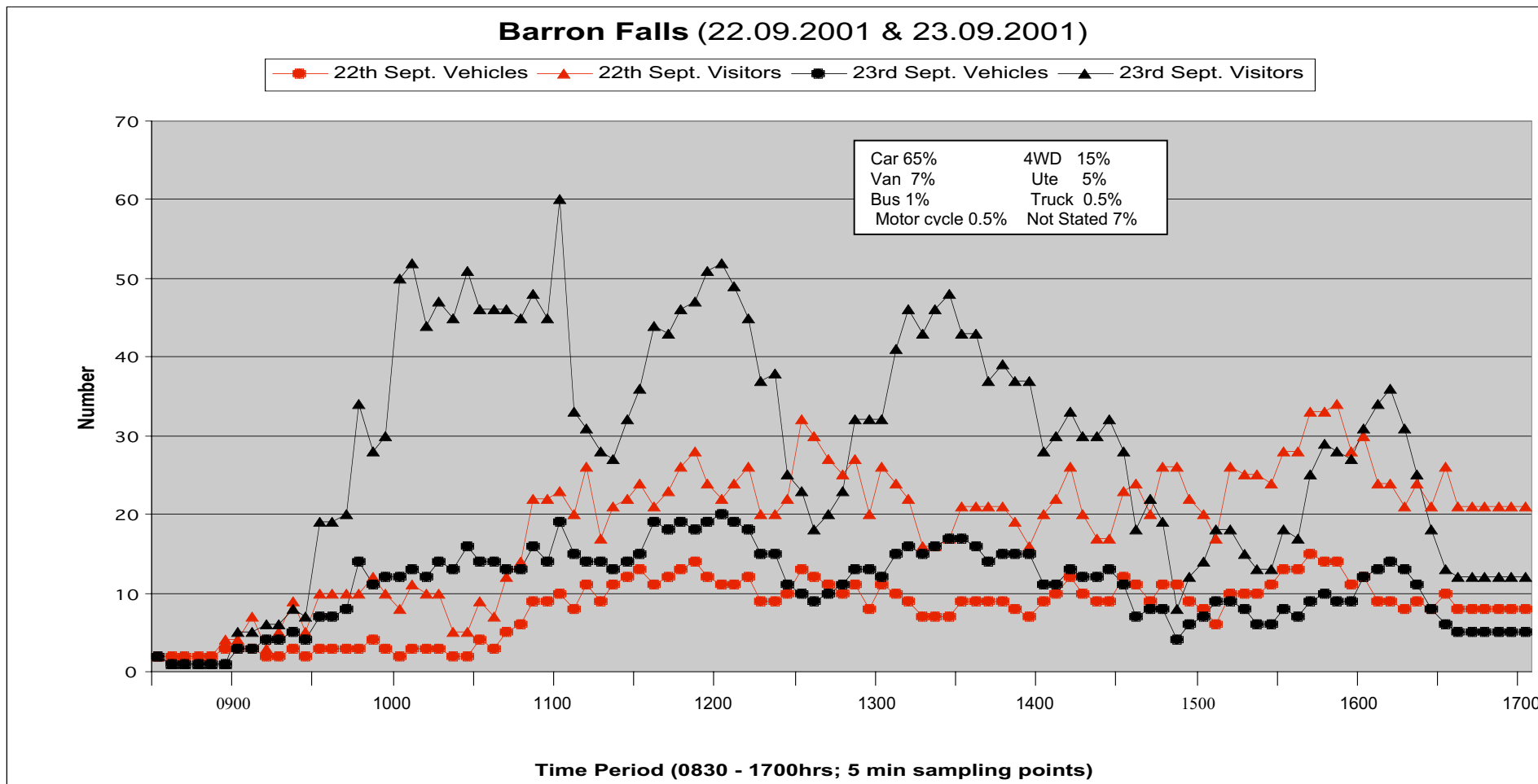
Length of Stay

Figures 2 and 3

- There were fewer vehicles observed at the site on Day 1 (96 vehicles) than on Day 2 (159 vehicles), and there were fewer people (226 visitors Day 1, 395 visitors Day 2).
- The average length of stay was **44 minutes** on Day 1, and **35 minutes** on Day 2.
- On Day 1 and Day 2, 27% of the vehicles stayed one hour or longer.

VEHICLE AND VISITOR COUNT DATA: BARRON FALLS

Figure 1: Records for Vehicles and Visitors at Barron Falls



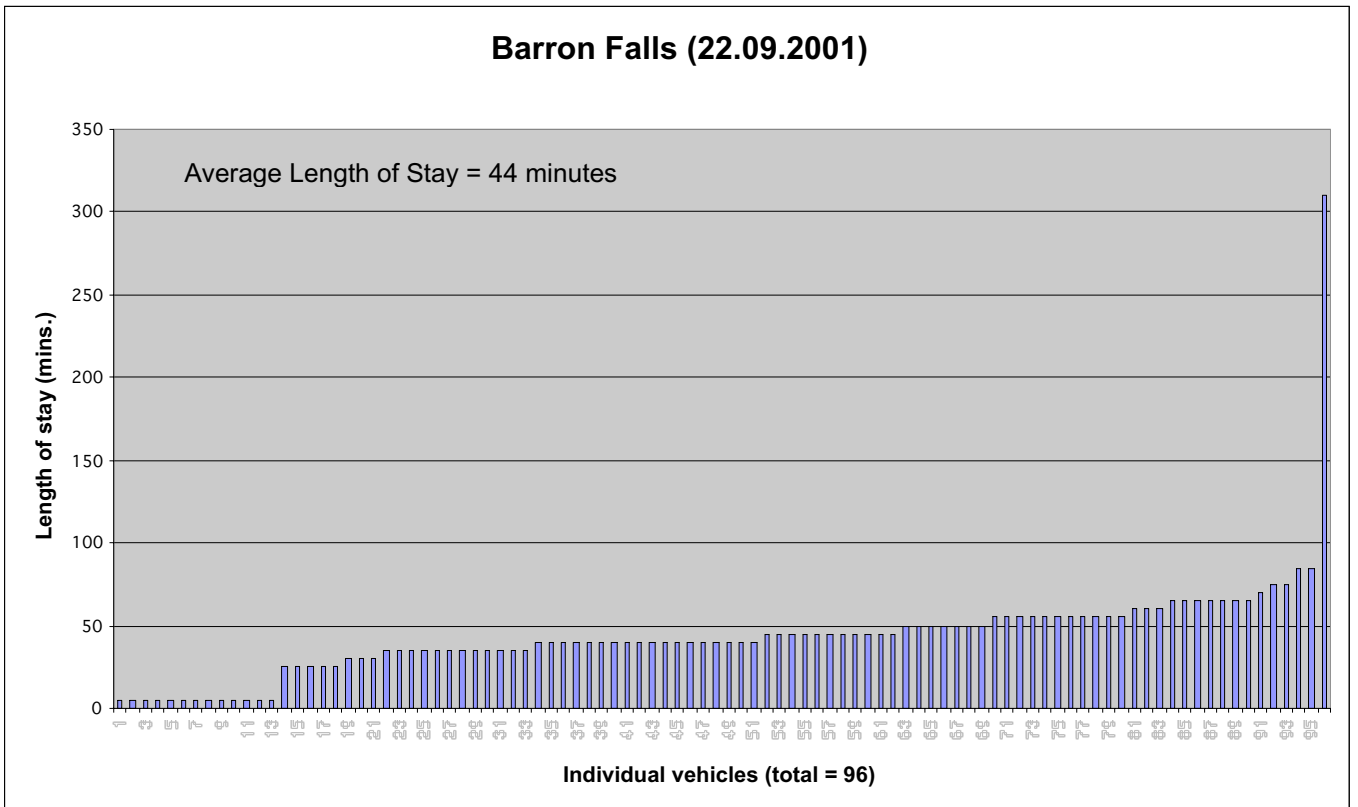


Figure 2: Length of stay of each vehicle at Barron Falls on Day 1 - 22.09.2001.

