

# Visitor satisfactions, impact perceptions and attitudes toward management options on the Tongariro Circuit Track

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### **Great Walks visitor research programme**

This report is the first from the Great Walks visitor research programme. Reports from other track samples are published through the same series. While data were collected predominantly during January–February 1994, those visitor responses still provide valid indications of visit experiences and evaluations. Any significant management or use-pattern changes since then can be interpreted in light of these results. The main change in the Tongariro Circuit has been the closure of the Ketetahi Hot Springs to public use. Management reports indicate that this has led to a decline in the use of Ketetahi Hut, while use of other huts on the circuit has increased.

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# Abstract

Walkers on the Tongariro Circuit Track in Tongariro National Park were surveyed as part of a wider study of track users in New Zealand. Their visit evaluations were highly positive, suggesting little dissatisfaction or any need for urgent management action. Other results indicated that further improvements to visit quality would be best achieved through improving information services, particularly to overseas visitors, and by improving the use of space in huts. Perceptions of crowding and social and physical impacts indicated that visit-experience problems would emerge with future increase in use-levels, particularly due to hut congestion difficulties. Visitors favoured information-based management to address these increasing use-pressures rather than more regulatory controls.

# Executive summary

This report summarises key results from a survey of 1045 walkers on the Tongariro Circuit track. The survey was undertaken as part of a broader study of people doing overnight trips on the Great Walks. It provides information about visitor satisfactions with their visit experiences, about which aspects of visits may be detracting from the quality of these experiences, and about management options to address these issues.

## **Evaluation**

Evaluations of the visit were very positive. Overall satisfaction scores were very high, and few visitors considered the experience was in any way below their expectations. However the overall satisfaction measure was not linked to any other variables in the survey, which limits its practical value as a possible tool for any monitoring of visit-experience quality. High crowding perceptions indicated visit experiences were being compromised in some way, but there was no relationship between these perceptions and how the trip was evaluated overall (e.g., overall satisfaction scores). However higher crowding scores were linked with impacts related to perceived hut and track congestion. These results suggest that crowding scores represent a more sensitive first-measure of compromises to visit-experiences than overall satisfactions. Should the overall satisfaction be found to decrease, it is likely that major compromises to visit experiences will have already occurred.

## **Satisfaction with facilities and services**

Satisfactions with specific facilities and services were high, suggesting no immediate need for significant management interventions. However, differences in the degree of satisfaction between different groups of visitors indicated two areas where future attention is most likely to be required:

- Improvements to information services, and particularly how they relate to the needs of overseas visitors, will provide an important means of enhancing the quality of current visit-experiences.
- Managing hut conditions for increasing use-levels, particularly with regard to bunk numbers and hut facility space, will provide an important means to minimise any compromises to the quality of future visit-experiences.

## **Impact perceptions**

Most visitors were not substantially bothered by perceived social and physical impacts. But specific impacts related to hut congestion, track congestion, physical trampling along tracks, and perceptions of track overdevelopment were noticed by a majority of visitors. Although many indicated they were not bothered by these, representing substantial impact tolerance, these results reflect high awareness of impacts, and do indicate some compromises to the quality of visit-experiences were occurring. These impact perceptions were found to be higher among 'crowded' visitors, who were more bothered by hut

congestion and indicated greater overall awareness of track congestion. This pattern was reflected by results at Easter, which included a much higher proportion of visitors who indicated they felt crowded. For many of those who used campsites, the perceptions of crowding and congestion impacts were very similar to those who used huts.

These results indicate that while most types of impact perceptions will increase at higher use-levels, any detrimental effects on visit-experiences will arise first among the perceptions of physical and social congestion associated with increasing pressure on hut conditions. Track congestion associated with encountering others on the track each day, is an important secondary issue. Congestion issues at campsites are also likely to increase as a consequence of increasing overflow from huts. These results also emphasise that management actions to minimise any future compromises to visit-experience quality should focus first on hut conditions, as should any related monitoring. Management and monitoring of track congestion conditions represents an important secondary area. In both cases, the Easter period provides a useful model of higher use-level conditions.

