

Planning for visitor management at Mason Bay (Rakiura National Park, Stewart Island)

DOC RESEARCH & DEVELOPMENT SERIES 222

Kerry Wray, Michael Harbrow, and Broniek Kazmierow

Published by
Science & Technical Publishing
Department of Conservation
PO Box 10-420
Wellington, New Zealand

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DOC Research & Development Series is a published record of scientific research carried out, or advice given, by Department of Conservation staff or external contractors funded by DOC. It comprises reports and short communications that are peer-reviewed.

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Hardcopy is printed, bound, and distributed at regular intervals. Titles are also listed in our catalogue on the website, refer <http://www.doc.govt.nz> under Publications, then Science and research.

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ISSN 1176-8886

ISBN 0-478-14030-4

This is a client report commissioned by Southland Conservancy and funded from the Science Advice Fund. It was prepared for publication by Science & Technical Publishing; editing and layout by Ian Mackenzie. Publication was approved by the Chief Scientist (Research, Development & Improvement Division), Department of Conservation, Wellington, New Zealand.

In the interest of forest conservation, we support paperless electronic publishing. When printing, recycled paper is used wherever possible.

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Planning for visitor management at Mason Bay (Rakiura National Park, Stewart Island)

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ABSTRACT

Mason Bay forms part of the North West and Southern Circuit tramping tracks on Stewart Island, New Zealand and is an increasingly popular destination for trampers, hunters and day visitors. The area provides a special remote experience and is nationally recognised as possessing unique conservation values. Visitation levels at Mason Bay have grown significantly in recent times. This has raised management concerns about visitor impacts on the natural environment and the recreation experience. This research was undertaken to explore management and stakeholder concerns, and to provide baseline data on visitor flows and impacts. The project comprised three stages; firstly stakeholders and managers were consulted in order to identify values and concerns. These concerns provided a basis for a field research programme to empirically measure resource values and impacts. Research data were then reported back to stakeholders in order to assess limits of acceptable change. Findings illustrated that, at present, the majority of visitor impacts are social, and are likely to be due to the increasing diversity of visitor groups using the area. Social impacts included crowding, unrealistic visitor expectations, inappropriate visitor behaviour and conflict between visitor groups. The impacts are discussed in relation to stakeholder and manager views, and recommendations are made as a result. The paper concludes that the Mason Bay recreation experience must be regarded in a wider context, and that, under growing pressure from tourist activities and increased numbers, the Department must be clear about the recreation experience they wish to provide.

Keywords: visitors, recreation, surveys, tourist expectations, behaviour, change management, Mason Bay, Rakiura National Park, Stewart Island, New Zealand

© October 2005, New Zealand Department of Conservation. This paper may be cited as:
Wray, K.; Harbrow, M.; Kazmierow, B. 2005: Planning for visitor management at Mason Bay
(Rakiura National Park, Stewart Island). *DOC Research & Development Series 222*.
Department of Conservation, Wellington. 81 p.

1. Introduction

1.1 OVERVIEW

New Zealand is internationally renowned for its range and diversity of natural attractions. The outdoors is widely promoted to potential visitors to New Zealand through an intense international marketing strategy (Devlin et al. 1995). The consequences of this are acutely felt in the Southland region, where, according to the 2001 International Visitors Survey, the most frequented attractions are predominantly nature-based (TRCNZ 2003). The country's newest national park (Rakiura National Park) opened on Stewart Island in March 2002, and is expected to draw increasing numbers of domestic and international tourists to the region (Booth & Leppens 2002). A significant feature of the island's landscape is its comparatively undisturbed and pristine nature. It has a strong reputation as a remote destination where you can 'get away from it all' and enjoy nature on nature's terms:

'The face of the earth is changing so rapidly that soon there will be little of the primitive nature left. In the Old World, it is practically gone forever. Here then, is Stewart Island's prime advantage and one hard to overestimate. It is an actual piece of the primeval world.'

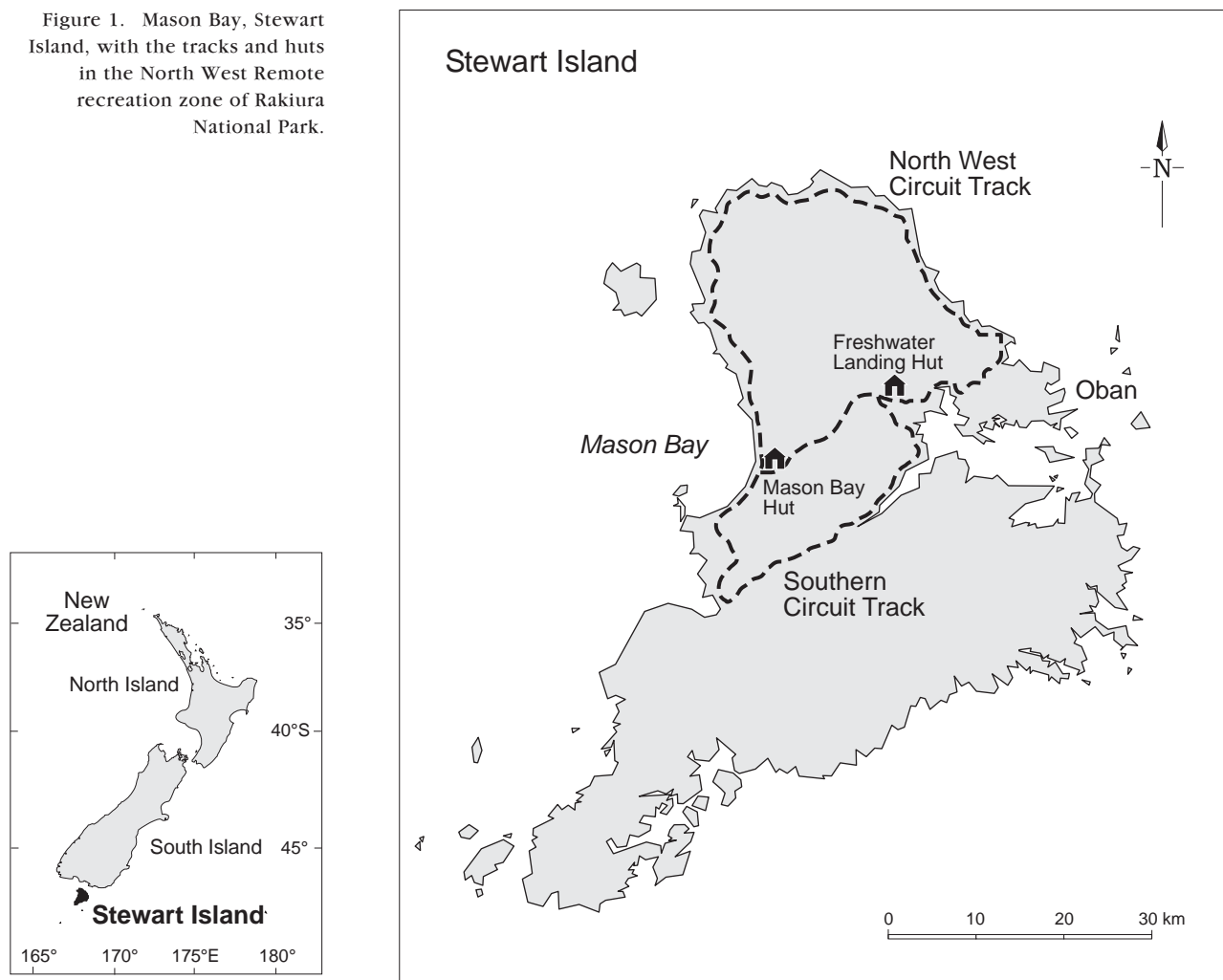
(Leonard Cockayne 1909, cited in Hall-Jones 1994: 139)

However, the growing popularity of nature-based tourism is feared to pose a threat to the special remote qualities of Stewart Island. In both a national and international context, preserving the island's social and ecological qualities is considered to be of utmost importance, as it is one of the few remaining places in the world with such a dominance of wilderness and remote opportunities.

Under the Conservation Act (1987), the Department of Conservation (DOC) has been given the role of conserving the natural and historic heritage of New Zealand for the benefit of present and future generations. DOC endeavours to provide a range of recreational opportunities and visitor related services in areas under its management, whilst ensuring that visitor impacts do not compromise intrinsic natural and historic values. There are inherent conflicts in promoting public access to areas with these important values, including the protection of the resources and also maintaining a quality visitor experience (Sutton 2004).

This management challenge is very apparent in DOC's Southland Conservancy and the Mason Bay area of the Rakiura National Park, Stewart Island (Fig. 1). Mason Bay is a unique windswept coastal area situated in the North West Remote (DOC 1997) recreation zone of the island. It forms part of the challenging North West and Southern Circuit tramping tracks and is becoming an increasingly popular destination in itself for day and overnight visitors who access the area either by plane, landing on the beach at low tide, or by water taxi and foot, along the Freshwater to Mason Bay Track. The area contains one of the finest examples of dune systems remaining in New Zealand. It also supports a number of threatened species including the creeping herb *Gunnera hamiltonii* and the Southern Tokoeka or Stewart Island Brown Kiwi (*Apteryx*

Figure 1. Mason Bay, Stewart Island, with the tracks and huts in the North West Remote recreation zone of Rakiura National Park.



australis), which can often be seen foraging during the day along the Freshwater-Mason Bay track that traverses this area. The Department is concerned that recent increases in visitor numbers and changes in visitor type, particularly due to a growth in air traffic to the area, are having significant social and environmental impacts. Specific management concerns include: crowding, conflict between users, visitor displacement (in time and / or space), dilution of the remote experience, demand for improved facilities and structures, disturbance of kiwi habitats, degradation of natural landscapes and ecosystems, and increased noise.

The Stewart Island / Rakiura Conservation Management Strategy (CMS) (DOC 1997) is a 10-year strategic plan that provides an overview of conservation issues and gives directions for the management of the area. Specific management objectives in the CMS for the Mason Bay area are:

- To 'ensure that recreation development does not cause irreversible damage to the natural and historic resources'
- To 'provide and maintain facilities to both enhance visitor experience and minimise visitor impacts'
- To 'establish baseline records of natural and historic resources ... monitor the impact of recreational use, recreational facilities and visitors to the Island on these resources'

- To ‘develop limits of acceptable change for recreation opportunities’
- To ‘raise visitors’ awareness of their potential impacts on natural and historic resources and seek to minimise adverse effects’
- To ‘reduce conflicts between users’

The overall aim of this study is to obtain accurate baseline data on the current use patterns and visitor impacts at Mason Bay, and to develop an appropriate monitoring strategy to inform the future management of the area. The specific study objectives, which are consistent with the current CMS (DOC 1997) are:

- To identify information gaps within the existing use and impact data for Masons Bay
- With input from stakeholders and management, to identify issues and concerns regarded as pertinent to the future management of the area
- To design and implement a monitoring programme to address these concerns and identified knowledge gaps relating to use levels, user groups and use types, and user impacts
- To evaluate the level of stakeholder and management acceptability of certain impacts occurring in the area
- To design a replicable methodology that will facilitate future monitoring and management of the area
- To explore the application of a methodology that may be applied in other locations

1.2 SITE ISSUES

The Department of Conservation manages approximately 93% of the land on Stewart Island and is the primary provider of recreation activities. Mason Bay offers a remote wilderness experience with opportunities for solitude and isolation. The Northwest and Southern Circuit tracks offer a challenging means of accessing the area, while air and water taxi access allow visitors to experience the wildness and peace with relative ease. The Southern Circuit currently receives approximately 300 visitors per year, compared to 700 on The North West circuit. (DOC 1997). Until the early 1990’s, the area was utilised almost exclusively by trampers and hunters. However, since a dramatic growth in visitor numbers during the summer of 1993/94¹, the area has continued to increase in popularity, fuelled by the increasing ease of access to the area and opportunities to view kiwis in their natural habitat.

The CMS (DOC 1997: 112) states that ‘if improvements to affordable transportation such as high speed launches, aircraft or helicopters continue then it is likely that demand for access to the wilderness and remote opportunities of Stewart Island will grow’ and (DOC 1997: 138) that ‘Increasing use, and particularly increases in air traffic into the [Mason Bay] area mean that the area is gradually losing its remote qualities’. Visiting via these methods of transport requires minimal time and effort and enables many visitors to experience a

¹ This was believed to be the result of increased numbers of water taxis and kayaks travelling to Freshwater landing, making access to Mason Bay much easier (DOC 1997).

remote setting that, for them, would otherwise be inaccessible. This has led to concern over increasing use and the resulting impacts. However, to date there has been little formal research into the scale and nature of the issue.

DOC's ability to manage visitor numbers at Mason Bay is limited. Since the inclusion of Freshwater River in the Rakiura National Park, DOC has been able to control the number of people entering the area via water taxi through concession limits. However, the land below mean high water spring at Mason Bay (the aircraft landing zone) is managed by Environment Southland, administered through the Coastal plan, and is, therefore, outside the Department's immediate jurisdiction.

1.3 HISTORIC/CULTURAL VALUES

The Mason Bay area was an important stopover location and gathering place for iwi on titi / muttonbird gathering expeditions, and contains a Maori site of international cultural significance. It is also the site of two homesteads which form an important part of the area's farming history. The Island Hill homestead is now managed by the Department, but the Kilbride Homestead remains on a private lease. The track from Freshwater to Mason Bay (which was once a road) also includes important sections which illustrate the style of swamp land road construction. Although the protection of these historic features is of great importance to DOC, further increases in visitor numbers in current areas of use are not regarded as major threats, and impacts are likely to be negligible (R. Egerton, DOC Southland, pers. comm. 2004).

1.4 RECREATION OPPORTUNITY VALUES

The Recreation Opportunity Spectrum (ROS) is a mapping tool that is used to classify recreational areas into zones according to the activities, the setting and the kind of experience that visitors should expect to encounter. Under the current ROS classification, the management goals for the Mason Bay area are complex. The North West and Southern circuits are zoned 'remote', appealing to fit, experienced and self-reliant visitors who are actively seeking the challenge, risk, and sense of solitude that is provided by such a setting (DOC 1995). The Mason Bay to Freshwater track, however, is zoned 'back-country walk-in', appealing to less experienced visitors seeking a low risk, comfortable experience in the back-country.

The CMS (DOC 1997: 112) notes that the protection of remote and wilderness zones on the island is of international significance, but that the values of these areas are easily diluted through increased use. In terms of maintaining and enhancing visitor experience on the island's tracks, it states that 'In order to maintain the opportunities prescribed for each track, limits of acceptable change² for physical, environmental and social factors will need to be established to

² See methodology section 3.1 for an explanation of the Limits of Acceptable Change process.

ensure that experiences are not diluted over time by increasing numbers, inadequate facilities or degradation of the environment'. Suggested methods for facilitating this include '... increasing the dissemination of information about the tracks to ensure the matching of people's expectations to actual track conditions' and 'the [possible] establishment of methods of limiting impacts such as restricting numbers or developing boardwalks' (DOC 1997: 106). It states, however, that track 'hardening' on the North West and Southern Circuit tracks, should only take place if there is clear evidence of environmental damage: 'as far as possible the tracks will not be developed to improve user comfort as this would be contrary to their remote and challenging settings' (DOC 1997: 138).

In summary, with regard to Mason Bay, the CMS states:

'all management of the area will be directed at maintaining its special remote opportunities, but limiting facilities and providing for camping around the present hut site. This is to minimise impacts elsewhere, so that away from the hut site, visitors can still have a remote experience'

(DOC 1997: 138-139)

The issue here is whether DOC will be able to provide the right balance between allowing increasing numbers of visitors to view what was once a relatively inaccessible area and maintaining the remoteness, peace and solitude that the area is famed for.