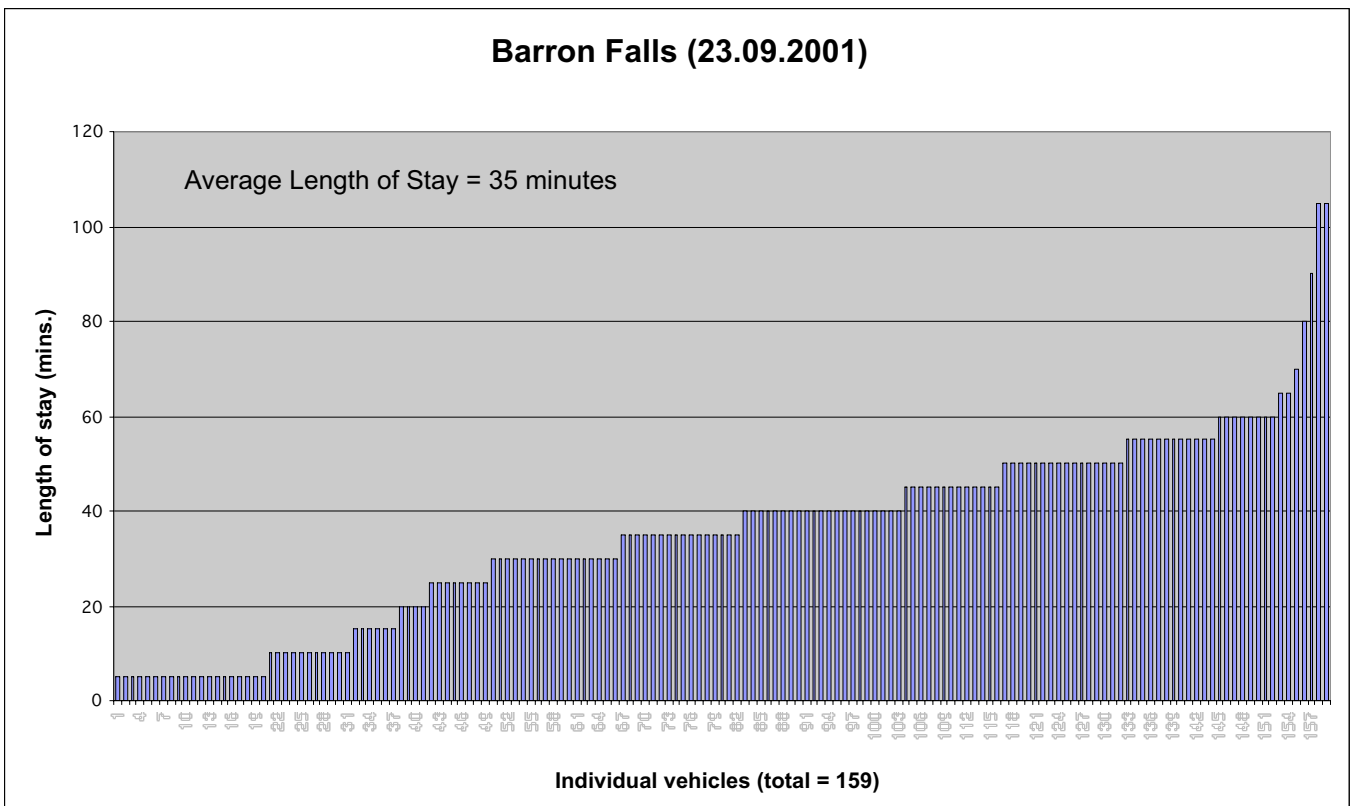


Figure 3: Length of stay of each vehicle at Barron Falls on Day 2 - 23.09.2001.

Vehicle and Visitor Records

Key Findings

Stage 2: 6th and 7th April 2002

Pattern of access to and use of Barron Falls

Figure 4

General

- **Vehicle Type:** The majority of vehicles using the site over the two days of observation were *cars (67%)*.
- **Visitor Category:** Barron Falls appears to be favoured by *independent visitors with couples* (two people) making up the major visitor category over these two days (63%).

Day 1 (6th April 2002 - Saturday)

- A total of **218 people** in **79 vehicles** visited Barron Falls during this eight hour observation period.
- There were two **distinct peaks** in visitor numbers around **1215 and 1545 hours**;
- The highest number of visitors at the site at any one time was **31 at 1545 hours**. Visitor numbers remained between 10 and 30 for most of the day.
- The highest number of vehicles at the site at any one time was **11 at 1210 hours**.
- The quietest period was 1325 hours when one vehicle and two people were at the site.

Day 2 (7th April 2002 - Sunday)

- A total of **327 people** in **124 vehicles** visited Barron Falls during this eight hour observation period.
- There was one **distinct peak** in visitor numbers **at 1500 hours**
- The highest number of visitors at the site at any one time was **60 at 1500 hours**.
- For most of the day the number of visitors at the site at any one time remained between 20 and 60.
- The highest number of vehicles at the site at any one time was **22 at 1500 hours**.
- The quietest period was at the beginning of the day.

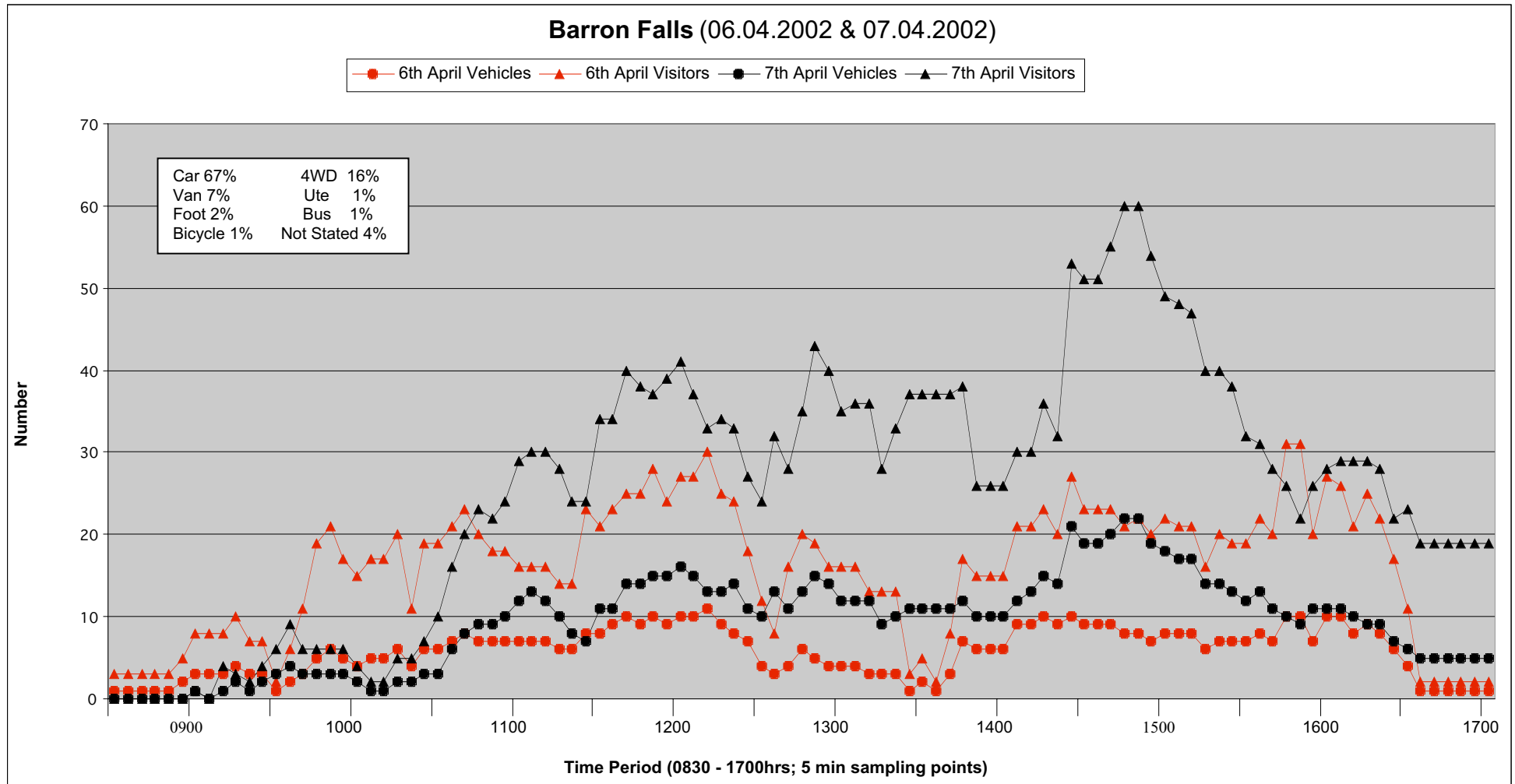
Length of Stay

Figures 5 and 6

- There were fewer vehicles observed at the site on Day 1 (79 vehicles) than on Day 2 (124 vehicles), and fewer people (218 visitors Day 1, 327 visitors Day 2).
- The average length of stay was **38 minutes** on Day 1, and **39 minutes** on Day 2.
- On Day 1 and Day 2, just 14% of the vehicles stayed one hour or longer.