### **Attitudes toward management options**

Visitor attitudes were varied toward the different options managers could apply to future use-level management. In general, visitors were most positive toward the use of information to encourage better choices of trip timing and behaviour on them, and most negative toward the more regulatory types of management approaches. New Zealand visitors were more negative toward management controls in general, although they appeared less resistant to developmental options than were the overseas visitors.

### **Conclusions**

While there were no urgent needs for immediate management actions to address current problems, the most productive directions for preventative actions to minimise future compromises to the quality of visit-experiences appear to be:

- Specific attention to the facility capacity (e.g., washing-up/cooking/drying) and bunk capacity of huts
- Specific attention to the facility capacity of campsites, and their use patterns relative to huts
- Optimising the use of space for comfort and access to facilities within and around huts
- Promotion of visitor activity patterns which minimise the numbers of other people seen on the track
- Provision of general information about the features of the Tongariro Circuit, and for planning visits to it (possibly more targeted at overseas visitors)
- Provision of information approaches which can forecast visitor numbers and hut loadings in advance, which indicate where and at what times on-track 'bottlenecks' during the days walk are most likely, and general suggestions on visit timing and organisation to maximise low density visit experiences.

Most initial gains should be made by concentrating on short-term physical changes to hut facilities and their operation, complemented by more long-term management to reduce real and perceived congestion from encounter levels on the track. Promoting beneficial behavioural changes through information use represents a more long term approach. Appropriate research and information backup could include:

- Assessing options for optimising the use of space and facilities in huts, and investigating the dynamics of hut facility and space use, particularly in higher use-level conditions
- Further investigation of the locations and types of visitor interactions which result in perceptions of track congestion, and consideration of management options to reduce these perceptions
- Investigating the role that use of campsites plays in visits, and the relationships with hut use
- Assessing the effectiveness of information-based techniques in influencing visitor use
- Investigating differences in the expectations and satisfaction evaluations by different visitor groups, particularly by age-group and nationality, and particularly for hut facility and service standards
- Investigating the greater perception of impacts by younger visitors and New Zealand visitors, particularly for aspects of hut and track congestion, and at more 'crowded' periods (e.g., Easter)
- Investigating the distinction between noticing an impact and tolerating it, and noticing an impact and being bothered by it (e.g., why an impact becomes negative)
- Investigating the resistance by visitors toward the more direct management approaches, the greater resistance to management in general by New Zealand visitors, and the role of perceived freedom in achieving satisfactory recreation experiences
- Investigating the possibility that attitudes toward more direct management approaches become more accepting under conditions of higher use-levels
- Investigating if the attitudes and preferences of New Zealand visitors to the Tongariro Circuit and other Great Walks differ in general from those of New Zealanders using other tracks.

Any monitoring of visit-experience quality should concentrate first upon hut congestion conditions at key huts, and second (if required), on track congestion conditions, particularly of numbers encountered at key points along the track during each day. Monitoring of campsite use patterns and congestion conditions may provide a useful complement to hut monitoring. Simple measures of overall satisfaction are unlikely to provide a useful means to monitor these conditions. Development of any techniques should include some testing during the more 'crowded' Easter period.

# Acknowledgements

The overall Great Walks study covered a wide variety of different track and recreation situations, and raised a number of large operational and analytical challenges. Help and advice on statistical approaches to these analyses was provided at various times by Margaret O'Brien and Ian West of Science and Research Division, and Roger Wilkinson of Landcare Research. Data entry for the project was carried out very effectively by the Tourism Green project team of Michael Chan, Victor Keogh, and Sulia Aumua. Ian Mackenzie of Science and Research Division provided the overall editorial assistance for final production of the reports. Thanks are also due to other Departmental staff who viewed the draft reports and made useful suggestions on their overall approach and contents.

For this specific report, overall co-ordination was managed by Terry Slee and Harry Keys of Tongariro/Taupo Conservancy. The actual application of the survey in the field was carried out by Daniel Ormsby as part of the Tourism Green project team. David Olsen also contributed to the design and operation of an associated trip-pattern survey as part of the overall work on the Tongariro Circuit survey.