2. Existing use and impact data

A variety of visitor use data and information on impacts related to Mason Bay has been collected over time. Much of the information was anecdotal, and therefore of limited use in monitoring absolute numbers or specific visitor characteristics. This section provides a synopsis of the existing data, and concludes with a summary of information gaps that need addressing. Seven different data sources were identified, and each one will be reviewed separately.

2.1 PREVIOUS STUDIES

No visitor impact studies undertaken on Stewart Island have focused specifically on the Mason Bay area. The main research that we can draw on is the dissertation written by Simon Finnegan in April 1999. He analysed visitors' perceptions of the Rakiura track and the North West Circuit and Southern Circuits, with the primary objective of ascertaining whether visitors' experience coincided with their expectations. The main findings indicated that overall visitor satisfaction on the three tracks is high. Reported sources of dissatisfaction included excessive board walking and congestion in huts. Main reasons for visiting the Mason Bay area were scenery, solitude and the chance of seeing a kiwi. Experienced trampers generally held more accurate expectations of hut and track conditions, and inexperienced walkers were noted as an area of management concern.

Kevin Robinson carried out a dissertation research project on the economic contribution of hunters to Stewart Island (Robinson 2002). He found that Mason Bay homestead was one of the most popular hunting blocks, and that few hunters chose to use the Mason Bay trampers hut as their base. Ease of air access and proximity to three hunter camps was noted as major reasons for this.

2.2 TRACK COUNTERS

Track counters are installed on most of the major DOC maintained tracks throughout the island. A track-counter at the end of the Freshwater to Mason Bay track records the number of walkers using this section of track, and this will represent almost all visitors to Mason Bay. Activity over this counter has risen by more than 300% in a 10 year period. The Department believes that much of this growth can be attributed to visitors accessing the area by water taxi or aircraft, as there has been no significant increase in recorded numbers walking the Circuit tracks.

2.3 HUT BOOK DATA

Visitor books are supplied to all huts managed by the Department of Conservation. Their main purpose is for trampers to record their trip intentions, including party size and planned onward route (information to assist in the case of accidents or emergencies). In recent years, this hut book data has been entered into the Southland Visitor monitoring Database and analysed to provide information on visitor numbers, characteristics and use of DOC facilities. This information is useful for gathering trend data, but because of uncertainty surrounding the numbers that actually sign the book, it is not recommended as an accurate means of monitoring absolute visitor numbers.

2.4 HUT WARDEN DATA

During the past five years, there has been a hut warden present at Mason Bay for some part of the period from December to April. Alongside their regular duties of cleaning, maintenance and collecting hut tickets, hut wardens have also collected data on visitor characteristics (through tally charts), and have carried out various surveys. Data for the peak periods over the four years for which there is information have recently been summarised. This illustrated a clear growth in the number of people using Mason Bay Hut—from a mean of 8.5 persons per night in summer 1999/2000 to a mean of 13.5 persons per night in summer 2002/03. The nationality analysis was consistent with hut book data, with New Zealanders making up approximately 50% of users, and Germans, North Americans and British each with around 9%. Over half of the visitors to Mason Bay during the summer season 2000/03 used some form of motorised transport to access the area, and 17% spent more than one night at Mason Bay. The 'comments' section of the hut warden surveys provided information on visitors' motivations, expectations, and satisfactions, and informed the

researcher of many of the issues to be addressed through this study. The main issues can be summarised as follows:

- Loss of remoteness
- Crowding / congestion—in huts and on the track
- User conflict—differences in motivations, expectations, experience and satisfactions
- Perceived environmental impacts—kiwi disturbance, littering
- Access issues—increased numbers of visitors arriving by plane / water taxi. Links to crowding, loss of remoteness, use conflict and environmental impacts
- Track maintenance issues—hardening versus letting nature take its' course
- Inadequate information provision—Accurate pre-departure information may improve visitor satisfaction

2.5 CONCESSION RETURNS

Any commercial recreation and tourism activities that take place in areas administered by the Department require permission to do so in the form of a concession agreement. The CMS states that:

‘Concession activities [on Stewart Island] will be kept at levels which will not detract from other visitors’ use and enjoyment. This may mean placing limits on the number of commercial operators ... particularly where opportunities ... are more towards the remote / wilderness end of the spectrum’

(DOC 1997: 117)

Given the growing popularity of Mason Bay as a short-stay destination, there is increasing demand for commercial use of the area. At present, there are two operators with guided walking concessions and four water taxi companies who run transport operations on Freshwater River. Both concession agreements will be subject to review when the Rakiura National Park management plan comes into force. While the number of walkers is relatively low, activity return data from three of the four main water taxi operators³ during peak season over a three year period illustrated an increase of almost 47% in passenger numbers. This growth is likely to be placing increasing pressure on hut and track facilities.

2.6 HUNTER BLOCK INFORMATION

Mason Bay enjoys a long-standing reputation as a deer hunting destination. The population of white-tail deer (*Odocoileus virginianus borealis*) found on the island is the largest in the country available for recreational hunting purposes (DOC 1999). Hunting return figures (i.e. number of deer shot / seen whilst hunting) for the past 10 years seem to suggest that the deer population at Mason

³ One of the regular operators refused to supply data, so the figures do not accurately reflect **total** passenger numbers for the chosen periods. However, the information is still useful for trend analysis.

Bay is relatively stable, but at a high level (B. Beavan, DOC pers. comm. 2004). Hunters are encouraged to travel independently of the hut system on the island (DOC 1997), and each of the three hunting blocks in the area has its own hunters hut (Homestead, Martins Creek, and Cavalier). An assessment of the hunter camps earlier this year, including photo monitoring and a campsite inventory, found that obvious physical impacts are concentrated in the area immediately surrounding the camps. Accurate data on hunter numbers is limited. However, monthly records of the number of hunting parties booking blocks are available for the past five years (DOC 2003). Almost all hunting groups use the hunter camps as their base, rather than the trampers hut, and hut book data and hut warden surveys have given few indications of negative interactions between hunters and trampers. Hunters represent a distinct user group and are relatively few in number.

2.7 BIODIVERSITY RESEARCH

Physical and ecological impacts of recreationists include the removal of plant cover, a reduction of species diversity, alteration to soil properties and increased barren and eroded surfaces⁴ (Kuss et al. 1990). Wildlife impacts include changes in animals' behaviour, breeding population levels, species composition and diversity. Wildlife impacts can result from direct human interference or from indirect effects as a result of human alteration to habitat (Devlin et al. 1995). Biophysical and wildlife impacts vary according to the frequency and amount of use, season of use, site conditions and type of activity (Devlin et al. 1995). The level of impact is, therefore, likely to be higher during the peak visitor season at Mason Bay.

Visitor impacts on the physical and natural environment at Mason Bay are likely to be minor, due to the fact that the area has already been subject to extensive human modification. An inventory of the trampers' hut and campsite area took place earlier this year. This included the measurement of various use and impact indicators (informal fire sites, faecal counts, vegetation damage) and the establishment of photo points. The inventory has provided benchmark data which can be used to ascertain whether future use levels are having a significant impact on the site footprint. Track transects and photo points were also established at various points along the Freshwater to Mason Bay Track as a baseline for measuring the amount of track degradation over time⁵. At present, the extent of apparent track degradation is considered to be lower than on other sections of the North West and Southern circuits, and any human impacts have been confined to the area surrounding the hut (J. Newman, DOC pers. comm. 2004).

The Department is concerned about potential visitor impacts on the kiwi population at Mason Bay. Hut warden questionnaires during the summers of 2001 and 2002 found that walkers often came within 1–5 m of a kiwi, spending longer than one minute interacting and observing (Crosbie 2002). Despite the

⁴ Note that recreation facilities direct visitor use, and impacts are, therefore, largely concentrated around facilities.

⁵ For more information on this research, please contact DOC Southland Conservancy.

fact that strict kiwi viewing guidelines are advocated by DOC through notice boards outside the hut, it is unsure how many people adhere to them. Kiwi in the Mason Bay area have been subject to extensive monitoring by the Science & Research Division (DOC) since 1988. Call monitoring and an intensive census (where birds from 15 territories are caught and banded) are carried out on a five-yearly cycle. This enables the population density of birds to be determined and compared, along with information on the longevity of birds, partner changes, breeding success, recruitment, and indirectly any effects from visitors. Results so far have shown that there has been no significant change to the kiwi population at Mason Bay over the past 15 years, although a few individual territories have changed slightly. For the kiwi, the most likely reaction to an increase in visitors would be an avoidance strategy (R. Colbourne, DOC, Wellington, pers. com 2004). As noted by Cole et al. (1997), attempting to quantify the relationship between visitor usage and environmental degradation or wildlife disturbance is extremely difficult, and requires intensive study and long-term data.

The review of current use and impact data has enabled the identification of the following information gaps:

- Baseline data on track standards*
- Baseline data on the site footprint*
- Impacts on kiwi populations*
- An accurate picture of stakeholders' concerns
- An accurate breakdown of visitor flows at Mason Bay
- Numbers of people using the hut facilities
- A breakdown of visitor types at Mason Bay
- Concession returns
- Aircraft use levels
- Visitor perceptions—motivations, expectations, experience and satisfaction

* For various reasons, the first three gaps listed here will not be covered in this study. These subjects are being addressed alongside this study, by managers and specialists within other areas of the Department.

3. Methodology

Drawing on reviews of planning frameworks in Canada, the United States and Australia, the Department of Conservation has been developing and implementing systematic processes for recreation and tourism management planning in New Zealand. For this study, a multi-phase approach based on the 'Limits of Acceptable Change' framework (Stankey et al. 1985) was used. The method included a two-stage focus group, made up of stakeholders; an on-site visitor survey; on site observations; and participant observation. The fieldwork programme was designed to gather baseline data on visitor flows and characteristics at Mason Bay, and to address some of the management and stakeholder concerns. Both qualitative and quantitative techniques were used.

3.1 LIMITS OF ACCEPTABLE CHANGE FRAMEWORK

The Limits of Acceptable Change (LAC) framework is related to the issue of recreational carrying capacity (Shelby & Heberlein 1986) (i.e. how much use an area can or should be allowed to tolerate). It was developed by park managers in the USA in the mid 1980's as a means of coping with increasing demands on public recreational areas, and to address weaknesses in existing park management plans⁶ (Cole & Stankey 1998). LAC seeks to define a compromise between protecting resources and the visitor experience and allowing continued access to recreational activities. The process seeks to define the minimally acceptable conditions or limits for social and physical resources in an area. Once a baseline of information has been gathered, management techniques are suggested to maintain the area within the acceptable limits. Ongoing monitoring is then required to determine whether these limits have been breached, and, if necessary, to justify further management action. A crucial feature of the LAC process is an understanding that acceptability thresholds cannot be determined until clear management objectives have been established for the area in question.

There are five basic stages to the LAC framework, and these are briefly outlined below.

Stage 1— Identify the issues (preferably through a collaborative process involving input from stakeholders)

Stage 2— Inventory a baseline of the current social and resource conditions

Stage 3— Define the minimally acceptable standards / limits

Stage 4— Implement strategies to manage the area to remain within these limits

Stage 5— Monitor (against benchmark data) and evaluate to ensure that management objectives are being met

The current study follows the LAC framework, beginning with Stage 1 and working through to the start of Stage 4—recommending management strategies to manage Mason Bay within the acceptable limits. The latter part of Stage 4 will be carried out by DOC management planners following this report, and Stage 5 (monitoring) will be undertaken in the future to measure the success of any strategies that are put in place.

3.2 FOCUS GROUP STAGE 1

3.2.1 Qualitative assessment of stakeholders' concerns

A focus group is a carefully selected group of people who possess certain characteristics (often an interest in the topic being discussed) and come together to discuss a particular issue or series of issues (Kreuger & Casey 1994). The recommended size of a focus group is 6-10 people. Anything smaller may limit the potential for gathering information, and anything larger may impede

⁶ These included an inadequate knowledge of existing park conditions and trends and a lack of specific and achievable management objectives.

participation and interaction (Hancock 1998). The focus group method was chosen as the most appropriate for this study for several reasons:

- Because the politically charged nature of the issue in question required input from stakeholders
- To allow participants to exercise greater control in the decision making process (Kazmierow et al. 2000)
- To ensure that that the relevant sectors of the community were involved
- Because participation rates are generally very high

The focus group method involved a diagnosis of the issues involved in the management of Mason Bay, as defined by stakeholders. Individuals were selected on the basis of certain criteria (described below), and invited to form part of a qualitative meeting. During the meeting, values assigned to, and opportunities provided by Mason Bay were identified, and related issues and concerns were discussed.

For the purpose of the study, stakeholders were defined broadly as individuals or representatives of groups who fitted one of the following criteria:

- Influence the management of the area
- Would be demonstrably affected by changes in the management of the area
- Provide an informed perspective on the social or environmental impacts of changes in visitation characteristics to the area

A single representative was selected from each of the chosen interest groups. Previous studies had shown that visitors' experiences of Mason Bay rarely exceed a single visit and, therefore, they were not considered stakeholders in the context of this study.

Stakeholders were selected through a variety of processes. Records were already held of people influencing the management of the area. An examination of submissions to the Stewart Island-Rakiura National Park proposal enabled the identification of certain groups with an interest in Mason Bay such as tramping groups, hunting groups, and the Royal New Zealand Forest & Bird Protection Society. The 'snowballing' method of selecting participants was then used to gain further contacts. It was initially decided that a member of the Stewart Island Promotions association should be chosen to represent **all** commercial interests in the area. However, after the first meeting, the representative decided that the views of commercial operators were too diverse to be represented by one person. It was, therefore, decided to include a representative for island-based commercial interests. Operators with current concession agreements at Mason Bay and on Freshwater River were contacted and asked to select a representative. Consultation between operators took place prior to the second focus group meeting to ensure that all views were fully represented. Although DOC was considered to be a major stakeholder in this study, it was decided not to include a DOC representative in the focus group meetings. This was because the researcher felt that their participation may influence the views of the group and limit the potential for open discussion.⁷

⁷ A member of the Department was present at the meeting, but their role was limited to answering factual questions and providing logistical support.

In total, 10 stake-holding groups were identified, and a representative from each was selected:

- Conservation Board interests—Southland Conservation Board
- Regional Council interests—Environment Southland
- Environmental / wildlife interests—Royal New Zealand Forest & Bird Protection Society
- Hunting group interests—New Zealand Deer Stalkers Association
- Cultural / historic interests—Ngai Tahu
- Tramping society / FMC interests—Stewart Island Tramping Club
- Community interests—Stewart Island Community Board
- Tourist industry interests—Stewart Island Promotions Association
- Mainland commercial interests—Stewart Island flights
- Island-based commercial interests—Stewart Island Water Taxi

The outcome of this first stage with the focus group was to list values and opportunities that Mason Bay provided for each interest group and to summarise concerns held over the future management of the area (section 4). The meeting was audio-taped (with the consent of the participants) and the meeting notes were transcribed to help identify issues. The list of concerns was used to form the basis of the fieldwork programme. The meeting took place on Stewart Island on 22 January 2004 and lasted four hours. Nine stakeholders were present, representing the views of their respective interest groups.

A second focus group meeting took place in Invercargill on 13 May 2004, six weeks after the completion of the fieldwork programme. The aim was to evaluate the acceptability of certain impacts that were of significance to stakeholders and management in the first phase of the study. A second meeting was necessary because it was not clear, immediately after the first meeting, which impacts or concerns could or would be measured in the field, or how the levels of impact would be assessed. Seven out of the 10 original stakeholders attended the meeting. The discussion was audio-taped (with the consent of participants) and transcribed as meeting notes. These were used to help compile the final report. Stakeholders who were not present were contacted afterwards and evaluated on behalf of their respective interest groups to ensure a balanced perspective on the issues.