VEHICLE AND VISITOR COUNT DATA: BARRON FALLS

Figure 4: Records for Vehicles and Visitors at Barron Falls



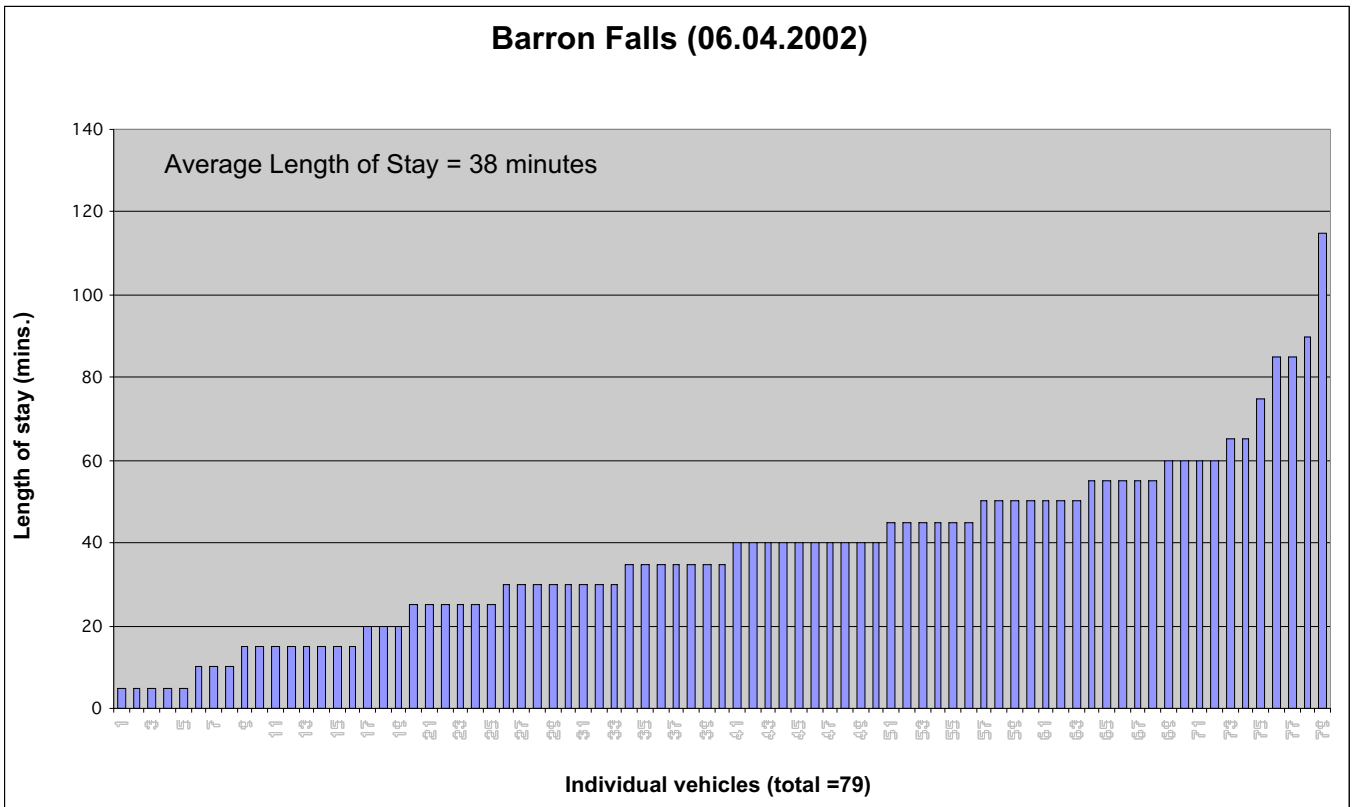


Figure 5: Length of stay of each vehicle at Barron Falls on Day 1 - 06.04.2002.

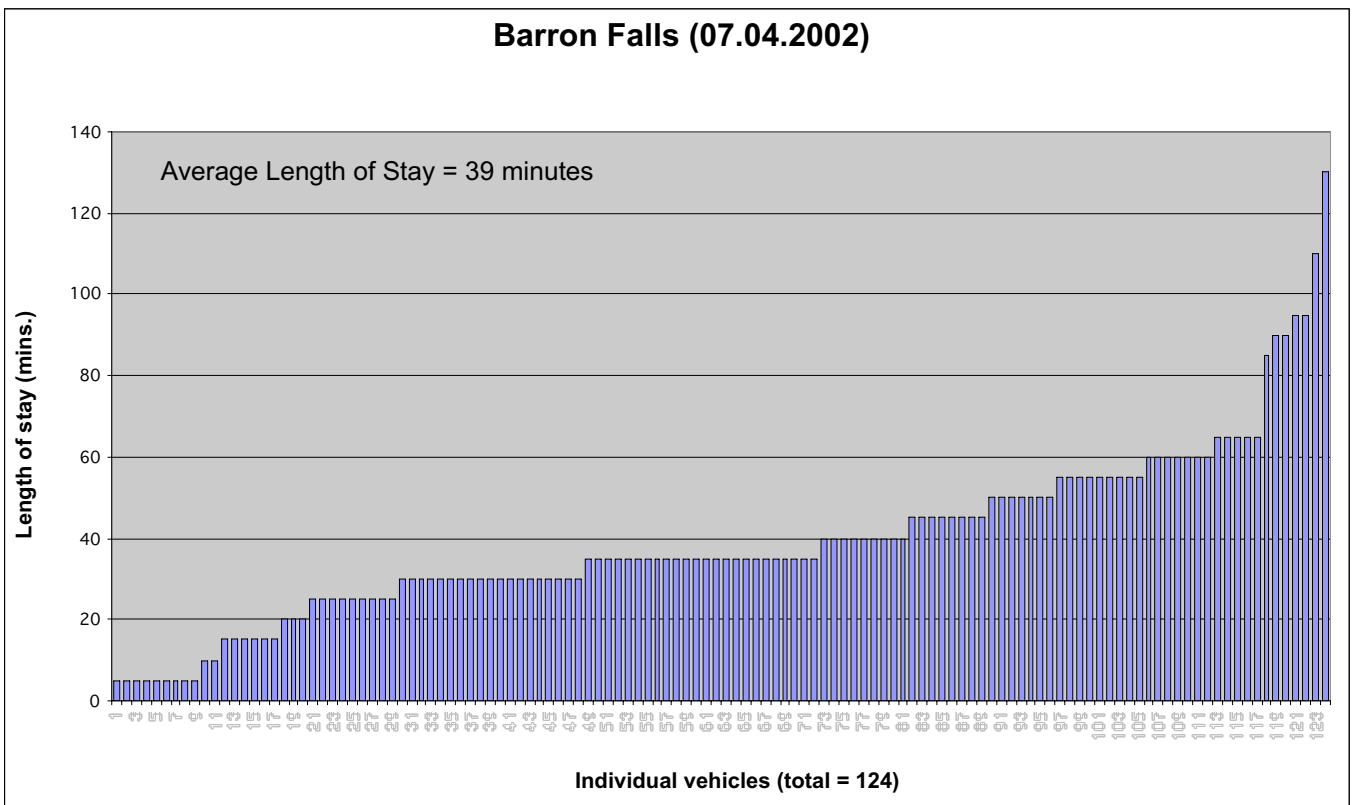


Figure 6: Length of stay of each vehicle at Barron Falls on Day 2 - 07.04.2002.

Traffic Counter Data

Key Findings

The traffic counter was installed at Barron Falls for 12 months (September 2001 – September 2002). The following key findings are associated with this data set.

Yearly Estimates = 41,091 vehicles and 96,975 visitors

Monthly Records

Figure 7

- On average **3,465 vehicles** (range = 1,766 – 7,125) and **8,177 people** (range = 4,168 – 16,814) visited the Barron Falls each month.
- **June, July, August 2002** received the **highest** visitation rates during which months vehicle numbers exceeded 4,500.
- The quietest months were November, December 2001, and March 2002 during which months vehicles numbers were below 2,000.