# 1. Introduction

The Tongariro Circuit comprises a number of tracks which traverse alpine volcanic terrain in Tongariro National Park. This survey of the Tongariro Circuit includes the main 2 to 3 day Tongariro Crossing and associated low-use options through Waihohonou and Oturere huts. It was undertaken as part of a broader study of people doing overnight trips on the Great Walks. Tracks classified and managed as Great Walks are the primary locations for multi-day walking trips in the New Zealand backcountry. They are of high scenic and recreational value, and are characterised by high and increasing use-levels. This use pressure, and the need to provide for quality outdoor recreation experiences, requires that these tracks be specifically managed to provide high levels of facility and service provision without compromising the quality of the visit experience. To achieve this outcome, managers require information about visitor satisfactions with their visit experiences, and what aspects of visits may be detracting from these experiences. On this basis, the objectives of the Great Walks study were to:

- Provide brief description of overnight visitors to the Great Walks.
- Identify visitor satisfactions with the facilities and services provided.
- Identify visitor perceptions of crowding and use-impacts.
- Identify visitor attitudes towards management options.

Departmental staff at key huts administered standardised questionnaires to visitors on each track on their last trip night. A standardised questionnaire (Appendix 1) was developed for overnight walkers on the Great Walks system<sup>1</sup>. Overall, 1045 Tongariro Circuit visitors completed the survey questionnaire. These comprised 860 during the main 1993/94 Summer season, and a further 184 during the high-use Easter periods of 1994 and 1995. After data coding and entry, preliminary results were initially presented to managers as percentage tables. These descriptive results are summarised here in the questionnaire format (refer Appendix 1).

Other analyses were carried out on the database, and this report summarises the main findings derived from these descriptive and analytical results. The report presents overall evaluations by visitors of their visit experiences, and then investigates the specific aspects of facility and services satisfactions, social and physical impact perceptions, and attitudes toward different management options. Analyses are undertaken which assess how these specific responses vary between different groups of visitors, and how they relate to the overall evaluations. This approach enables any significant current or potential compromises to the quality of visit experiences to be clearly identified.

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<sup>1</sup> The Great Walks system comprises the Abel Tasman, Heaphy, Kepler, Milford, Rakiura, Routeburn, Tongariro, and Waikaremona tracks, and the Wanganui River journey. Surveys of the Travers-Sabine and Dart-Rees track circuits were also included, although flooding prevented any work being possible on the latter. A sample of sea-kayakers was also collected in Abel Tasman National Park. Some site-specific questions were used where required, particularly for questions related to boat use on the Wanganui River and the Waikaremoana and Abel Tasman Tracks; some non-applicable questions were omitted on the Milford Track; and it was possible to survey at Easter on the Tongariro, Heaphy and Kepler Tracks. German and Japanese translations were provided.

## 2. Visitor Information

Visitor characteristics revealed the predominance of a young and international group of people, largely unfamiliar with the Tongariro Circuit and generally inexperienced in backcountry walking activity. Short hut-based trips predominated on this visit. Some summary findings (refer Appendix 1 for details) included:

- A predominance (61%) of males
- Only 40% were New Zealanders, compared with 21% German, 10% British
- Most (76%) were aged between 20-40, and only 5% were aged 50 or more
- Most (83%) were on a first visit to the track, 17% were on their first overnight walking trip, and only 20% had done more than 20 such trips
- Their group sizes averaged a little over 3
- Most (75%) stayed 2 nights or less, with 68% in huts only, compared with 19% only camping

Compared with the Summer period, visitors at Easter were distinguished by a higher proportion of New Zealanders (69% *vs* 34% in Summer), a younger age distribution (77% *vs* 60% under 30 in Summer), larger group sizes (mean of 4.28 *vs* 2.95 in Summer), and longer trip durations (mean of 2.20 *vs* 2.05 nights in Summer). Summer trip durations were shorter due to the higher proportion of visitors spending only one night on the track (21% *vs* 32% in Summer).

New Zealand visitors represented a broader age-range, came in larger groups and had more previous experience of the Tongariro Circuit. Overseas visitors were more often in the 20-40 year age-range (87% *vs* 60% for New Zealand visitors), had smaller group sizes (mean of 2.59 *vs* 4.07 for New Zealand visitors), and had made fewer previous visits to the track (7% *vs* 30% for New Zealand visitors). However, previous experience of doing similar overnight walking trips was little different between the two groups.