3.3 ON-SITE VISITOR SURVEY

A detailed visitor survey was developed as the focus of the fieldwork programme. It was designed primarily to address concerns identified by managers and by stakeholders during the first stage of the focus group meeting. It also aimed to fill knowledge gaps that were identified through the review of existing data (outlined in section 2). The survey went through an extensive review process both within and outside the Department, and modifications were made as a result. (A copy of the questionnaire is included in Appendix 5.)

A two-part survey was used to obtain the information required. Part 1 sought general information on trip type, demographics, motivations and expectations. It was self-administered on arrival at Mason Bay, with the researcher dispensing and collecting surveys, and available to answer any questions. Part 2 was completed at the end of the visit, and concerned the visitor experience in relation to expectations. The latter section was given to respondents with return addressed and stamped envelopes, which they were asked to return to any one of the four collection points: Halfmoon Bay visitors centre, a box in Freshwater hut, a Stewart Island Flights member, or any post box. A selection of closed and open-ended questions was chosen. This facilitated analysis for most of the questionnaire, whilst also giving respondents some opportunity to comment in more depth. An aircraft monitoring procedure (Booth et al. 1997) was attached to every second survey⁸ to enable the current perceived impact of aircraft activity to be measured and compared with other DOC areas. This method was developed for the Department in 1997 and has been used successfully in numerous locations throughout New Zealand.

Administration of the surveys took place at the Mason Bay hut from 24 February to 24 March 2004. The fieldwork programme was completed during 'peak season'⁹ to ensure a statistically significant sample size; because it was believed that the impacts experienced would be greatest during this period, and to enable comparisons with hut warden data from the same period in previous years. The chosen location ensured the majority of visitors would be intercepted, including those who did not use the hut facilities. To eliminate interviewer bias and to ensure a statistically significant sample size, it was decided to survey every visitor that passed through the area whilst they were present. The researcher was stationed at the hut for around ten hours each day, for every day of the survey period. Hunting parties using the area during the study period were sent surveys through the post and asked to return them in the freepost envelope. Key points regarding the survey administration are listed below:

- The total number of surveys completed was 345. Seventeen were from hunters, 44 from visitors not spending the night at Mason Bay, and 284 from overnight visitors.
- A total of 328 visitors (excluding hunters) were approached by the researcher, of whom 2 did not have time to participate in the survey, giving a response rate of 99.4% for Part 1 of the researcher-administered surveys.
- Of the 345 respondents, 289 returned **Part 2** of the survey, giving a response rate of 84% for Part 2.
- There was a grand total of 516 visitor days during the study period (taking into account people on their second visit and those who spent more than one night), and an average of 17.2 people in the area each day.
- In general, respondents were very enthusiastic about completing the surveys and were keen to express their views on the issues.

⁸ This was because the researcher felt that the survey was already fairly long, and it was believed that by surveying every second person, a sufficient number of responses would be obtained to allow meaningful analysis.

⁹ Monthly hut book and track counter data from the past five years indicates that peak season for visitor use at Mason Bay is from December to March, with peaks around the Christmas, New Year, and Easter holidays.

- The personal contact between researcher and respondent and the numerous survey return points were found to be very effective in achieving a high response rate for surveys administered on-site.

3.4 ON-SITE OBSERVATIONS

(Undertaken by the researcher)

Various observations were made by the researcher during the study period. These were undertaken to address certain stakeholder and management concerns and to compliment the survey data. Guidelines for the observations can be seen in Appendices 1-3. They are listed below.

Weather conditions—Details were recorded each day in a log book.

Litter—Litter counts took place every morning on the track between the nearby homestead and the trampers hut and inside the hut itself. A record was kept of the number of pieces and type of litter.

Tramping equipment—Respondents were observed whilst they completed Part 1 of the survey (and in the hut if possible), and were placed into one of three categories according to how prepared they appeared. The categories were 'well-prepared', 'adequately prepared' and 'inadequately prepared'. Bias was kept to a minimum by following specified guidelines and keeping the same observer throughout the study period.

Aircraft movements—Aircraft movements were recorded whilst the researcher was present at the hut. Daily tallies were kept of the number of landings, take-offs and over-flights.

3.5 PARTICIPANT OBSERVATIONS

Observations of the behaviour of hut users and the interactions between visitor groups were undertaken each day to gain a more in-depth perspective of the social issues at Mason Bay. Participants were aware of the presence of the researcher, who was identified with a name badge and was administering the questionnaires at the same time. A record of noteworthy occurrences or comments was kept in a fieldwork diary. To protect the anonymity of participants, observations were generalised and individuals were not identified. This information was then coded and grouped into like categories for analysis. During the observation process, the role of the researcher was to listen and participate in informal discussions with visitors. Whilst every effort was made to eliminate researcher bias (i.e. by deliberately not giving personal opinions, or initiating conversations) it was important to recognise that a certain amount of bias is inevitable with this type of research, and that the mere presence of the researcher may have influenced the behaviour or dispositions of those being observed.

3.6 FOCUS GROUP STAGE 2

3.6.1 Qualitative assessment of the limits of acceptable change

All of the original stakeholders were invited to a second meeting in May where a focus group method (Kazmierow et al. 2000) was applied to evaluate the acceptability of certain impacts that were of significance to stakeholders and management in the first phase of the study. A short presentation outlined some of the ongoing monitoring taking place at Mason Bay, including cultural and historic work, track monitoring, weed surveillance and pest animal control. Each participant was then given a booklet that contained twelve impact scenarios (e.g. the average number of aircraft noticed per day. See list over page). Each scenario had four or five levels of impact, ranging from low (i.e. 0 aircraft per day) to very high (more than 10 aircraft per day). Participants were asked to indicate how acceptable they found each level of impact using a four point scoring system: 0 = 'no effect', 1 = 'acceptable', 2 = 'unacceptable', 3 = 'very unacceptable'. This was done individually and without discussion during the meeting so as to limit individuals influencing others' views. Scores were collected and entered into an Excel spreadsheet to calculate the group's mean acceptability threshold for each impact. The results were then displayed anonymously (i.e. without identifying participants') to the group, and discussed in relation to impact data collected at Mason Bay and the significance for future management strategies. By following similar lines to Kazmierow et al. (2000) and keeping the results anonymous, the potential for inter-group conflict was reduced and a more productive discussion ensued. The DOC Southern Islands Area Manager was then asked to rank the same factors for the scenarios, to give a management perspective of the issues.

Impact scenarios for acceptability thresholds

- The percentage of visitors going to The Gutter
- The average number of aircraft noticed per day
- The percentage of visitors feeling crowded in the hut
- The average number of pieces of litter left in the hut each week
- The percentage of 'dissatisfied' comments indicating conflict between visitor groups
- The percentage of 'dissatisfied' comments regarding hut facilities
- The percentage of visitors finding more mud and water on track than expected
- The percentage of visitors who are inadequately prepared
- The percentage of visitors who expect to see kiwi
- The percentage of visitors who see kiwi
- The percentage of visitors who **notice people behaving inappropriately** around kiwi

4. Results

This section presents the results from the various research methods used throughout the project: Focus group stage 1; On-site visitor survey; On-site observations; Participant observation; and Focus group stage 2.

4.1 FOCUS GROUP STAGE 1

Focus group members were asked to identify values and opportunities provided by Mason Bay, and concerns they had about protecting these values. Following the meeting, a transcript of the identified issues was circulated amongst focus group members and they were given the opportunity to seek feedback from their respective interest groups. Additions were made accordingly. The final results were summarised and then grouped into like categories (see below).

4.1.1 Values and opportunities provided by Mason Bay

- Iwi values
- Natural character and landscape values
- Solitude and peace
- Lack of civilisation and human modification
- Access values
- Archaeological values
- Heritage sites and historic values
- Geological and Natural resource values
- Conservation values
- Commercial opportunities
- Recreational opportunities
- Inspirational values

4.1.2 Concerns over the future management of Mason Bay

- A lack of protection for cultural / historic sites and values (iwi values)¹⁰
- Aircraft Impacts
- Inappropriate visitor behaviour
- Crowding
- Increased litter
- Loss of unique remote experience
- Human intrusion on a natural area
- Conflict between visitor groups

¹⁰ A Maori site of high cultural significance known as The Gutter is situated in an area of Mason Bay.

- Visitor displacement
- Facilities degradation and track degradation
- A lack of protection for the flora and fauna
- Animal pests
- Disturbance of kiwi populations
- Decrease in visitor-kiwi encounters
- Inaccurate visitor expectations
- Inadequately prepared / inexperienced trampers
- Safety issues on Freshwater River
- Limiting visitor access

The lists were then compared with existing management concerns regarding the area (see section 1.). No other issues were identified, and it was felt that the focus group had covered the matter to a sufficient depth for the researcher to begin developing the fieldwork programme.

4.2 ON-SITE VISITOR SURVEY RESULTS

This section presents the results from the on site visitor survey. The data is presented in the order in which questions were asked in the survey. General results are presented at first, followed by a breakdown by visitor group where applicable. All data sets which appeared to show a relationship were statistically tested, with only those showing significance reported.

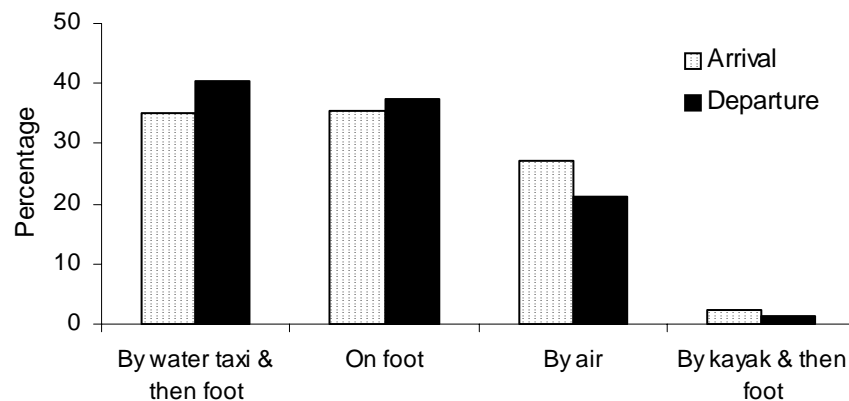
4.2.1 Pre-visit questions (survey Part 1)

Method of transport

How did you get to Mason Bay today? How will you depart from Mason Bay?

Figure 2 illustrates that the most popular method of transport to and from Mason Bay was a combination of water taxi and foot. Thirty five percent of people accessed the area and 40% departed by these means. Foot access was also very popular, with 35% of visitors arriving and 37% departing on foot. A significant minority of visitors arrived at Mason Bay by aircraft (27%), while a smaller proportion departed by air (21%). These figures are higher than hut warden data from previous years suggest. During the summers of 1999-2003,

Figure 2. Methods of transport.



only 18% of people arrived, and 4% departed by aircraft. A similar feature of both data sets, however, is that more visitors are transported in, rather than out by air. This reflects the air operators' preference for depositing rather than collecting people at Mason Bay, due to safety issues with aircraft waiting on the beach.

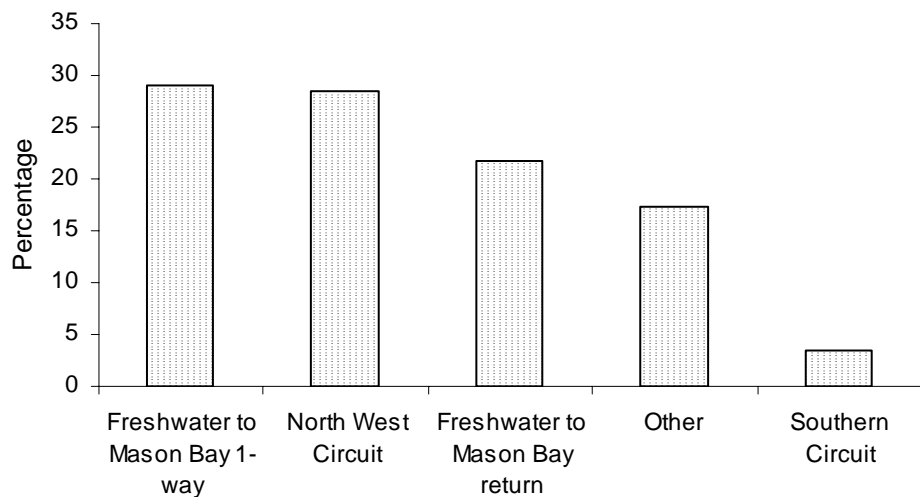
Track being walked

Which track are you walking on this trip?

Figure 3 illustrates that the two most popular tracks were Freshwater–Mason Bay One-Way (29% of respondents) and the North West Circuit (28%). Visitors walking the Freshwater–Mason Bay One-Way track were largely on the 'Coast to Coast' trip, using a combination of water taxi transport at the Freshwater end, and air transport at the Mason Bay end to complete their visit. This group contained a combination of overnight visitors (60 people) and day-trippers (40 people).

Twenty two percent of respondents were making the Freshwater–Mason Bay Return trip, using water taxi transport to and from Freshwater landing, and then accessing Mason Bay on foot. The Southern Circuit (SC) is the most demanding of the tracks, and consequently only 4% of the visitors were walking this route. The 'other' category contained a mixture of visitors—some walking sections of the North West or Southern Circuits, some walking the Tin Range, and others who were not walking a track at all. Within this 'other' category, there were 17 hunters, 7 Landcare Research workers, and 5 international visitors on a DOC conservation trip.

Figure 3. Which track are you walking?



In general, each track seemed to attract a distinct, yet relatively homogeneous visitor group, with noticeable differences between groups in terms of demographic characteristics, motivations for visit, expectations and satisfactions. It was, therefore, decided to use 'track being walked' as the basis for the breakdown of visitor groups for further analysis. NWC and SC walkers were grouped together as they possessed similar characteristics, and because of low numbers on the Southern Circuit. Hunters were also regarded as a distinct visitor group and therefore analysed separately. The five main visitor groups that will be used for the purposes of this study are listed below.

- Circuit walkers
- Freshwater–Mason Bay One-Way walkers (FW–MB One-Way)
- Freshwater–Mason Bay Return walkers (FW–MB Return)
- Hunters
- ‘Other’¹¹

The major characteristics of each visitor group are illustrated in Table 1.

Statistical tests were carried out to assess whether there were any major differences between day and overnight visitors within the Freshwater–Mason Bay One-Way group. Overall, both groups displayed similar characteristics in most respects. Given the small number of day trippers surveyed (40 people), it was decided that further analysis of this visitor group was beyond the scope of this study.

Type of visit

How many nights are you spending at Mason Bay on this visit?

More than half of the visitors to Mason Bay were only spending one night in the area (Table 2). A further 14% were either on a day trip or omitting the Mason Bay hut on one of the circuits. A significant proportion of visitors (22%) chose to stay for two nights.

TABLE 2. NUMBER OF NIGHTS AT MASON BAY ($n = 345$).

| NUMBER OF NIGHTS | PERCENTAGE (%) |
|------------------|----------------|
| 0 | 14 |
| 1 | 58 |
| 2 | 22 |
| > 2 | 6 |

If you are spending the night at Mason Bay, where will you be staying?

Almost all the visitors to Mason Bay stayed in the trappers hut (84%). A further 6% were at a hunter camp, 3% at Island Hill Homestead, and 6% camped at the hut site. A very small percentage (2%) camped on the beach.

Motivations for visit

What was the MAIN thing that made you come to Mason Bay?