Weekly Records

Figure 8

- On average **810 vehicles** (range = 344 – 1,551) and **1,912 people** (range = 812 – 3,660) visited Barron Falls each week.
- There were three weeks when vehicular traffic levels were above 1,500; July (week 3), August (week 2 and 4).
- The highest number of vehicles and visitors was in **July 2002, Week 3**, during which week **1,551 vehicles and 3,660 visitors** used this site.

Daily Records

Figure 9 and Table 1

- On average, **116 vehicles** (range = 15 – 151) and **274 people** (range = 40– 404) visited Barron Falls each day. **Average weekday use = 105 vehicles per day;**
- Weekends were busier than weekdays with Sunday recording, on average, 162 vehicles (range 75 – 336), and 382 people (highest number = 973 people on 21st July 2002). **Average weekend use = 145 vehicles per day.**

Comparative Traffic Counter Data

A. Estimated visitor use at Barron Falls 1992/93: (Source: Manidis Roberts 1993/94)

- Yearly estimates vehicles = 54,507; people = 165,633 (calculated on 3.04 people per vehicle)
- Average weekend use = 161.3 vehicles (wet), 193.7 vehicles (dry)
- Average weekday use = 102.1 vehicles (wet), 127.7 vehicles (dry)

TRAFFIC COUNTER/METRO COUNT DATA: BARRON FALLS

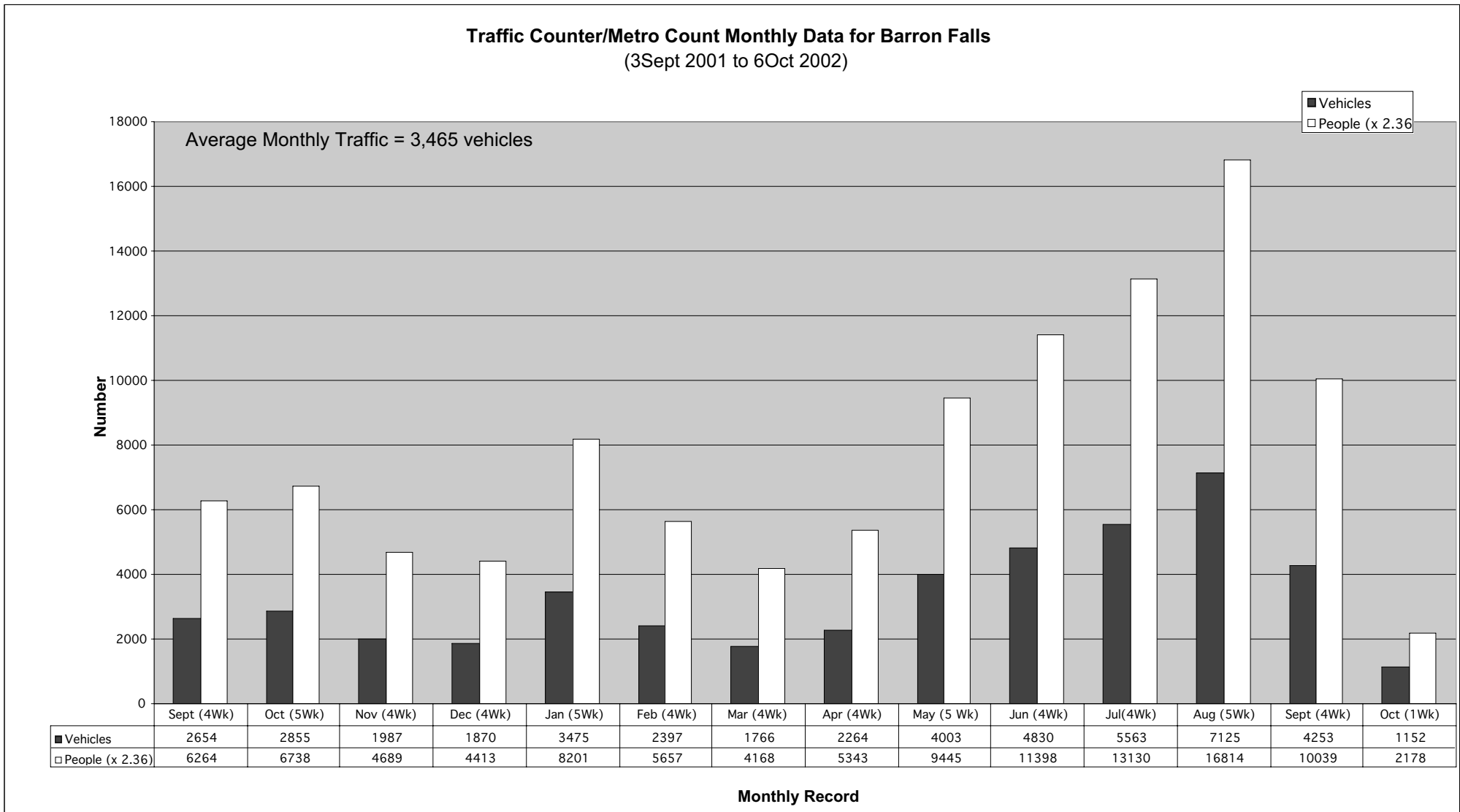


Figure 7: Monthly Records for Vehicles and Visitors at Barron Falls.

TRAFFIC COUNTER/METRO COUNT DATA: *BARRON FALLS*

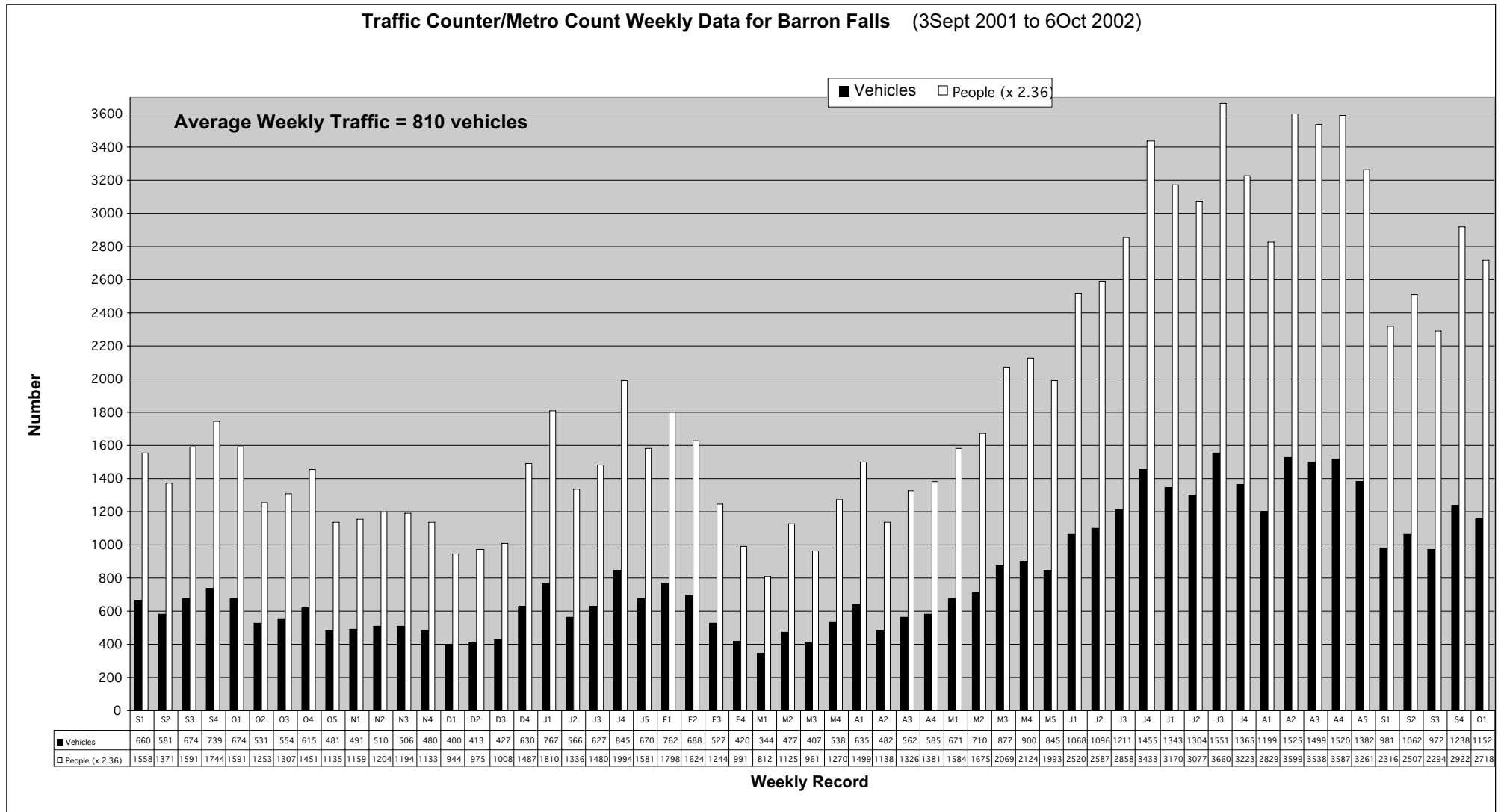


Figure 8: Weekly Records for Vehicles and Visitors at Barron Falls.