Comparisons were also made of the characteristics of visitors who indicated they were either 'crowded' or 'uncrowded'<sup>2</sup>. However, the only notable differences were the larger group sizes of those who were crowded (means 3.32 *vs* 2.86), and their slightly greater experience of doing similar types of walks (mean score 3.07 *vs* 2.71). For uncrowded visitors, 24% were on their first such walk, compared with only 13% of the crowded visitors. While neither group had greater previous experience of the Tongariro Circuit, this difference in the numbers of similar walks done suggests that the crowded visitors may be more experienced. However, apart from these differences, the crowded and uncrowded visitors could not be distinguished from each other on the basis of their descriptive characteristics.

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<sup>2</sup> Refer to Section 3.2 and Appendix 3 for descriptive discussion of this crowding distinction.

# 3. Evaluation of the quality of visit experiences

Overall evaluation of the quality of visit experiences was assessed through four questions related to overall satisfaction and perceptions of use-levels (refer Appendix 1 for question details).

## 3.1 EVALUATION OF OVERALL SATISFACTION

Two questions allowed visitors to evaluate the quality of their overall visit experiences:

- An *overall satisfaction* score (how satisfied or dissatisfied with the trip — Question 5)
- An *expectation fulfilment* score (was the trip better or worse than expected — Question 4)

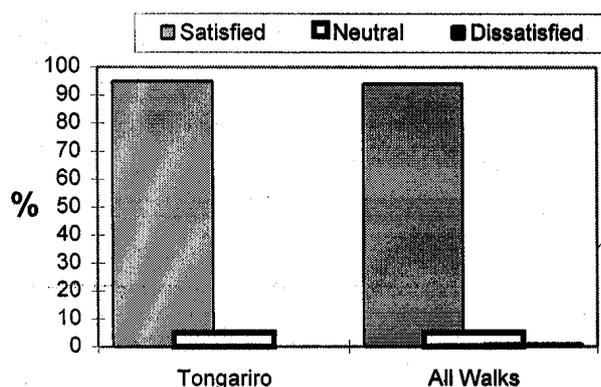


Figure 1. Overall satisfaction.

Positive responses from visitors to these questions represented their evaluation that they had achieved high quality recreation experiences on their visit. Figures 1 and 2 show that satisfaction on the Tongariro Circuit (and other tracks) was very high (95%), and most experiences were as good as had been expected, or better (90%).<sup>3</sup> Virtually nobody indicated they were dissatisfied with their trip. The main conclusion drawn from these overall evaluations is that visitors are achieving quality experiences on the Tongariro Circuit.

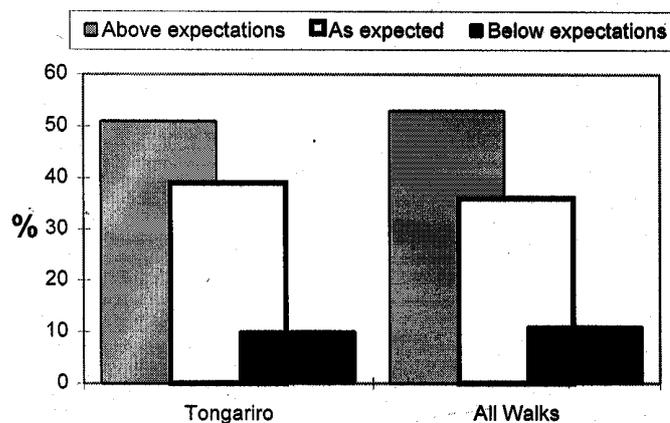


Figure 2. Fulfilment of trip experience expectations.

<sup>3</sup> While these responses were similar in degree, they were only weakly correlated with each other ( $r = 0.34$ ).

### 3.2 EVALUATION OF USE-LEVELS

Two further questions allowed visitors to evaluate the quality of their visit experiences in relation to use-levels:

- A score for perception of *crowding* (overall, did they feel crowded on the trip — Question 2)
- An evaluation of *expected visitor numbers* (seeing more/same/less than expected — Question 3)

Positive responses from visitors indicating low levels of crowding, and not seeing more people than expected, would have reinforced overall evaluations of achieving high quality visit experiences. However, Figures 3 and 4 show that crowding perceptions were substantial, and that many visitors saw more others than they expected. In particular, crowding was indicated by 68% of Summer and 86% of Easter visitors (Figure 3). Extreme crowding scores were given by 23% of Easter visitors, compared with 4% in Summer (refer Appendix 3). Twenty-three percent of Summer and 51% of Easter visitors indicated they saw more people than they expected (Figure 4).<sup>4</sup> In both cases, Tongariro responses indicated greater pressures from visitor numbers than was apparent for most other tracks in the study (also refer Appendix 3), and the Easter responses indicated a particular extreme of these pressures.