The main motivation for coming to Mason Bay was to do the North West or Southern Circuit tramps (27%). This indicates that over a quarter of respondents did not specifically choose Mason Bay as a destination. The two other major attractions of Mason Bay were the chance of seeing a kiwi (22%) and to explore a new area (16%). Other features that motivated visitors included the wildlife, the scenery and the chance to ‘get away’.

¹¹ The ‘Other’ category contains a rather diverse mix of visitors and, therefore, analysis as a homogeneous group is not particularly useful.

TABLE 1. BREAKDOWN OF THE FIVE MAIN VISITOR GROUPS AND USE TYPES.

| | NWC / SC | FW-MB ONE-WAY | FW-MB RETURN | OTHER | HUNTERS |
|-------------------------------------|---|---|--|---|--|
| Age | Majority in younger age groups (20-29 or 30-39) | Mainly over 30 years old, significant number over 50 yrs | Wide range of ages, but large no's of mid 30s or over 50s | Majority in younger age groups (20-29 or 30-39) | Younger, fitter—almost all in 20-39 age group |
| Gender | Predominantly male (63%) | More women than men (60% of total) | Very even gender balance (53% male to 47% female) | Predominantly male (70%) | Dominated by males (94%) |
| Nationality | High % of overseas visitors, especially from Europe, North America and Germany. Less popular amongst New Zealanders | Large % of UK walkers (33% of total). Much more popular amongst overseas visitors than New Zealanders | Very popular amongst New Zealanders (42%). Wide variety of other nationalities | Largely New Zealand and UK, with some visitors from Germany and North America | 100% New Zealanders |
| Group size | Majority in two's (36%) or alone (18%). No-one in group of more than four | Larger groups of more than four (46%), and some walking in twos. Very few making trip alone | Wide variety of group sizes—most popular were twos and fours | Largely in pairs | All in twos, threes or fours |
| Group type | All independent | 37% on guided walk (contained 82% of all guided walkers) | Almost all independent (92%) | 76% independent, 20% working or on DOC trip | All independent |
| Preparation | Less than 2% were unprepared | 18% unprepared (18 out of 21 of all the unprepared visitors) | Less than 2% unprepared | No unprepared visitors | No unprepared visitors |
| Motivations | 90% because it's on the NWC / SC* | 33% to see kiwi, 24% to explore new area, 11% for remoteness | 39% to see kiwi, 23% to explore new area, 15% for wildlife viewing | 34% to see kiwi, 19% to explore new area, 16% as part of NWC / SC | 82% for hunting, 12% to get away |
| Tramping experience | Generally very experienced, 46% have done more than 6 overnight trips in the past 12 months | Very inexperienced—over 50% no overnight trips in past 12 months, and 25% only done 1-2 | Moderately experienced—majority have done 1-5 similar trips in past month | Moderately experienced—majority have done 1-5 similar trips in past month | Generally very experienced, 59% done more than 6 overnight trips in past 12 months |
| Expectations of lighting facilities | 4% expected lighting | 16% expected lighting | 5% expected lighting | 17% expected lighting | N/A |
| Expectations of cooking facilities | 16% expected cooking facilities | Very inaccurate—over 50% expected cooking facilities | 16% expected cooking facilities | 17% expected cooking facilities | N/A |

* Note the diverse range of motivations: to explore, challenge, remoteness, wildlife, and to get away.

(Continued on next page)

TABLE 1—Continued from previous page.

| | NWC / SC | FW-MB ONE-WAY | FW-MB RETURN | OTHER | HUNTERS |
|---|--|--|---|---|---|
| Expectations of seeing a kiwi | 53% expected to see kiwi (lower than group percentage) | 73% expected to see kiwi (higher than group percentage) | 57% expected to see kiwi (lower than group percentage) | 28% expected to see kiwi (Much lower than group percentage) | 94.1% expected to see kiwi, but very small sample size |
| Looked for kiwi? | 61% | 84% | 93% | 85% | 50% |
| Issues that were different to expected† | 31% saw more aircraft than expected, 33% experienced more non-natural noise, 34% saw more evidence of human influence in the area, 34% felt less in the wild than expected, 37% noticed less mud and water on the track than expected | 32% saw less aircraft than expected, 29% saw less evidence of human influence in the area, 29% felt more in the wild than expected, 26% expected a higher level of hut facilities, 57% noticed more mud and water on the track than expected | Almost 50% saw more aircraft than expected, 31% noticed more mud and water on the track than expected | 32% saw more aircraft, 42% experienced more non-natural noise, 37% noticed more mud and water on the track than expected | Generally very accurate expectations in most aspects of visit Exceptions were: 25% saw more aircraft than expected, 38% saw more evidence of human influence in the area than expected |
| First heard about Mason Bay? | 37% NWC info, 25% books / magazines/ travel guides, 19% word of mouth, 13% DOC | 39% word of mouth, 32% books / magazines/ travel guides, 28% other | 40% word of mouth, 30% books, magazines, and travel guides, 17% DOC | 44% word of mouth, 33% books/ magazines/travel guides | 57% word of mouth, 36% 'other' (i.e. hunting info.) |
| Main source of information | Almost 50% from DOC, 34% from travel guides (primarily specific tramping guides rather than general guides). Only 13% relied on word of mouth | 36% word of mouth, 17% travel guide, only 17% sought info from DOC | Over 50% DOC, 20% word of mouth, 20% travel guide | 55% from DOC, 26% word of mouth. Less than 10% travel books | Almost 70% word of mouth—many coming for years, or know people who have. Very familiar with the area. Another 30% from DOC (hunting permit info.) |
| Sources of satisfaction | 32% scenery and landscapes, 14% hut facilities, 8% DOC workers | 31% remoteness / solitude / isolation, 21% scenery / landscapes, 13% flight in / boat trip out‡ | 26% scenery/ landscapes, 24% seeing kiwi, 12% remoteness / solitude/ isolation | 40% seeing kiwi, 16% DOC workers, 16% scenery / landscapes | Almost 60% hunting, 14% weather |
| Sources of dissatisfaction | All hut issues: 20% hut facilities, 20% crowding in hut, 16% conflict between user groups | All related to unrealistic expectations: 33% hut facilities, 14% tracks, 10% not seeing kiwi | 17% hut facilities, 15% not seeing kiwi, 13% crowding in hut | 33% hut facilities, 19% not seeing kiwi, 10% crowding, tracks, and aircraft | 21% litter (mainly on beach), 14% hut facilities, 14% pests |
| Overall satisfaction | Least satisfied group, mean satisfaction: 5.0 | Most satisfied group, mean satisfaction: 5.5 | Moderately satisfied, mean satisfaction: 5.3 | Generally very satisfied, mean satisfaction: 5.4 | Generally very satisfied, mean satisfaction: 5.4 |

† Includes aircraft, non-natural noise, human influence, feeling of being in the wild, level of hut facilities, mud and water on track.

‡ Seeing kiwi = 10%, but this is because the group included 40 day trippers who are less likely to see kiwi.

A breakdown by visitor group revealed major differences in motivations for visiting Mason Bay, although the fact that circuit walkers almost all chose the option ‘as part of the NWC / SC’ tended to mask the true motivations for their visit. Table 3 shows a breakdown by visitor group. The three main choices for each group are highlighted. Discounting circuit walkers and hunters, ‘seeing a kiwi’ stands out as the main motivation for visiting the area for the other three groups. Thirty-three percent of Freshwater-Mason Bay One-Way visitors, 39% of Freshwater-Mason Bay Return visitors and 34% of ‘other’ visitors cited this as their main motivation. The chance to explore a new area also rated highly amongst all three groups, while ‘wildlife’ and ‘remoteness’ were popular sources of attraction for the Freshwater-Mason Bay One-Way and Return walkers.

TABLE 3. MAIN MOTIVATIONS FOR COMING FOR THE FIVE VISITOR GROUPS ($n = 345$)¹.

| MOTIVATION FOR COMING | CIRCUIT WALKERS (%) | FRESHWATER-MASON BAY ONE-WAY (%) | FRESHWATER-MASON BAY RETURN (%) | HUNTERS (%) | OTHER (%) |
|-----------------------|---------------------|----------------------------------|---------------------------------|-------------|-----------|
| As part of NWC / SC | 90 | 1 | 0 | 0 | 16 |
| To see a kiwi | 3 | 33 | 39 | 0 | 34 |
| To explore a new area | 6 | 24 | 23 | 0 | 19 |
| Wildlife | 1 | 10 | 15 | 0 | 6 |
| Scenery | 3 | 3 | 7 | 0 | 13 |
| To get away | 3 | 8 | 4 | 12 | 0 |
| Other | 1 | 2 | 7 | 0 | 6 |
| Remoteness | 0 | 11 | 4 | 0 | 3 |
| Hunting | 0 | 0 | 0 | 82 | 0 |
| Work | 0 | 1 | 0 | 0 | 0 |
| Solitude | 1 | 1 | 0 | 6 | 3 |
| Challenge | 1 | 1 | 1 | 0 | 0 |

Bold type indicates the three highest percentage motivations for each visitor group.

To gain a deeper insight into the motivations of circuit walkers for undertaking their trip, visitors were asked: ‘what was the main thing that made you choose the NWC / SC?’ This question was only asked of circuit walkers who chose ‘as part of the NWC / SC’ as their first choice ($n = 86$). The results illustrated that circuit walkers are motivated to visit by a much more diverse range of factors than the short stay visitors. ‘To explore a new area’ figures as the most influential factor (22%), closely followed by ‘challenge’ (17%), ‘remoteness’ (16%), ‘scenery’ (13%) and ‘wildlife’ (12%). ‘To see a kiwi’ was only mentioned by 2% of respondents in this group as a major motivation.

Activities undertaken

What is your MAIN activity on this trip?

Respondents were asked to rank (from 1-3, with 1 meaning most important) the three main activities on their trip. For the purposes of this study, only the main activity on the trip was analysed.¹² Almost half of respondents cited

¹² Although this study was only concerned with the ‘main’ activity, the researchers felt that only allowing one option for this question was potentially too limiting. Each survey was checked immediately after completion of Part 1, to ensure this section had been correctly filled in.

'tramping' as the main activity on their trip. Kiwi spotting (14%), wildlife viewing (12%), and day walk / sightseeing (10%) were also popular options; 5% of visitors were there to hunt, 4% for rest and relaxation; kayaking and social events scored 1% respectively. Within the 'other' category, there were seven respondents who were working at Mason Bay.

Figure 4 reveals some differences between visitor groups in terms of 'main activity on trip'. Hunters and respondents on a work trip were removed from the data set for this. Almost all circuit walkers (87%) cited tramping as their main activity, with a small number choosing 'wildlife viewing / botanising or rest and relaxation. Freshwater-Mason Bay One-Way and Return walkers undertook a more diverse range of activities including tramping, wildlife viewing, sightseeing, and kiwi spotting. The main factor distinguishing circuit walkers from the other three categories is the proportion of respondents who cited kiwi spotting as their main activity. For circuit walkers, this figure was only 2%, but ranged from 19-24% for the other visitor groups. The researcher believes that this is because a large percentage of circuit walkers have less specific reasons for visiting Mason Bay, and also highlights the popularity of the area as a kiwi viewing destination. Chi squared analysis revealed that the differences in main activity by visitor group were statistically significant: $\chi^2 = 152.902, P < 0.001$.

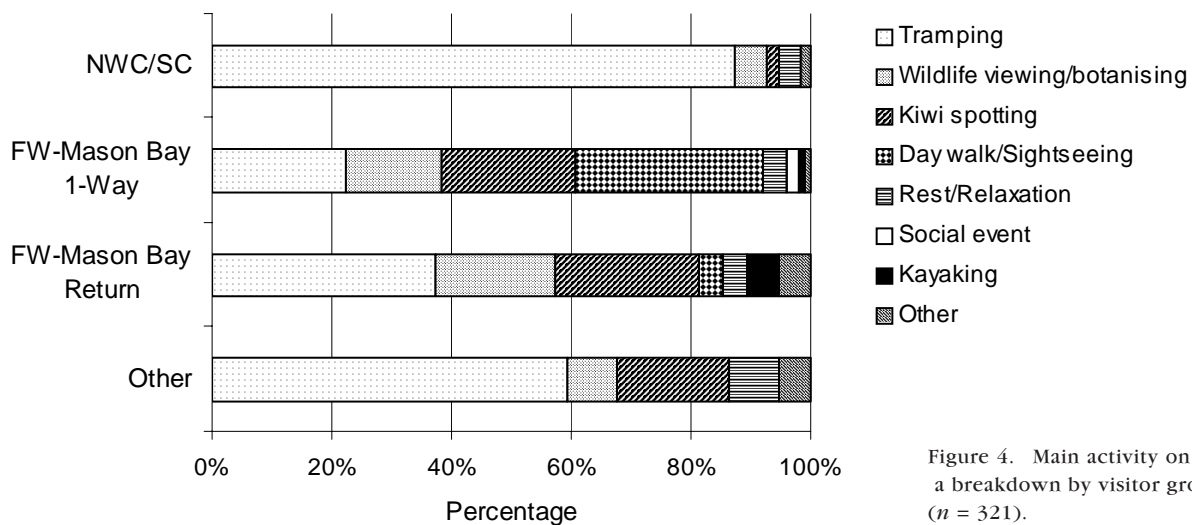


Figure 4. Main activity on trip: a breakdown by visitor group (n = 321).

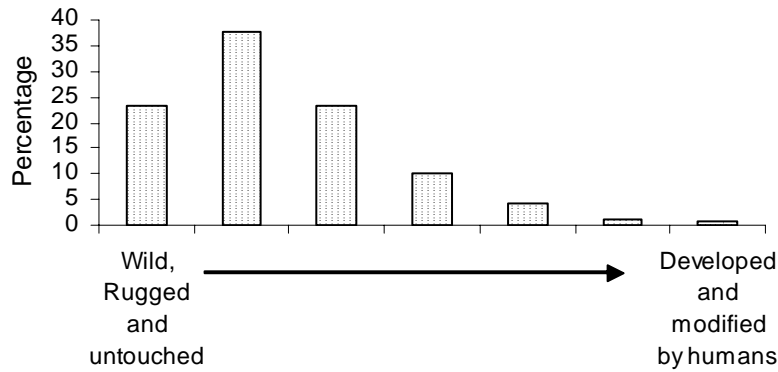
Expectations

What kind of environment did you expect?

Figure 5 illustrates that visitor expectations of the general environment were fairly accurate. Only 0.5% of visitors expected the area to be developed and modified by humans.¹³ Over 85% of respondents expected a natural environment with little human influence or modification. There was little variation in responses between visitor groups.

¹³ Possibly due to knowledge that the area had previously been farmed.

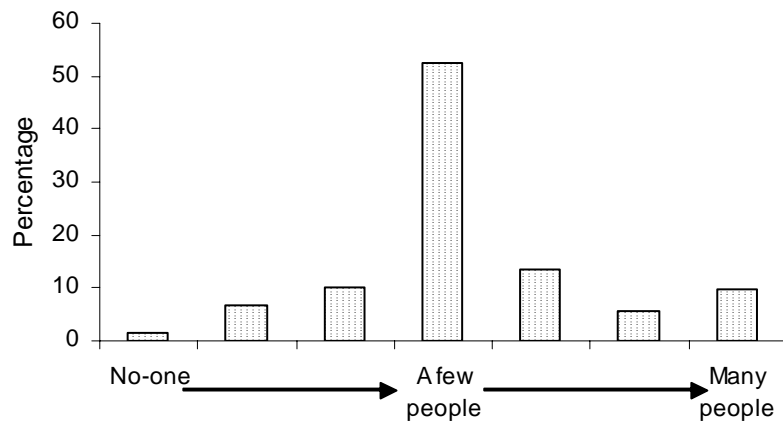
Figure 5. Type of environment expected by visitors? (n = 332).