TRAFFIC COUNTER/METRO COUNT DATA FOR **BARRON FALLS**

Table 1: Daily Records of Vehicles and Visitors at Barron Falls.

SEPTEMBER 2001 Data highlighted in yellow are daily averages for this month. Traffic counter installed in Week 2.														
2001	MON		TUE		WED		THU		FRI		SAT		SUN	
	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People
Wk 1 3-9Sept	90	212	68	160	98	231	84	198	86	203	96	227	138	326
Wk 2 10-16Sept	89	210	61	144	73	172	78	184	61	144	104	245	115	271
Wk 3 17-23Sept	84	198	74	175	89	210	74	175	95	224	91	215	167	394
*Wk 4 24-30Sept	96	227	69	163	131	309	99	234	101	238	93	219	150	354
OCTOBER 2001														
2001	MON		TUE		WED		THU		FRI		SAT		SUN	
Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	
*Wk 1 1-7Oct	78	184	76	179	104	245	103	243	91	215	89	210	133	314
Wk 2 8-14Oct	48	113	63	149	105	248	81	191	55	130	74	175	105	248
Wk 3 15-21Oct	63	149	83	196	75	177	90	212	69	163	79	186	95	224
Wk 4 22-28Oct	75	177	91	215	98	231	73	172	81	191	88	208	109	257
Wk 5 29-4 Nov	59	139	47	111	73	172	65	153	59	139	74	175	104	245
NOVEMBER 2001														
2001	MON		TUE		WED		THU		FRI		SAT		SUN	
Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	
Wk 1 5-11Nov	45	106	60	142	70	165	73	172	79	186	87	205	77	182
Wk 2 12-18Nov	49	116	63	149	63	149	78	184	72	170	82	194	103	243
Wk 3 19-25Nov	62	146	48	113	68	160	76	179	63	149	80	189	109	257
Wk 4 26-2Dec	65	153	57	135	62	146	64	151	70	165	79	186	83	196
DECEMBER 2001 Blue = Public Holidays														
2001	MON		TUE		WED		THU		FRI		SAT		SUN	
Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	
Wk 1 3-9Dec	54	127	42	99	57	135	52	123	60	142	60	142	75	177
Wk 2 10-16Dec	39	92	41	97	55	130	53	125	69	163	67	158	89	210
*Wk 3 17-23Dec	45	106	68	160	56	132	62	146	62	146	55	130	79	186
*Wk 4 24-30Dec	46	109	63	149	70	165	84	198	105	248	114	269	148	349

JANUARY 2002														
Blue = Public Holidays														
2002	MON		TUE		WED		THU		FRI		SAT		SUN	
	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People
*Wk 1 31Dec-6Jan	82	194	87	205	67	158	87	205	88	208	152	359	204	481
*Wk 2 7-13Jan	76	179	90	212	73	172	77	182	63	149	76	179	111	262
*Wk 3 14-20Jan	54	127	72	170	58	137	74	175	103	243	122	288	144	340
*Wk 4 21-27Jan	117	276	117	276	110	260	112	264	106	250	126	297	157	371
Wk 5 28Jan-3Feb	133	314	65	153	72	170	48	113	70	165	122	288	160	378
FEBRUARY 2002														
2002	MON		TUE		WED		THU		FRI		SAT		SUN	
	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People
Wk 1 4-10Feb	68	160	120	283	97	229	75	177	72	170	170	401	160	378
Wk 2 11-17Feb	80	189	76	179	123	290	75	177	76	179	115	271	143	337
Wk 3 18-24Feb	46	109	63	149	104	245	73	172	57	135	87	205	97	229
Wk 4 25-3Mar	50	118	54	127	45	106	52	123	45	106	72	170	102	241
March 2002 Data highlighted in yellow are daily averages for this month.														
2002	MON		TUE		WED		THU		FRI		SAT		SUN	
	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People
Wk 1 4-10Mar	30	71	28	66	25	59	54	127	50	118	73	172	84	198
Wk 2 11-17Mar	48	113	74	175	69	163	51	120	54	127	75	177	106	250
Wk 3 18-24Mar	48	113	53	125	59	139	63	149	53	125	49	116	82	194
Wk 4 25-31Mar	22	52	68	160	55	130	56	132	98	231	103	243	136	321
APRIL 2002: Blue = Public Holidays														
2002	MON		TUE		WED		THU		FRI		SAT		SUN	
	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People
*Wk 1 1-7Apr	97	229	58	137	86	203	89	210	102	241	110	260	93	219
Wk 2 8-14Apr	53	125	39	92	57	135	53	125	59	139	90	212	131	309
Wk 3 15-21Apr	69	163	69	163	71	168	75	177	77	182	82	194	119	281
Wk 4 22-28Apr	46	109	71	168	76	179	105	248	77	182	100	236	110	260

MAY 2002 Data highlighted in yellow are daily averages for this month. Events data was used for weeks 3-5 due to failure of one tube.

2002	MON		TUE		WED		THU		FRI		SAT		SUN	
	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People
Wk 1 29-5May	48	113	69	163	80	189	96	227	97	229	105	248	176	415
Wk 2 6-12May	163	385	95	224	106	250	88	208	61	144	79	186	118	278
Wk 3 13-19May	123	290	141	333	104	245	101	238	87	205	125	295	196	463
Wk 4 20-26May	132	312	142	335	129	304	102	241	116	274	112	264	167	394
Wk 5 27-2Jun	84	198	99	234	129	304	98	231	100	236	134	316	201	474

JUNE 2002 Events data was used for this month due to failure of one tube.

2002	MON		TUE		WED		THU		FRI		SAT		SUN	
	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People
Wk 1 3-9Jun	98	231	130	307	114	269	104	245	139	328	189	446	294	694
Wk 2 10-16Jun	253	597	130	307	126	297	129	304	130	307	146	345	182	430
Wk 3 17-23Jun	116	274	143	337	169	399	156	368	134	316	185	437	308	727
*Wk 4 24-30Jun	154	363	181	427	237	559	197	465	176	415	208	491	302	713

JULY 2002 Data highlighted in yellow are daily averages for this month. Events data was used for this month due to failure of one tube.

2002	MON		TUE		WED		THU		FRI		SAT		SUN	
	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People
*Wk 1 1-7Jul	145	342	217	512	199	470	152	359	177	418	185	437	268	632
Wk 2 8-14Jul	163	385	164	387	175	413	159	375	201	474	188	444	254	599
Wk 3 15-21Jul	181	427	134	316	214	505	195	460	241	569	250	590	336	973
Wk 4 22-28Jul	155	366	182	430	219	517	158	373	163	385	202	477	286	675

AUGUST 2002 Events data was used for this month due to failure of one tube.