Other questions were asked which aimed to identify any focal points for crowding perceptions on the Tongariro Circuit (Question 3). Overall, 73% of visitors indicated that some places were more crowded than others, and of these visitors, 75% included hut sites in their examples while 42% included track sections. Appendix 1 summarises other crowding information from Question 3, which indicates that Ketetahi Hut, and to a lesser extent Mangatepopo hut, were the focus for crowded hut sites. Sites on the track section traversing Mt Tongariro were the focus for crowded track sites. These results indicated issues related to hut use were likely to be the key to crowding perceptions, while track issues appeared important secondary influences.

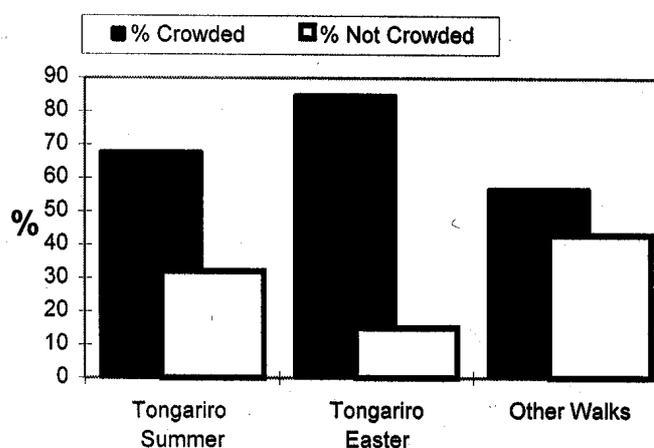


Figure 3. Summary of crowding perceptions.

<sup>4</sup> These responses were only weakly correlated with each other ( $r = 0.39$ ).

Although substantial crowding perceptions were reported, and these could be interpreted as representing use-levels which are over the ‘social capacity’ for this visit experience<sup>5</sup>, these were not significantly linked with the overall satisfaction evaluations. In other words, higher crowding perceptions were not associated with higher evaluations of dissatisfaction with the trip, or it being considered worse than expected. While some visitors indicated they did experience crowding, this did not appear to affect how they felt about their overall trip.

Despite this finding, the high crowding levels themselves suggest strongly that some degree of compromise to the quality of visit experiences was occurring (refer Appendix 3). Subsequent sections in this report present analyses which indicate where some of these compromises may occur in relation to satisfactions with particular facilities and services (refer Section 4.2), or with perceptions of particular social and physical impacts (refer Section 5.2).

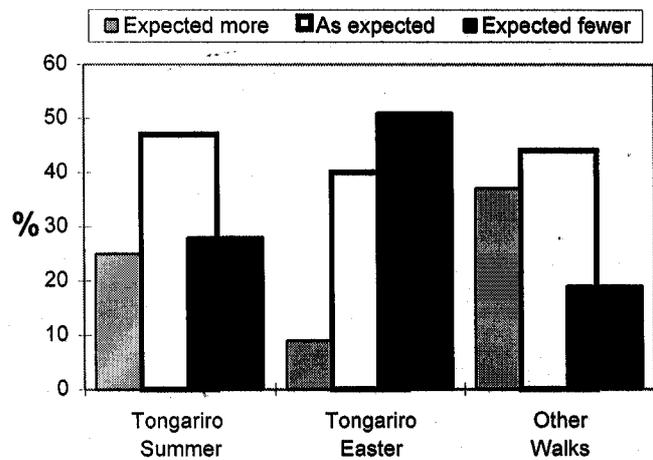


Figure 4. Fulfilment of visitor number expectations.

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<sup>5</sup> Appendix 3 discusses management interpretations of the crowding scores, and presents comparative responses from other tracks.