How many other people did you expect to meet during your visit to Mason Bay?

Figure 6 shows that around 75% of respondents expected to meet ‘a few people’, only 1% expected ‘to meet no-one’, and 15% expected to meet ‘more than a few’, or ‘many people’. When questioned, numerous visitors who stated that they had expected to meet many people at Mason Bay revealed that they had been informed by other trampers en route that the hut was busy (particularly in comparison to others on the circuits). There was little variation in responses between visitor groups.

Figure 6. Number of people expected during their visit? (n = 338).



What facilities did you expect there to be at Mason Bay?

In general, visitors to Mason Bay were fairly well informed about facility provision. Most respondents (86%) expected the huts to include a basic communal sleeping area, and 83% expected a basic toilet. Only 31% expected heating facilities. The main inaccuracies in terms of expectations of facilities were as follows: 22% expected cooking facilities, 21% expected filtered running water, and 6% expected lighting.¹⁴ A breakdown by visitor group was carried out for respondents expecting cooking facilities and lighting.¹⁵

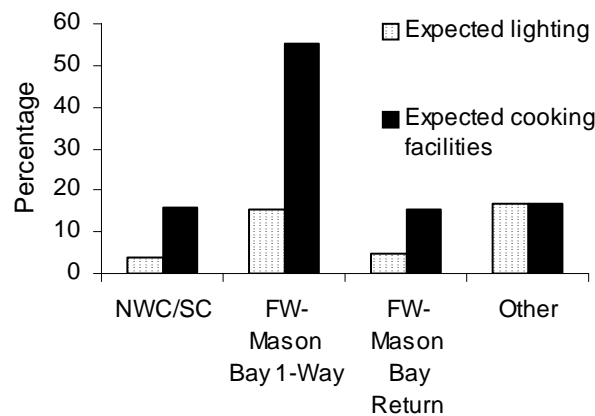
¹⁴ It was felt that the wording of the question may account for the high percentage of people expecting filtered water (i.e. respondents may not have taken into account the word ‘filtered’ and simply read ‘running water’).

¹⁵ Only visitors who used the hut facilities were included in the data set for this analysis.

Figure 7 illustrates a large difference between visitor groups. Circuit walkers were the least likely to have inaccurate expectations regarding facilities, with only 4% expecting lighting, and 16% expecting cooking facilities. Freshwater-Mason Bay One-Way walkers appear to be the main concern for management, with obviously inaccurate expectations of hut facilities. While only 16% anticipated lighting, more than half expected cooking facilities, meaning that many were unprepared, with inadequate food provisions. A Chi-square analysis revealed that the differences between visitor groups in terms of expectations of cooking facilities and lighting were statistically significant:

Expected cooking facilities: $\chi^2 = 37.687, P < 0.001$
 Expected lighting: $\chi^2 = 11.291, P < 0.025$

Figure 7. Percentage of respondents expecting cooking and lighting facilities ($n = 249$).



What did you expect the Mason Bay-Freshwater track to be like?

Responses to this question were varied. Although the majority (83%) of visitors accurately anticipated an easy to moderate track, 11% expected the track to be extremely easy, and only one person thought that it would be extremely difficult. Weather conditions during the days before the trip may also have influenced expectations (i.e. heavy rain leading respondents to expect muddy and arduous conditions, and vice versa for dry conditions).

Did you expect to see a kiwi at Mason Bay?

Expectations of seeing kiwi at Mason Bay were high: 69% of all visitors anticipated an encounter during their visit. There was little variation between visitor groups, although hunters were the most likely to expect kiwi, and circuit walkers the least. This is largely consistent with visitor motivations (see Table 3). However, even NWC and SC walkers (of whom very few were ‘motivated’ by the chance to see a kiwi) clearly expected to see kiwi at Mason Bay.

Demographics

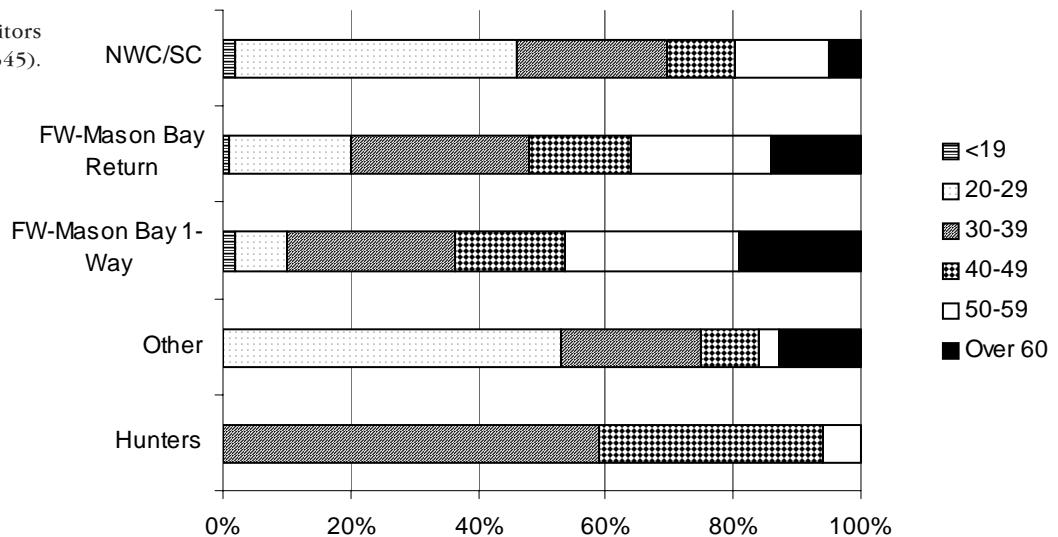
Age

Visitors to Mason Bay ranged from under 19 years to over 60 years. The predominant age group was 20–29 years, closely followed by 30–39 years. Only 2% of respondents were under 19 years of age, 11% were over 60. These results are similar to the hut warden data from the past four summers.

There was a significant difference in ages between visitor groups: $\chi^2 = 71.623, P < 0.001$ (Fig. 8). Around half of circuit walkers (45%) and ‘others’ (53%) were

in the younger 20-29 age group, reflecting the difficulty and length of the tracks. More than half of the Freshwater-Mason Bay One-Way walkers were over 40 years old, with a significant proportion over 50 years old. This reflects the fact that the track is relatively easy and accessible for most people, regardless of age. Hunters were almost entirely in the 20-29 and 30-39 age groups.

Figure 8. Age of visitors
(n = 345).



Gender

Overall, there was a fairly even gender balance, with 194 males (56%) and 150 females (44%) visiting Mason Bay during the study period. Males greatly outnumbered females in the hunting group (94%), and also to a large extent in the circuit (63%) and 'other' (70%) categories. This trend was reversed in the Freshwater to Mason Bay 1-Way group, with women representing 60% of visitors. There was a significant difference in gender between visitor groups:

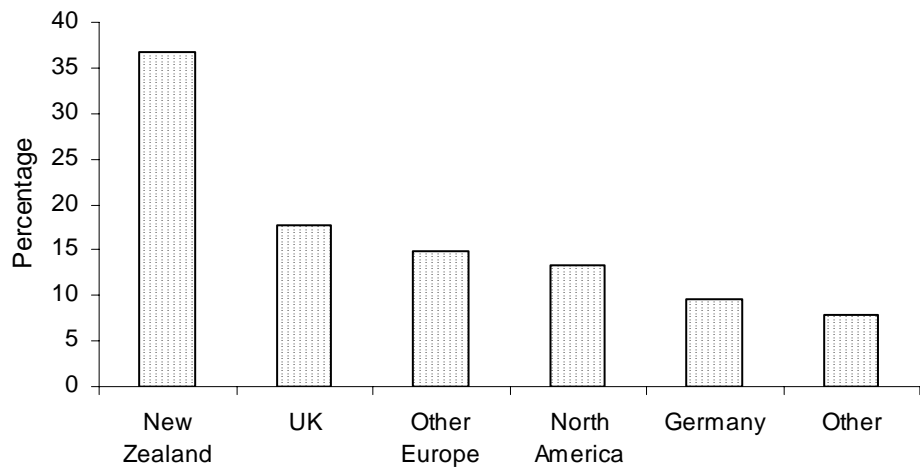
$$\chi^2 = 28.275, P < 0.001$$

Nationality

The ratio of international visitors to New Zealanders was almost 2:1, with international visitors comprising 63% of the total (Fig. 9). This is similar to the same period in previous years, and is supported by literature that suggests that a growth in international arrivals to New Zealand is likely to cause a similar growth in overseas park users (Devlin et al. 1995). New Zealanders were the most represented nationality, with 37%; followed by the UK (18%), North America (13%), Germany (10%) and Other Europe (15%). The remaining 8% of the sample contained a mixture of visitors from Asia, Australia, Israel, and other countries. There has been little variation in terms of nationalities represented at Mason Bay over the past five years. The percentage of New Zealanders was slightly lower than in previous seasons, although this is probably because the current survey was only one month long, and did not include a New Zealand holiday period.

There were significant differences in nationality between visitor groups $\chi^2 = 75.197, P < 0.001$. The Freshwater-Mason Bay Return track was especially popular amongst New Zealanders (42%), and all hunters were entirely from

Figure 9. Nationality of visitors ($n = 345$).



New Zealand. There was a high representation of overseas visitors on the circuit walks, particularly from 'Other Europe' (22%), North America (19%), and Germany (15%). The Freshwater-Mason Bay One-Way track was very popular amongst UK visitors who made up 33% of the total.

Previous visits

Have you visited Mason Bay before? If YES, how many times?

Fifteen percent of respondents had visited Mason Bay before, a similar figure to that obtained from previous surveys in the area (Finnegan 1999; Crosbie 2002). Of this 15%, over three quarters were New Zealanders. Almost all of the respondents who had made more than three previous visits were hunters.

Group characteristics

How many people are in your group?

The majority of visitors (36%) were in groups of two, while a sizable minority (18%) were travelling alone. Groups of three and four were also popular, with 13% and 16% respectively, 15% of visitors were in groups of six and over. These were largely guided groups or people working in the area.

There was a significant difference in party size between visitor groups: $\chi^2 = 159.209$, $P < 0.001$. The majority of circuit walkers tramped in pairs (46%) or alone (30%). No circuit walkers were in groups of more than four, 46% of Freshwater-Mason Bay One-Way walkers were in groups of more than four,¹⁶ and 26% were in pairs. Freshwater-Mason Bay Return visitors illustrated the widest variety of group sizes, with the most common choices being twos (42%) and fours (31%). Visitors in the 'other' category were largely in pairs, while hunters were all in parties of two, three, or four.

Which of the following best describes your group?

The majority of respondents (84%) chose to describe themselves as independent visitors: 13% were in a guided group, and the remaining 3% were

¹⁶ The Freshwater to Mason Bay One-Way category contained guided groups with larger party sizes (see section 4.2.2).

either working in the area, or on a DOC conservation trip. There was a significant difference in group type between visitor groups: $\chi^2 = 135.556$, $P < 0.001$. All respondents in the NWC / SC and hunter categories, and 92% of the Freshwater-Mason Bay Return walkers were visiting independently. Almost all of the guided walkers (82%) were in the Freshwater-Mason Bay One-Way group, with a further 13% in the Freshwater-Mason Bay Return group.

Tramping experience

How many overnight tramps (in huts or tents) have you completed in the past 12 months?

Almost half of the respondents had very little or no recent experience of tramping, having only completed between zero and two overnight tramps in the past 12 months.¹⁷ A further 23% were moderately experienced (3-5 tramps in the past 12 months), and 31% had considerable tramping experience (more than six overnight tramps in the past year).

There was a significant difference in tramping experience between visitor groups: $\chi^2 = 122.755$, $P < 0.001$. This is illustrated in Fig. 10. The visitor group with the least back-country tramping experience was the Freshwater-Mason Bay One-Way group. Over half of the visitors in this category had not completed any overnight trips in huts or tents in the past 12 months, 25% had completed one or two similar trips, and a very small percentage (7%) had done more than six. Circuit walkers and hunters were the most experienced groups, with 46% and 59% respectively having completed more than six overnight trips in the preceding 12 months. The majority of visitors in 'Other' and Freshwater-Mason Bay Return groups were moderately experienced, with between 1-5 tramps in the past year.

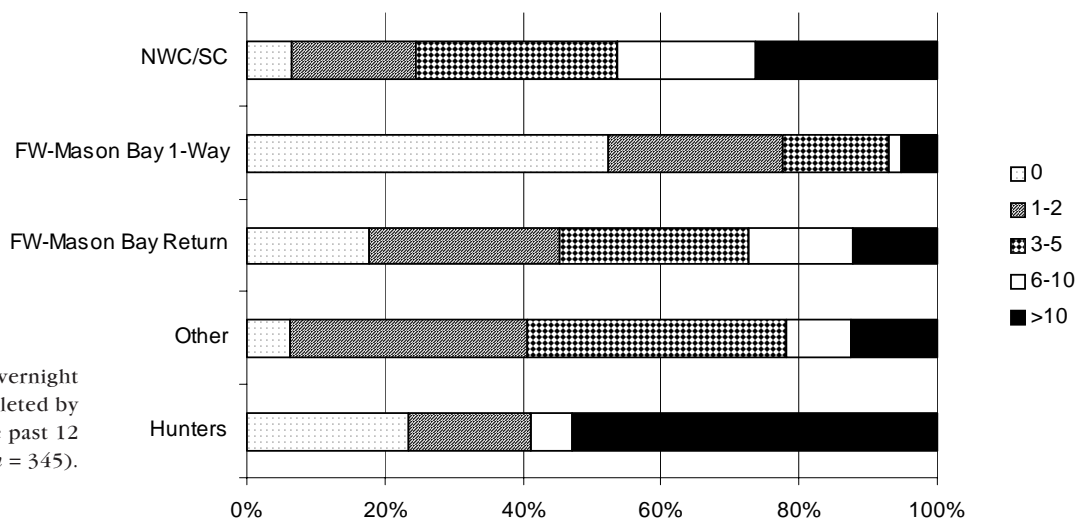


Figure 10. Overnight tramps completed by respondents in the past 12 months ($n = 345$).

¹⁷ Tramping trips in the past 12 months is used here as an indicator of tramping experience, but may not be a true indicator if people have extensive tramping knowledge, but are no longer so active.

4.2.2 Post-visit questions (survey Part 2)

Part 2 of the survey concerned the visitor experience in relation to expectations. It was handed to respondents in a Freepost envelope, to be completed **after** their trip, and returned to one of the four collection points. A total of 289 respondents returned this section, giving a response rate of 84%.

Experience versus expectations

*Were any of the following things **different** to what you expected at Mason Bay?*

Figure 11 illustrates that in general, the majority of visitors found that their experience met their expectations. The most accurate expectations related to the amount of information in the hut and the level of the hut facilities, where over 75% of respondents found what they expected. Other areas where expectations were largely met were: the evidence of human influence in the area (61% same as expected), the amount of non-natural noise (60% same as expected), the feeling of being in the wild (69% same as expected), the amount of information and signs on the track (74% same as expected) and the level of difficulty of the track (66% same as expected).