2002	MON		TUE		WED		THU		FRI		SAT		SUN	
	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People
Wk 1 29-04Aug	165	389	180	425	157	371	175	413	173	408	131	309	218	514
Wk 2 05-11Aug	155	366	194	458	209	493	180	425	176	415	312	736	299	706
Wk 3 12-18Aug	175	413	172	406	217	512	188	444	203	479	294	694	250	590
Wk 4 19-25Aug	147	347	201	474	228	538	200	472	232	548	198	467	314	741
Wk 5 26-01Sep	116	274	187	441	268	632	196	463	175	413	236	557	204	481

SEPTEMBER 2002 Events data was used for this month due to failure of one tube.														
2002	MON		TUE		WED		THU		FRI		SAT		SUN	
	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People
Wk 1 02-08Sep	105	248	141	333	152	359	133	314	129	304	155	366	166	392
Wk 2 09-15Sep	116	274	120	283	174	411	128	302	180	425	157	371	187	441
Wk 3 16-22Sep	117	276	142	335	144	340	141	333	125	295	117	276	186	439
*Wk 4 23-29Sep	138	326	152	359	192	453	173	408	180	425	173	408	230	543

OCTOBER 2002 Data highlighted in green are the daily averages for the site data set. Events data was used for this month due to failure of one tube.														
2002	MON		TUE		WED		THU		FRI		SAT		SUN	
	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People	Vehicles	People
*Wk 1 30-06Oct	164	387	192	453	210	496	172	406	164	387	111	262	139	327

AVERAGES	95	225	102	241	115	272	104	246	107	253	127	299	162	386
-----------------	-----------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------

Note: *These dates indicate school holidays;
 People estimates are based on vehicle numbers x 2.36, the average number of people in vehicles established from questionnaire, item # 8,
 Data that are highlighted are not included in the overall averages.

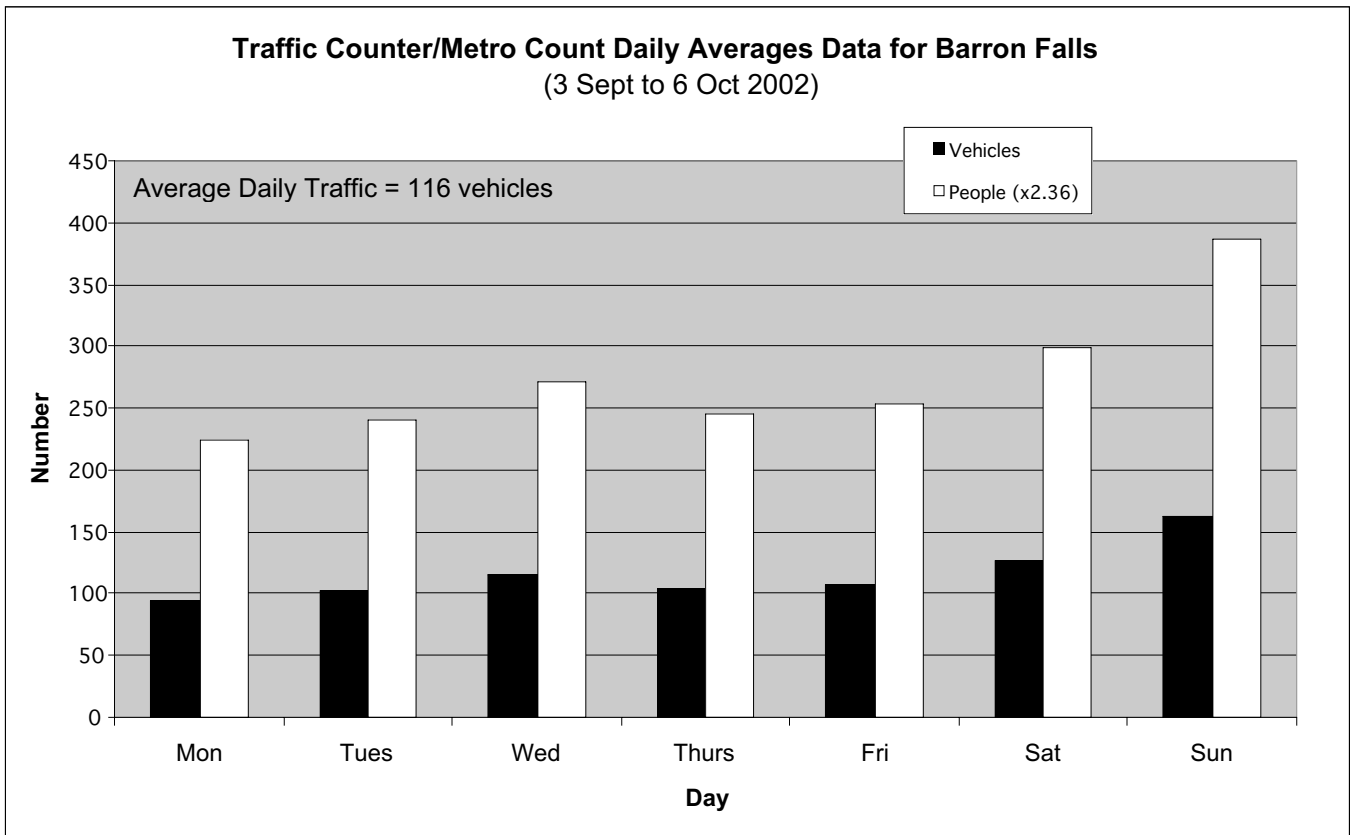


Figure 9: Average daily vehicle and visitor numbers for Barron Falls.

Comparative Traffic Counter Data : Barron Falls

(Source: Manidis Roberts 1993/1994 study, and WTMA Traffic Counter Records 1994-1997)

Figure 10: Monthly visitor estimates established since 1994

- Visitor estimates for the period 1994-1998 have been based on 3.5 people per vehicle as established by the Manidis Roberts 1993/94 study;
- Visitor estimates for 2001-2002 period have been based on 2.36 people per vehicle as established by this study;
- Visitor estimates were overall the highest in 1995;
- Visitor estimates for this study period, 2001-2002, show greater monthly variation;
- Consistently, the month figures were highest in June, July and August.

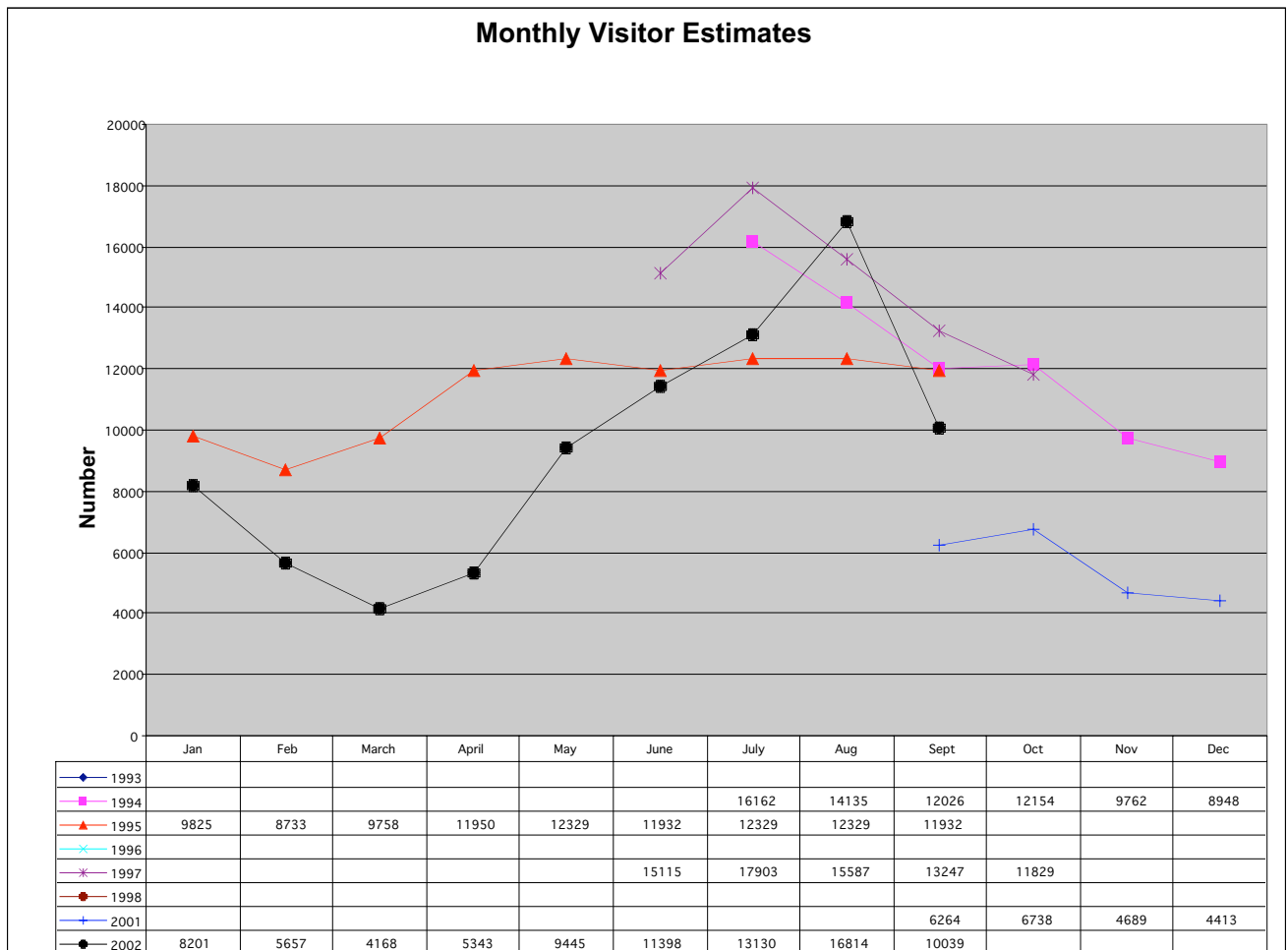


Figure 10: Monthly visitor estimates for Barron Falls established from WTMA traffic counter data 1994 – 1997, and this study, 2001-2002. Data were unavailable for the period 1993, 1996, and 1998 to 2000.

Section Four

Management Considerations



-
- Presentation
 - Opportunities
 - Specific Problems & Issues
-

Presentation

- **Significance** *WHA Status, Natural & Cultural Attributes*
 - **Management Agency** *Identity and Presence, Conservation and Protection*
 - **Information** *Sources and Signage*
 - **Structural Features** *Layout and Design, Infrastructure and Facilities*
-

*The Wet Tropics Management Authority (WTMA) was established to manage the area to meet Government commitments under the World Heritage Convention which are specifically to protect, conserve, **present**, transmit to future generations, and rehabilitate the Wet Tropics WHA*

(WTMA, 2000, pg.4).

Presentation in the context of a World Heritage property and with respect to Wet Tropics World Heritage Area (WTWHA) visitor sites encompasses the significance and meaning of World Heritage status, the nature of the natural and cultural attributes as ‘heritage values’ for which an area has been listed, and the historical context of the site, including its natural history and history of human use, association and meaning. Presentation also encompasses a number of other management responsibilities, including maintenance, communication, site design, amenity provision, and identification of those authorities and agencies responsible for the management of the site. While many of these considerations are often subsumed under the term ‘interpretation’, the term presentation is used here along with subheadings to more directly address the specific mandate and multiple responsibilities of a World Heritage management authority.

● **Significance:** *WHA Status, Natural and Cultural Attributes.*

WHA Status The presentation of Barron Falls as a WTWHA site appears to be problematic. It is of concern that approximately 75 percent of respondents were not aware that the area had any special significance, and only 41 percent of respondents appeared to be aware that this site was part of the WTWHA (Section 1 Visitor Survey pg 34-35). However, it is worth noting that this figure is higher than the overall figure (35 percent) for all ten sites combined. This is interesting when one looks at the place of residence of the visitors surveyed. Of those surveyed, 74.3 percent were non-local visitors. Of this non-local visitor group, the ratio of non-local Australian visitors to overseas visitors was roughly equal (Section 1 Visitor Survey pgs 20-21). In other words, non-local Australian and overseas visitors may be more aware that Barron Falls is a WTWHA site than locals who actually live in the bioregion.

Natural and Cultural Attributes A principal aspect of presentation of a WTWHA site is natural and cultural heritage interpretation. Barron Falls has a well defined presentation of indigenous cultural heritage interpretation signs located on the edge of the car park, and an Aboriginal mural at the beginning of the rainforest/lookout boardwalk (Section 2 Sign Inventory pgs 53-55). While this signage did not receive as high a rating as the other information sources (Section 1 Visitor Survey pg 30-31), it nevertheless plays a critical role in enhancing visitor awareness of this most important WTWHA attribute. It also should be noted that of the types of additional information sort by visitors, more indigenous cultural and historical information was requested. There is relatively little natural interpretive information present and what there is, is embedded in the indigenous cultural information (Section 2 Sign Inventory pgs 53-56). This lack of this specific type of information is reflected in the visitors’ requests for additional information of this aspect of the site, in particular information on flora and fauna and the geological history of the gorge (Section 1 Visitor Survey pgs 38-39). There are a number of places along the boardwalk where such information could be strategically placed. The addition of such signage may enhance visitor awareness of the natural attributes of the site and complement rather than detract from what is already a very structured site.

Management Agency: *Identity and Presence, Conservation and Protection*

Identity & Presence A related presentation issue is level of visitor and other user awareness of the management agency (ies) responsible for management of the site. It is a concern that 72.2 percent of visitors did not know who the management agency responsible for Barron Falls was when unprompted (Section 1 Visitor Survey pg 34-35). This is noteworthy given that this site has signage that specifically identifies QPWS as the management agency, albeit along the access road (Section 2 Site Inventory pg 53-54). This lack of awareness and/or confusion amongst visitors has clear implications for the non reporting of critical incidents or damage, the provision of any type of feedback to managers, the public representation of agencies, and management performance monitoring.

Conservation & Protection In general visitors and other users appear to be impressed with the overall management of the Barron Falls site as indicated by direct and indirect item responses relating to their appraisal of the condition and management of the natural and built environments (Section 1 Visitor Survey pgs 26-27; 32-33). In particular, results relating to the management of the natural environment appear to be closely aligned with those for the built environment, that is both aspects of the site were rated highly by visitors as being well maintained and in good condition. This would suggest that despite the site being highly structured, it appears to be working well in simultaneously minimising the impact on the natural environment and enhancing visitors' perceptions and experiences within such a setting.

Information *Sources and Signage*

Sources Presentation of the WTWHA and the decision to visit sites such as Barron Falls is closely linked to and influenced by the way in which relevant information is accessed or sourced. Interestingly, despite the majority of visitors to Barron Falls being non-local (Section 1 Visitor Survey pgs 20-21), most were repeat visits (this is usually only characteristic of sites that have a high local visitation rates). This may suggest that Barron Falls has had such a positive impact on non-locals that they consider it to be a favourite sight seeing location to which a return visit is well worthwhile. Additionally, the changing nature of the view at Barron Falls due to the weather may attract repeat visits by non-locals wishing to experience the gorge during the wet and dry seasons. Road signs and other sources of information frequently used by those unfamiliar with the site (travel guides, maps etc.) were also used as sources for obtaining prior information about the site (Section 1 Visitor Survey, pg 22-23). Barron Falls is perhaps one of the most highly publicised visitation places in the WTWHA, especially since it is an important attraction for the township of Kuranda and is linked to the Kuranda Scenic Railway.

Signage Another important presentation issue and management responsibility at sites such as Barron Falls is the provision of signage that clearly identifies rules and regulations, safety issues, and directions. Here such signage is evident throughout (Section 2 Sign Inventory pg 53). In addition, visitor appraisal of various aspects of such signage was moderately high (Section 1 Visitor Survey pg 30-31), and their overall condition was found to be good (Section 2 Sign Inventory pgs 53-56).

Structural Features *Layout and Design, Infrastructure and Facilities*

Layout and Design The current site layout and design at Barron Falls appears to be legible, functional and sensible (Section 2 Site Inventory pgs 48-49). It is a highly structured setting that, despite being a one way track, appears to be able to distribute visitors along its entire length and to accommodate at a number of locations those who wish to spend time taking in the view. One major problem that does exist and is related to layout and design is short cuts between one section of the track and another. This will be addressed in more detail in the problem section.

Infrastructure and Facilities The infrastructure and facilities at Barron Falls, in particular the boardwalk and viewing platform are considered by visitors to be aspects of the site that very much enhanced their experience (Section 1 Visitor Survey pgs 38-39). The boardwalk, which has wheelchair access, provides all visitors with a comfortable experience of the rainforest, and the lookout, a wonderful view of the gorge/falls. The infrastructure-natural environment relationship also appears to be work well, which was confirmed by visitor comments (Section 1 Visitor Survey pgs 41-42), and assessments made by the researchers. Visitor appraisal of the infrastructure and facilities was very high in regards to appeal, condition and management (Section 1 Visitor Survey pgs 32-33). Interestingly, the site infrastructure was more frequently commented on as enhancing visitor enjoyment than the natural features (Section 1 Visitor Survey pgs 38-39). All facilities present are well used (Section 1 Visitor Survey pgs 32-33). However, a major concern is the lack of toilet facilities which detracted from visitor enjoyment of Barron Falls and requested by many respondents (Section 1 Visitor Survey pgs 33, 39 & 42). Behavioural

observations made at Barron Falls (Section 1 Visitor Survey pg 44) confirmed the seriousness of the absence of this facility. Establishing toilet facilities near the car park needs to be urgently undertaken.