Seven out of the 15 issues differed significantly from what was expected (3 in a positive and 4 in a negative sense). The issues were: the number of kiwi seen (49% saw fewer than expected), the number of aircraft noticed (30% noticed more than expected), the number of people using the hut facilities (42% encountered more than expected), the amount of mud and water on the track

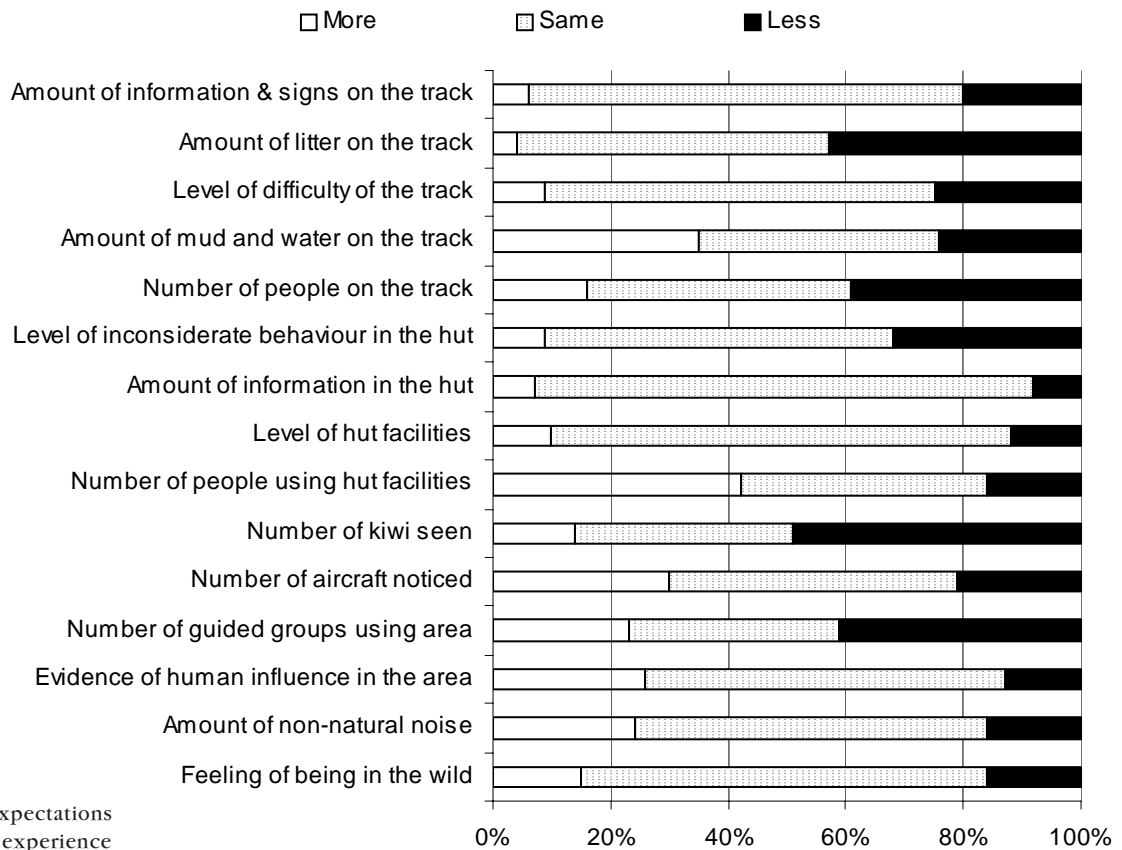


Figure 11. Expectations relative to experience ($n = 273$).

(35% experienced more than expected), the number of guided groups using the area (41% noticed fewer than expected), the amount of litter on the track (43% saw less than expected), and the number of people on the track (39% saw fewer than expected). For managers, the major concerns about visitor expectations appear to be in the following areas: the number of kiwi seen, the number of aircraft noticed, the number of people using the hut facilities, and the amount of mud and water on the track.

There were significant differences between visitor groups concerning the following issues.

The number of aircraft noticed ($\chi^2 = 46.321, P < 0.001$)

- Hunters had accurate expectations regarding aircraft activity, with 75% seeing the same number as expected.
- A significant number of Freshwater-Mason Bay One-Way walkers (32%) anticipated more aircraft.
- Almost 50% of Freshwater-Mason Bay Return walkers saw more aircraft than they expected.

The amount of non-natural noise ($\chi^2 = 44.247, P < 0.001$)

- Again, hunters had accurate expectations, with 88% experiencing the same level of non-natural noise as expected.
- Around $\frac{1}{3}$ of circuit walkers and almost $\frac{1}{2}$ of 'others' expected less noise than they encountered at Mason Bay.
- Few Freshwater-Mason Bay One-Way or Return visitors noticed more noise than expected.

The evidence of human influence ($\chi^2 = 45.716, P < 0.001$)

- Significant numbers of circuit walkers and hunters expected less evidence of human influence in the area.
- Over $\frac{1}{3}$ of Freshwater-Mason Bay One-Way visitors were anticipating more human influence.
- Over half of Freshwater-Mason Bay One-Way and 60% of Freshwater-Mason Bay Return walkers found the same level of human influence as they expected.

The feeling of being in the wild ($\chi^2 = 69.323, P < 0.001$)

- Expectations were met for most visitor groups.
- Circuit walkers and 'other' walkers were more likely to feel less 'in the wild' than they had anticipated.
- Almost $\frac{1}{3}$ of Freshwater-Mason Bay One-Way walkers found the area to be more wild or natural than expected.

The standard of hut facilities ($\chi^2 = 32.211, P < 0.01$)

(Visitors who did not use the hut facilities were removed for this analysis.)

- In general, the hut facilities met the expectations of visitors, although a significant minority (26%) of Freshwater-Mason Bay One-Way and 'other' walkers expected a higher level of provision.
- As noted earlier, for a large proportion of Freshwater-Mason Bay One-Way walkers, this may be their first experience of a back-country hut, and so they have little to base their expectations on.

*The amount of mud and water on the track*¹⁸ ($\chi^2 = 40.842, P < 0.001$)¹⁹

- Circuit walkers generally had accurate expectations of the track conditions, with only 19% noticing more mud and water than expected.
- Freshwater-Mason Bay One-Way walkers clearly have the most inaccurate expectations of track conditions. Over half of the respondents in this category encountered more mud and water on the track than expected.

*Were any of the above issues **very** different to what you had expected?*

There were 82 responses to this question, which reflected that, in general, visitors' experience at Mason Bay met their expectations. Issues with more than 10 comments were:

- The number of people using the hut facilities (more than expected)
- The amount of mud and water on the track (more than expected)
- The number of aircraft noticed (more than expected)
- The level of the hut facilities (less than expected)

All but one of these issues (the level of hut facilities) were the same as those identified in the previous question, illustrating a general consensus as to which areas of visitor expectations might require management attention.

Responses to this question were too few to allow further statistical analysis, although circuit walkers commented more on crowding in the hut, excessive numbers of short stay visitors, and the lack of hut etiquette practised by others. Freshwater-Mason Bay One-Way walkers were unhappy with the amount of mud and water on the track, the lack of signage on the track, and the level of hut facilities. Freshwater-Mason Bay Return walkers commented on the muddy track conditions, the number of aircraft, and the presence / behaviour of fly-in visitors.

Kiwi viewing

Did you look for kiwi during your visit to Mason Bay?

Seventy six percent of respondents looked for kiwi during their visit. A previous DOC survey at Mason Bay (Crosbie 2002), found that walkers often came within one and five metres of a kiwi, spending longer than one minute interacting and observing. Managers may therefore have cause for concern if a large proportion of the visitors who look for kiwi are not adhering to the kiwi viewing guidelines (refer also to the following questions).

Did you see a kiwi during your visit to Mason Bay?

Forty percent of all respondents saw a kiwi during their stay. Given the significance of kiwi spotting in drawing visitors to Mason Bay and visitors' high expectations of seeing a kiwi (see sections 4.2.1 Motivations, and Activities undertaken, above), this could have serious implications for visitor satisfaction. There were significant differences between visitor groups: $\chi^2 = 45.534, P < 0.001$. Freshwater-Mason Bay Return visitors were the most likely to look for kiwi, with 93%; a high percentage of Freshwater-Mason Bay One-Way (84%)

¹⁸ Responses to this question varied depending on weather conditions.

¹⁹ Visitors who did not walk the track were removed for this analysis.

and ‘other’ walkers (85%) also looked. Sixty one percent of circuit walkers and 50% of hunters looked for kiwi.

Did you notice anyone behaving inappropriately around kiwi? If yes, what were they doing?

Four percent of respondents noticed people behaving inappropriately around kiwi. Examples of this included: shining torches directly on kiwi, making loud noises around kiwi, trampling through vegetation looking for kiwi, and following kiwi into the bush.

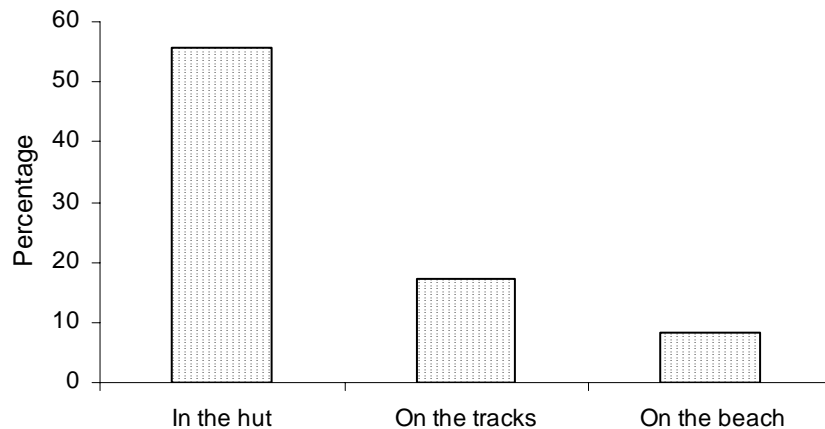
Crowding

Did you feel crowded at all during your visit to Mason Bay?

Crowding was not a significant issue on the beach or the tracks during the survey period (Fig. 12). Only 17% of respondents felt crowded to some extent on the tracks, and no-one felt extremely crowded. Crowding on the beach was at an even lower level, with 5% of respondents feeling ‘somewhat crowded’ and 3% feeling ‘moderately crowded’.²⁰

Crowding in the Mason Bay hut, however, was a problem, with 56% of respondents feeling crowded to some extent. The hut was over capacity on 5 out of the 30 nights (17% of the time), and over 75% capacity for another 6 nights. There was no significant difference in perceptions of crowding between visitor groups.

Figure 12. Percentage of visitors feeling crowded to some extent; either ‘somewhat’ crowded, ‘moderately’ crowded, or ‘extremely’ crowded ($n = 265$).



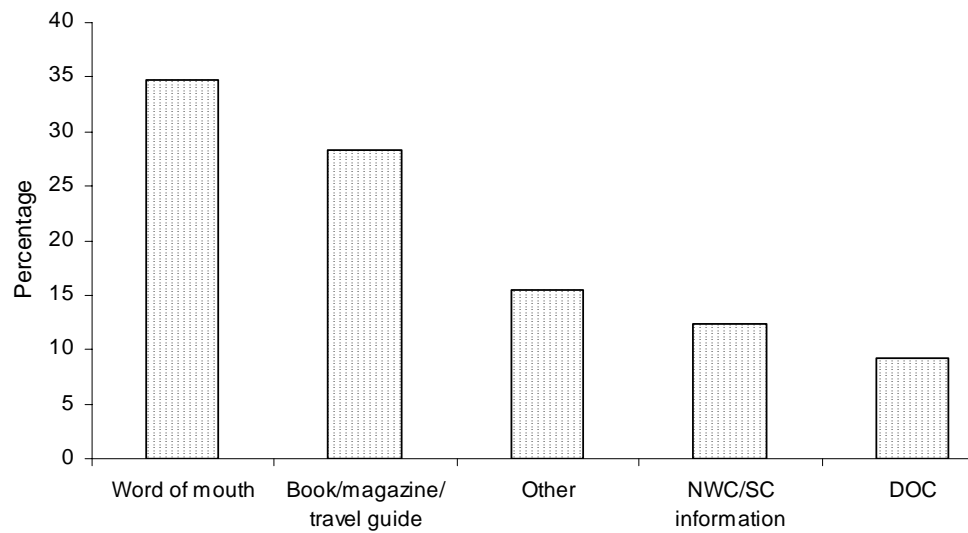
Pre-departure information

How did you first hear about Mason Bay before your visit?

Figure 13 shows that the majority of respondents heard about Mason Bay via word of mouth or through a travel guide or magazine. The Lonely Planet and Rough Guides were the predominant travel guides used. ‘Other’ information sources included the internet, previous visits, travel agents and tour guides. Although the Department of Conservation was not a very common method of first hearing about Mason Bay, it was more popular amongst circuit walkers and

²⁰ Crowding is a complex concept and is discussed in more detail in section 5.2.1.

Figure 13. Where did you first hear about Mason Bay? ($n = 251$).



Freshwater-Mason Bay Return visitors. Hunters and Freshwater-Mason Bay One-Way visitors were more likely to first hear about the area from friends or family. There were significant differences between visitor groups: ($\chi^2 = 109.929, P < 0.001$).

What was your main source of information for planning your trip?

The main source of information for planning a visit to Mason Bay was the Department of Conservation (visitor centres, brochures, maps, and the DOC website), with 35% of respondents selecting this option (Table 4). Word of mouth was also a popular option, with just over a quarter of respondents. The other important source of information was travel books—the predominant guides being Lonely Planet and Rough Guides.

There were significant differences between visitor groups: $\chi^2 = 110.744, P < 0.001$. Over half of the Freshwater-Mason Bay One-Way walkers relied on word of mouth or travel books, while around half of circuit walkers and Freshwater to Mason Bay return walkers sought information from the Department of Conservation. Hunters relied heavily on word of mouth (70%), reflecting the fact that many of them have been visiting the area (or know people who have been visiting the area) for longer periods of time.

TABLE 4. MAIN SOURCE OF INFORMATION FOR PLANNING TRIP ($n = 284$).

| SOURCE OF INFORMATION | PERCENTAGE |
|--------------------------|------------|
| DOC | 35 |
| Word of mouth | 26 |
| Travel book | 22 |
| Internet | 5 |
| Other | 5 |
| Non-DOC brochures / maps | 4 |
| Other information centre | 3 |

How accurate was the information you obtained?

Eighty percent of respondents stated that the information they had sought was fairly accurate or very accurate. Only 6% (16 people) were unhappy with the information they obtained, and, of these, only two had sought information from the Department of Conservation.

Sources of satisfaction

What were the three most satisfying things about your visit to Mason Bay?

A total of 422 comments were made by visitors concerning satisfying aspects of their visit to Mason Bay. Scenery and landscapes stood out as the most satisfying features with 23% of all comments. Respondents also valued the remoteness and isolation of the area (12%), seeing a kiwi (11%), meeting other people (7%) and the wildlife (7%). Other satisfying things were the unspoilt nature of Mason Bay (6%), the hut facilities (6%) and the DOC workers (5%). These findings are very similar to previous surveys in the area.

There were significant differences between visitor groups in their sources of satisfaction, illustrated by Table 5 ($\chi^2 = 291.508$, $P < 0.001$). Circuit walkers were most satisfied with the scenery and landscapes (32%), the hut facilities (14%), the DOC workers (8%) and seeing a kiwi (8%). Few visitors in this category commented on the remoteness and solitude of the area. In contrast, 31% of Freshwater–Mason Bay One-Way walkers found the remoteness and solitude to be the most satisfying aspect of their visit. Visitors in this group also appreciated the scenery and the flight / boat trip in or out. For Freshwater–Mason Bay Return walkers, the most enjoyable aspects of the visit were scenery and landscapes (26%), seeing a kiwi (24%) and the remoteness (12%). The majority of hunters, understandably, appreciated the hunting, whilst other satisfying things included the weather, scenery, remoteness, and the wildlife.

TABLE 5. SATISFYING ASPECTS OF THE VISITOR EXPERIENCE ($n = 422$).

| SATISFYING ASPECT | PERCENTAGE TOTAL COMMENTS | | | | |
|-----------------------------------|---------------------------|------------------|-----------------|-----------|-----------|
| | NWC/SC | FW–MB ONE-WAY | FW–MB RETURN | OTHER | HUNTERS |
| Scenery / landscapes | 32 | 21 | 26 | 16 | 7 |
| Remoteness / solitude / isolation | 5 | 31 | 12 | 8 | 7 |
| Seeing Kiwi | 8 | 10 | 24 | 40 | 0 |
| Social | 5 | 1 | 3 | 0 | 0 |
| Wildlife | 1 | 3 | 9 | 4 | 7 |
| Unspoilt/ natural | 6 | 4 | 9 | 4 | 7 |
| Hut facilities | 14 | 0 | 2 | 0 | 0 |
| DOC workers | 8 | 0 | 2 | 16 | 0 |
| Tracks | 1 | 1 | 2 | 0 | 0 |
| Flight / boat trip in or out | 1 | 13 | 0 | 0 | 0 |
| Sense of achievement / challenge | 6 | 1 | 2 | 4 | 0 |
| Weather | 0 | 6 | 6 | 0 | 14 |
| Rest/Relaxation | 4 | 0 | 0 | 0 | 0 |
| Hunting | 0 | 0 | 0 | 0 | 57 |
| Miscellaneous | 8 | 7 | 5 | 8 | 0 |

Bold type indicates the three most commonly cited sources of satisfaction for each visitor group.

Sources of dissatisfaction

What were the three most dissatisfying things about your visit to Mason Bay?

A total of 382 'dissatisfied' comments were made by visitors about their experience at Mason Bay. This is less than the number of satisfied comments. The hut facilities were the most dissatisfying aspect of the visitor experience, comprising 26% of the comments. The composting toilet and lack of space in the kitchen and the general cleanliness of the hut were the main complaints. Crowding in the hut (11%) was also a major source of dissatisfaction. Not seeing a kiwi (9%), the track conditions (8%), and the behaviour and / or presence of other visitor groups (7%) were also negative aspects of the visit for some respondents. Miscellaneous comments included 'not enough time', 'too many sand flies', and 'no sunsets'.

TABLE 6. DISSATISFYING ASPECTS OF THE VISITOR EXPERIENCE ($n = 382$).

| DISSATISFYING ASPECT | PERCENTAGE TOTAL COMMENTS | | | | |
|---------------------------------|---------------------------|------------------|-----------------|-----------|-----------|
| | NWC/SC | FW-MB ONE-WAY | FW-MB RETURN | OTHER | HUNTERS |
| Hut facilities | 20 | 33 | 17 | 33 | 14 |
| Crowding in the hut | 20 | 4 | 13 | 10 | 0 |
| Not seeing a kiwi | 4 | 10 | 15 | 19 | 7 |
| Tracks | 1 | 14 | 4 | 10 | 0 |
| Conflict between user groups | 16 | 4 | 4 | 5 | 7 |
| Weather | 3 | 4 | 11 | 0 | 0 |
| Aircraft | 7 | 0 | 4 | 10 | 0 |
| Inappropriate visitor behaviour | 4 | 2 | 6 | 0 | 0 |
| Litter | 6 | 10 | 0 | 0 | 21 |
| Information provision | 0 | 6 | 2 | 5 | 0 |
| Guided groups | 1 | 0 | 4 | 0 | 7 |
| Pests | 1 | 0 | 0 | 0 | 14 |
| Miscellaneous | 17 | 15 | 19 | 10 | 29 |

Bold type indicates the three most commonly cited sources of satisfaction for each visitor group.

There were significant differences between different visitor groups ($\chi^2 = 171.703$, $P < 0.001$), as demonstrated in Table 6. Circuit walkers were most unhappy with these hut issues: hut facilities (20%), crowding in the hut (20%), and conflict between visitors groups (16%). They were displeased with the number of inexperienced trampers accessing the area by aircraft and water taxi, their apparent lack of hut etiquette, and the general attitude of certain visitors. A large percentage of Freshwater-Mason Bay One-Way walkers (33%) were displeased with the hut facilities, while not seeing a kiwi (10%), and the track conditions (14%) were also frequently mentioned. Freshwater-Mason Bay Return visitors were also dissatisfied with the hut facilities (17%) and the lack of kiwi (15%). Hunters were in general, very satisfied with their experience. The few complaints that were made concerned litter on the beach (21%), pest plants and animals (14%), and the hunter hut facilities (14%). (The small sample size distorts the figures.)

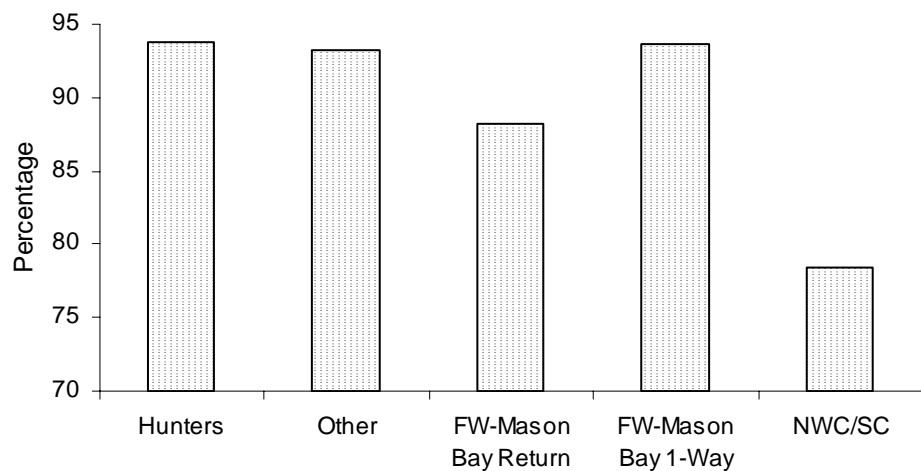
Overall satisfaction

Overall, how satisfied have you been with your visit to Mason Bay?

The majority of respondents were very satisfied (56%) or moderately satisfied (31%) with their visit. Only 9% expressed dissatisfaction and, of these, only two people (0.7%) were very dissatisfied. These results are consistent with previous studies which have reported consistently high levels of satisfaction (Devlin et al. 1995) and the theory of 'rationalisation' (Manning 1999). Rationalisation is a cognitive coping strategy adopted by recreationists, whereby they set limits to how satisfied or dissatisfied it is possible to be with their recreation experience (based on factors such as the expenditure of effort, time, money, and choice of companions). They 'rationalise' their experience by altering their perceptions accordingly and report high levels of satisfaction, regardless of conditions.

Although satisfaction was high amongst all visitor groups, significant differences were found: $\chi^2 = 39.229$, $P < 0.05$. Figure 14 illustrates that Freshwater-Mason Bay One-Way walkers were the most satisfied visitor group, with 93.6% of visitors moderately or very satisfied. Satisfaction levels were lowest amongst Circuit walkers, with 78.5% moderately or very satisfied. This could be due to the fact that many Freshwater-Mason Bay One-Way walkers had little similar back country experience to base their perceptions upon. Shultis & Kearsley (1989) reported on a 1979 study and their findings imply that rare or non-users of back country or 'wilderness' areas seem more likely to be satisfied with a partly developed back country. This is because they have less of a purist view of wilderness, and less personal experience for comparison with the current trip.

Figure 14. Percentage of visitors moderately or very satisfied (Y axis has been altered to start at 70), ($n = 283$).



Visits to The Gutter

Did visitors go to The Gutter?

A total of 51 people (18% of respondents) went to The Gutter²¹ during their visit to Mason Bay. Of those visitors who went to The Gutter, two-thirds were staying in the area for more than one night, and one-third visited as part of a guided group.

²¹ 'The Gutter' is an area of significant cultural importance to local Maori.

Effects of aircraft

Aircraft noticed by visitors

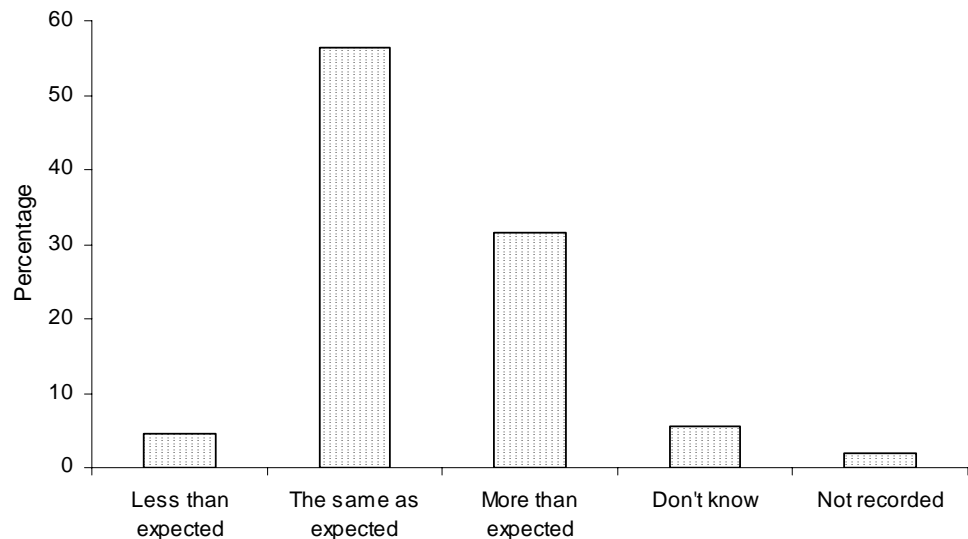
One hundred and eight people (68%) had noticed aircraft during their visit (and so continued to answer the rest of the questionnaire). Most people noticed between 1-4 aircraft on their visit. The mean number of aircraft noticed was 3.3. However discounting the responses of visitors spending more than 4 nights at Mason Bay reduces this figure to 2.6.

| | | |
|-------------------------------------|-----|-----------|
| Noticed aircraft | 68% | |
| Mean number of aircraft per visit | 3.3 | |
| Mean (excluding long stay visitors) | 2.6 | (n = 127) |

Amount of aircraft activity noticed

Slightly over half of all people who noticed aircraft said there was the same number as they expected. Just over 30% stated that there were more aircraft than expected, and around 5% saw fewer aircraft than expected (Fig. 15).

Figure 15. Amount of aircraft activity noticed (n = 103).



Amount of aircraft activity that would spoil their visit

Almost 16% of people said that any aircraft activity at all would ruin their visit. Around 40% stated their visit would be ruined by double the amount of activity they had experienced, and almost 27% said more than 5 times the amount they had seen.

| | | |
|-------------------|-------|-----------|
| Any amount | 15.7% | |
| This amount | 7.4% | |
| Two times | 38% | |
| Five times | 26.9% | |
| More than 5 times | 8.3% | |
| Don't know | 3.7% | (n = 104) |

Effect of aircraft

The majority of people (59%) who noticed aircraft said they felt neutral about the activity. 19% were annoyed by it, while around 16% enjoyed aircraft (Fig. 16). Fifteen out of 17 of the respondents who enjoyed aircraft had arrived or departed by aircraft, and only one person who was annoyed by aircraft had used this means of transport. These results illustrate that the annoyance threshold of 25% of people annoyed (Booth et al. 1997) has not been reached at Mason Bay. In comparison, reported levels of annoyance in other areas of New Zealand where the aircraft monitor has been used by the Department of Conservation are given in (Table 7).

Figure 16. Effect of aircraft
(*n* = 104).

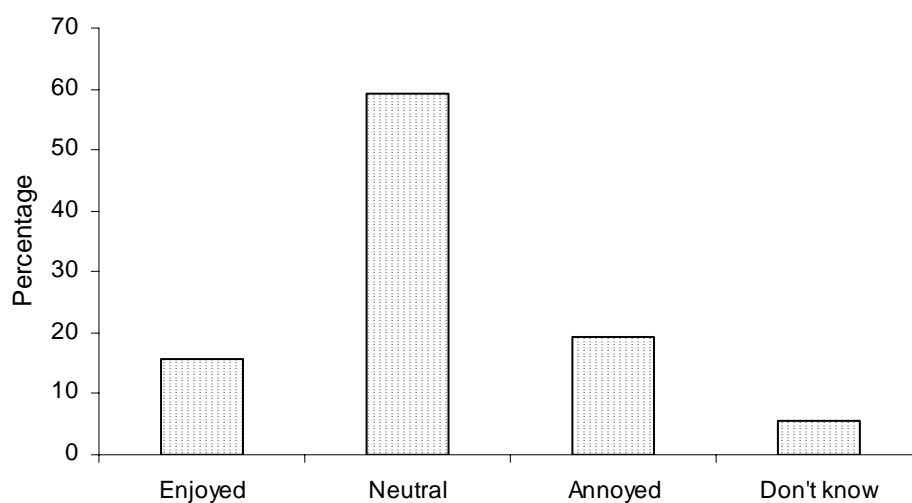


TABLE 7. RESULTS OF AIRCRAFT MONITOR SURVEYS IN DEPARTMENT-MANAGED LOCATIONS IN NEW ZEALAND.

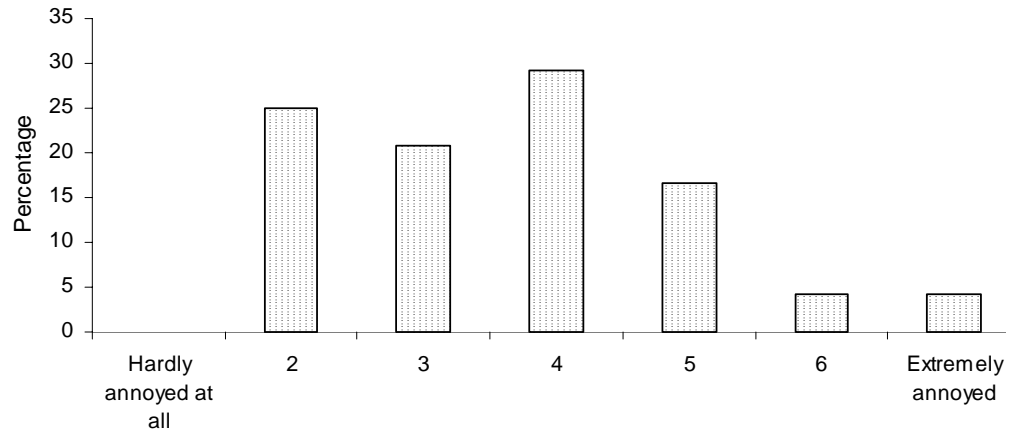
| LOCATION | YEAR | ANNOYANCE LEVEL (%) |
|--|------|---------------------|
| Mason Bay, Rakiura National Park, Stewart Island (current study) | 2004 | 19 |
| Blue Lakes, Aoraki Mount Cook National Park (Brown 2003) | 2003 | 9 |
| Mueller Hut, Aoraki Mount Cook National Park (McManaway & Bellringer 2002) * | 2002 | 35.1 |
| Empress Plateau, Tasman Saddle, Kelman huts, Aoraki Mount Cook National Park (McManaway & Bellringer 2002) * | 2002 | 32.4 |
| Hooker Valley, Aoraki Mount Cook National Park (Horn 2001) | 2001 | 16.7 |
| Franz Josef Valley, Westland/Tai Poutini National Park (Hegarty 2001) | 2001 | 19 |
| Fox Valley, Westland/Tai Poutini National Park (Hegarty 2001) | 2001 | 19 |
| Roberts Point Lookout, Westland/Tai Poutini National Park (Hegarty 2001) | 2001 | 45 |
| Chalet Lookout, Westland/Tai Poutini National Park (Hegarty 2001) | 2001 | 29 |
| Milford Track, Fiordland National Park (Herlihy 1999) | 1999 | 52 |
| Milford Track, Fiordland National Park (Tourism Resource Consultants 2000) | 2000 | 51 |
| Milford Sound Fiordland National Park (Tourism Resource Consultants 2000) | 2000 | 20 |

* A modification to the aircraft monitor survey took place for this particular study. Surveys were self-administered at the huts. The results are, therefore, not directly comparable to the other studies.