Opportunities

- **Recreational**
- **Experiential**
- **Educational**

Activity-based Opportunities

Experience-based Opportunities

Knowledge-based Opportunities

Opportunities in the context of protected area visitor sites have traditionally been seen to encompass a spectrum of activity-based recreation outcomes within which experience-based opportunities have been embedded. Knowledge-based considerations have on the whole been absent. Here in this discussion this concept has been broadened to profile and highlight the importance of experience and knowledge-based opportunities in addition to activity-based opportunities at sites such as Barron Falls as separate but interlinked entities. The term opportunities along with the subheadings thus allow for a more direct linking of management considerations to specific needs of visitors in terms of opportunities sought, available and utilised.

● **Recreational**

Activity-based

Activity-based The activity-based recreational opportunities available at Barron Falls are limited, largely due to the nature of the environment and the layout of the site. The main activities that visitors take part in are the short walk on the boardwalk through the forest, sight seeing and reading information about the site. The activities reported by respondents (Section 1 Visitor Survey pgs 28-29) indicate that the site was providing for and facilitating these activities.

● **Experiential**

Experience-based

Experience-based Experience-based opportunities at Barron Falls include observing the scenery and contemplation, as well as the opportunity of encountering, experiencing, and appreciating the WTWHA. Such experiential opportunities were identified by visitors as being the most important in terms of their reasons for visiting this site (Section 1 Visitor Survey pg 24-25), and were significantly more important than activity-based reasons. The majority of respondents agreed to some extent that their experience at Barron Falls was enjoyable and special.

● **Educational**

Knowledge-based Opportunities

Knowledge-based Knowledge-based opportunities at Barron Falls mainly focus on the indigenous aspects and ties to the site. Such opportunities are clearly linked to the cultural attributes of the site, as well as the human use and need for such places. The availability of such information is limited as there is only signage at the beginning of the boardwalk. There is little information on the natural and ecological aspects of the site, and like the cultural information, such information is not presented along the boardwalk or at the viewing platform. Visitors commented that additional information they would like to see presented at this site includes natural, ecological, geological and more cultural and historical information. As previously noted, there is the opportunity along the boardwalk and viewing platform to present such information but this would have to be carefully and sensitively laid out.

Specific Problems and Issues

 **Problems** *Risk Activity and Regulation Violation*

 **Issues** *Use/User Conflicts, Inappropriate Behaviour, Crowding and Overuse*

Barron Falls does not appear to present any substantial problems or issues. It is a well-managed, well-maintained site which has a moderate volume of visitation and use (Section 3 Traffic Information pg 58). Nevertheless there are some problems, issues and concerns related to visitor behaviour and use of the site that require consideration .

 **Problems** *Risk Activity and Regulation Violation*

Regulation Violation The one major observed regulation violation at Barron Falls was the presence of dogs (Section 1 Behavioural Observations pg 45), which is happening despite a number of signs identifying this as an infringement of the rules (Section 2 Sign Inventory, pg 53-56).

 **Issues** *Use/User Conflicts, Inappropriate Behaviour, Crowding and Overuse*

Use/user conflict Overall, use/user conflict appears to be rare at this site as evident in the visitor assessment of the behaviour of others at the site (Section 1 Visitor Survey pg 36-37). This is possibly due to the layout and design of the site (Section 2 Site Inventory pg 48-49) as well as the moderate levels of visitation and the absence of organised tours at the site (Section 3 Traffic Information pg 58).

Inappropriate Behaviour Inappropriate visitor behaviours at Barron Falls can be detrimental to the visitor experience of the setting as well as the natural environment. With regards to visitor disturbance inconsiderate behaviour such as yelling, standing on benches and dogs barking were observed during data collection (Section 1 Behavioural Observations pg 45). In terms of impacts on the environment, visitors were observed using undesignated tracks, damaging plants and littering (Section 1 Behavioural Observations pg 45). The considerable use of undesignated tracks and the to date absence of a management response is a concern. There are currently nine such trails, all of which are essentially short cuts between different sections of the designated track, and all of which are causing considerable erosion. To counter this highly destructive behaviour a substantial management response is required immediately. Such a response should incorporate not only the physical rehabilitation of these tracks but clear signage to accompany the rehabilitation activity communicating the destruction and risk associated with walking off the track/boardwalk.

Crowding and Overuse Visitor appraisal of the social environment suggests that during the data collection periods the site was not crowded (Section 1 Visitor Survey pg 37). The only suggestion of a time when visitors may feel crowded is when the train stops at the lower part of site and the platform becomes ‘crowded’ (Section 1 Visitor Survey pg 39). The vehicle / visitor data identifies the highest number of vehicles present at the site at any one time was 22, which is lower than the car park capacity of 32 cars (Section 3 Vehicle and Visitor Monitoring pg 58; Section 2 Infrastructure Inventory pg 49). It appears that the Barron Falls site is laid out in a way that enables it to accommodate the visitation rates it receives, and therefore crowding is not perceived to be a major issue by visitors.

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<http://www.wettropics.gov.au/>

WTWHA Reports 2001/2002

The reports produced by the Rainforest CRC Project 4.1 research team for the 2001 and 2002 Wet Tropics World Heritage Area site surveys and the Wet Tropics World Heritage Area community survey are listed below.

WTWHA Site Level Data Reports:

Bentrupperbäumer, J. M. (2002a) *Murray Falls: Site Level Data Report 2001/2002*. Rainforest Cooperative Research Centre: Cairns.

Bentrupperbäumer, J. M. (2002b) *Davies Creek: Site Level Data Report 2001/2002*. Rainforest Cooperative Research Centre: Cairns.

Bentrupperbäumer, J. M. (2002c) *Barron Falls: Site Level Data Report 2001/2002*. Rainforest Cooperative Research Centre: Cairns.

Bentrupperbäumer, J. M. (2002d) *The Crater: Site Level Data Report 2001/2002*. Rainforest Cooperative Research Centre: Cairns.

Bentrupperbäumer, J. M. (2002e) *Lake Barrine: Site Level Data Report 2001/2002*. Rainforest Cooperative Research Centre: Cairns.

Bentrupperbäumer, J. M. (2002f) *Marrdja: Site Level Data Report 2001/2002*. Rainforest Cooperative Research Centre: Cairns.

Bentrupperbäumer, J. M. (2002g) *Big Crystal: Site Level Data Report 2001/2002*. Rainforest Cooperative Research Centre: Cairns.

Bentrupperbäumer, J. M. (2002h) *Goldsborough: Site Level Data Report 2001/2002*. Rainforest Cooperative Research Centre: Cairns.

Bentrupperbäumer, J. M. (2002i) *Henrietta Creek: Site Level Data Report 2001/2002*. Rainforest Cooperative Research Centre: Cairns.

Bentrupperbäumer, J. M. (2002j) *Mossman Gorge: Site Level Data Report 2001/2002*. Rainforest Cooperative Research Centre: Cairns.

Bentrupperbäumer, J. M. & Reser, J.P. (2002a) *Measuring and Monitoring the Impacts of Visitation and Use in the Wet Tropics World Heritage Area: A Site Based Bioregional Perspective*. Rainforest Cooperative Research Centre: Cairns.

- Attachment: *Research Procedural Manual: Measuring and Monitoring the Impacts of Visitation and Use in the Wet Tropics World Heritage Area*. Rainforest Cooperative Research Centre: Cairns.

WTWHA Community Survey Reports:

Bentrupperbäumer, J. M. & Reser, J.P. (2002b) *The Role of the Wet Tropics in the Life of the Community: A Wet Tropics World Heritage Area Community Survey 2001/2002*. Rainforest Cooperative Research Centre: Cairns.

- Attachment: *Research Procedural Manual: Wet Tropics World Heritage Area Community Survey 2001/2002*. Rainforest Cooperative Research Centre: Cairns.