Amount annoyed by aircraft

Of the 19% of people who said they were annoyed by aircraft, over half were strongly annoyed, with a score of 4 or more (Fig. 17). The mean score for annoyance was 3.7, indicating that most of these people were moderately to strongly annoyed by aircraft.

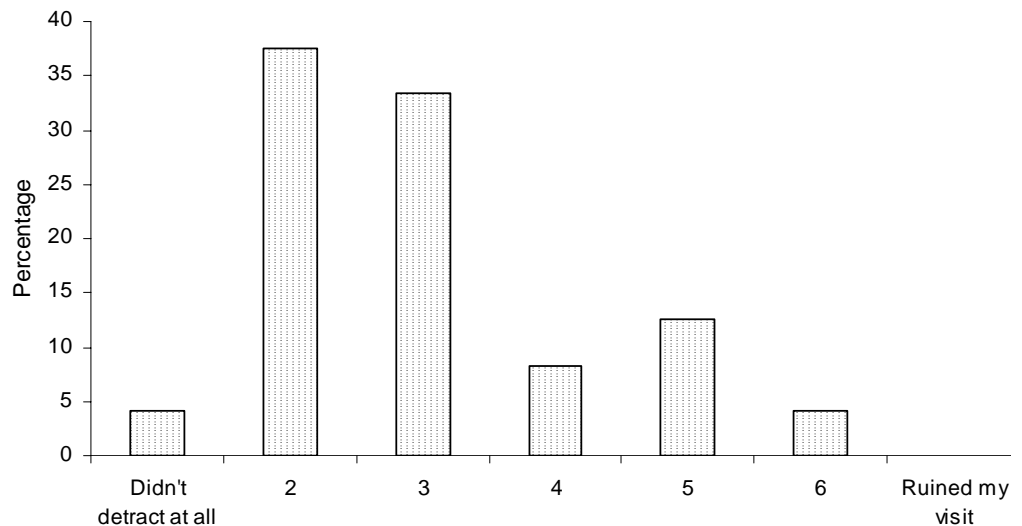
Figure 17. Amount annoyed by aircraft ($n = 24$).



Amount aircraft detracted from enjoyment of visit

Of the 19% of people who were annoyed by aircraft, the mean score was 3, illustrating that the presence of aircraft detracted moderately from the overall visitor experience (Fig. 18).

Figure 18. Amount aircraft detracted from enjoyment of visit ($n = 24$).



4.3 ON-SITE OBSERVATIONS

Various observations were made by the researcher during the study period. These were undertaken to address certain stakeholder and management concerns, and to compliment the survey data.

4.3.1 Litter

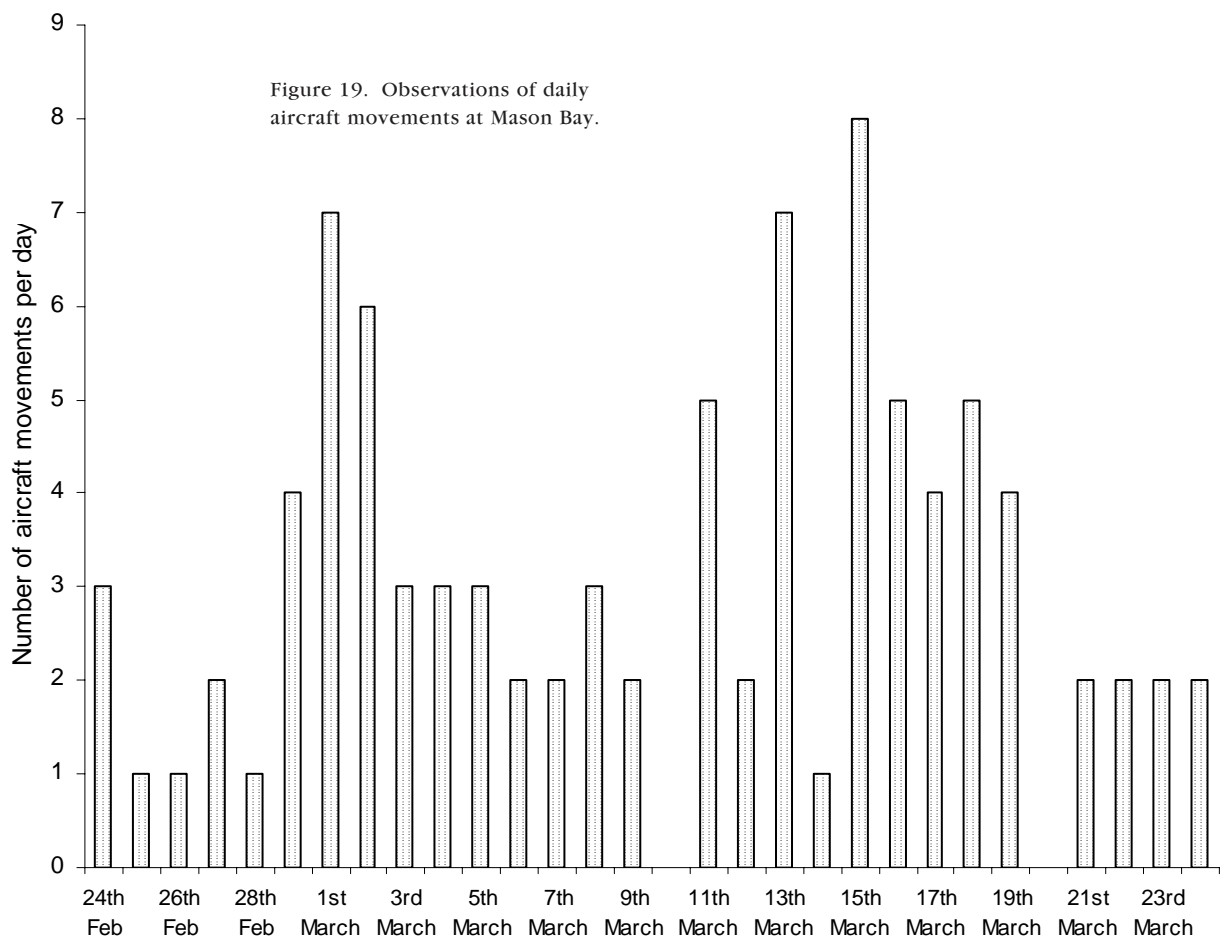
A total of 164 pieces of litter were left in the hut during the study period, giving an average of between 5 and 6 pieces per day. Litter included beer cans, cigarette packets, empty food tins, chocolate bar wrappers, milk cartons, gas canisters, plastic bags, empty jars, and other food wrappers. Litter on the track was almost non-existent, with just one cigarette butt and two tissues being left during the survey period.

4.3.2 Aircraft movements

A total of 92 aircraft were noticed by the researcher during the survey period, giving an average of 3 per day; 49 of these landed at Mason Bay, and 43 flew overhead. The largest number of aircraft noticed in one day was 8 (6 landings and 2 over-flights), and there were 2 days when no aircraft were noticed at all. Figure 19 illustrates the daily frequency of aircraft movements. Passengers who flew in **and** out of Mason Bay included hunters, Landcare Research workers, and DOC workers.

4.3.3 Observations of tramping equipment

The majority of visitors (91%) were 'well prepared' or 'adequately prepared', with only 6% 'inadequately prepared'. There were significant differences between visitor groups ($\chi^2 = 287.601$, $P < 0.001$). Almost all of the unprepared visitors (18 out of 21) were walking the Mason Bay-Freshwater One-Way track. Examples of inadequately prepared visitors included people with inappropriate



clothing or footwear for the weather conditions, lack of waterproof clothing, no cooking utensils or stove (overnight visitors only) and carrier bags instead of tramping packs. Various respondents also made reference to their lack of preparation in Part 2 of the survey under the question:

'What were the three most dissatisfying things about your visit, if any?'

- *'Not being properly prepared'*
- *'No-one prepared me for what the walk would be like—mud, deep water, very long'*
- *'Not having proper equipment because DOC gave us no info as to facilities in the hut'*
- *'Not being informed by DOC about what equipment we needed (i.e. stove)'*
- *'It would be helpful to have pans, utensils, and cups'*
- *'Not having enough warning in relation to the amount of mud'*
- *'It [the track] had been sold as an easy 4 hour walk, but it was exhausting ... we had not been advised that hiking boots were necessary, so we were completely unprepared'*

A similar survey undertaken in 1999 (Finnegan 1999) remarked that 'trampers with little or no experience are an area of concern' and that 'accurate information and advice ... is paramount in order to direct these visitors to a track that will provide a satisfying experience ...' A summary of the unprepared visitors was compiled from the log book. It contains a description of the observed weather conditions and the reason why the visitor was unprepared. This can be seen in Appendix 1.

4.4 PARTICIPANT OBSERVATIONS/ANECDOTAL COMMENTS

During the study period, informal conversations were held with visitors, and behavioural patterns and interactions between groups were observed. Various issues and reoccurring themes emerged as having significance to the study objectives. They will each be discussed separately. The issues were: inaccurate visitor expectations, conflict between visitor groups, crowding in the hut, the level of hut facilities, and access values.

4.4.1 Visitor expectations

A number of visitors held inaccurate expectations of the hut facilities, track conditions, and the chances of seeing a kiwi at Mason Bay (refer to sections 4.2.1 Expectations, and 4.2.2 Kiwi viewing). These high expectations were often not met, and consequently some visitors were left disappointed and in some cases quite angry. When questioned about their high expectations of seeing kiwi, visitors generally attributed it to inaccurate or misleading promotional literature and travel guides about Mason Bay. Many also mentioned that they would have been more likely to appreciate other aspects of their visit, had they not been so focussed on seeing a kiwi. A significant number of visitors expected cooking facilities and some expected lighting, flush toilets and toilet paper. This was more of an issue amongst the short stay visitors, and more

specifically those who flew directly from the mainland as they were less likely to have sought detailed information on the area before travelling. Many of the visitors who were disappointed with the hut had also previously walked either the Hump Ridge Track or one of the Great Walks Tracks, and were expecting a similar level of facilities.

There were often complaints about the track conditions, and on numerous occasions, observations were made of visitors who were clearly unprepared—mentally and in terms of tramping equipment.²² A large number of these visitors were only in the area for one night or less, but there were also several Circuit walkers who did not have adequate footwear or clothing. Unrealistic expectations currently appear to be a major issue at Mason Bay, affecting the satisfaction and potentially the safety of visitors.

4.4.2 Conflict between visitor groups

Various types of visitor conflict were observed during the study period. Although these were often very subtle, at times they appeared to have a significant impact on the visitor experience. Much existing research suggests that conflict is more likely to occur in recreational areas with diverse user groups such as at Mason Bay (Jacob & Schreyer 1980; Manning 1999; Watson et al. 1991; Gramann & Burdge 1981; Hawke & Booth 2001). In this case, the main source of conflict was between short-stay visitors and circuit walkers. Both groups differed in terms of motivations, expectations, satisfactions, and tramping experience. Some short-stay visitors appeared to be unfamiliar with the 'hut etiquette' practised in such situations, and this bothered other users.

Conflict situations were also noticed between independent visitors and those on guided walks. Despite the fact that guided groups were only present on 5 days during the study period, 23% of all respondents stated that there were more guided groups using the area than they had expected. When present, guided groups often illustrated very different characteristics to visitors who had planned the trip themselves. This contrast was even more apparent between guided groups and circuit walkers. Visitors in a commercial group were very reliant on their tour guide for organisation and information and asked lots of questions. Some had trouble completing the survey because they weren't sure where they were or where they were going. Many were clearly unhappy with the standard of facilities. See Appendix 5 (p. 74), for quotes from walkers. Guided groups were often larger than independent parties, and so tended to dominate the small kitchen area at mealtimes. Furthermore, the food that was prepared for them was generally of a higher quality than that of most visitors. Finally, guided walkers generally only socialised with people in their tour group, whereas independent walkers were much more likely to interact with other visitors.

Distinctions between guided and independent visitors have been drawn in other academic studies, although few have dealt with guided walkers as a separate recreation user group. Significant differences have been found in age, gender, nationality, group size, behaviour and appearance. Findings suggest that

²² Track conditions varied greatly with the weather.

guided walkers are over-represented in the older age groups (e.g. Beamish 1977; Aukerman & Davison 1980; and Harris 1983, cited in Cessford 1987), that the sexes are more evenly represented than in other user groups (Harris 1983; Cessford 1987), and that they have relatively low levels of tramping experience (Beamish 1977; Fisher 1982; Harris 1983; Cessford 1987). Bryan (1977) proposed that by their very nature, guided trips tended to attract less committed and less experienced participants. Cessford (1987) suggested that guided walkers require the commercial provision of equipment, expertise and guides to facilitate a similar experience to that of independent walkers. Cessford (1998) reports that 23% of walkers on the Milford track were 'bothered' by seeing guided groups. Ryan (1997) found that independent walkers on the Kepler track prefer tracks with no guided facilities, and had a preference for the segregation of guided and independent walkers. He also found that guided walkers are more tolerant of independent walkers than the reverse. Harris (1983) reported that perceptions of crowding were higher amongst independent walkers than guided groups. Tomkins (1996) reported differences in nationality, group size, behaviour and appearance between guided and non-guided walkers on the Routeburn track. Based on personal observations and conversations with respondents, Tomkins suggests that 'independent walkers may see themselves as more 'true' trampers 'roughing' it on their own, rather than depending on others to carry and prepare their food ... as guided walkers do'. Along similar lines, Barker (1989) found that many independent visitors had formed stereotyped images of guided walkers as older and less able, which served to perpetuate the differences between the two groups.

Manning (1999) also makes reference to studies where visitor characteristics such as the type and size of group, the behaviour, the level of experience or commitment to the backcountry, and the degree to which groups are perceived to be alike have been found to influence crowding norms and perceptions of conflict. Some of these findings can be extrapolated to help explain the conflict observed by the researcher between guided and independent visitors at Mason Bay.

The final area of conflict at Mason Bay was between hunters and trampers, although this was rarely apparent. Some visitors were unaware that the area was also used by hunters. Several expressed concern at the use of firearms nearby, and hunters were irritated on a few occasions by finding visitors walking off the trail in hunting zones. Educating visitors about the presence of hunters and the existence of hunting zones could alleviate this problem.

4.4.3 Crowding in the hut

Crowding in the hut was often an issue, and was exacerbated by bad weather conditions. Crowding in the kitchen / living area was a regular occurrence, but bunk space was only a problem on a few occasions. Informal conversations with visitors on busy nights revealed that the layout of the hut and the diversity of visitor groups using the facilities exacerbated crowding problems. These findings are supported by existing literature which suggests that sensitivity to crowding is heightened at campsites or hut sites (Harris 1983; Keogh 1991; Burch & Wenger 1967; Stankey 1973, 1980; and Lucas 1980 cited in Manning 1999). Some short-stay visitors at Mason Bay suggested that they would prefer a booking system. Conversely, many circuit walkers were unhappy at the prospect of bunks being taken up by visitors arriving by plane or water taxi, and

believed that this would reduce their ability to be flexible on the trip. A number of visitors believed that circuit walkers should be given priority for bunk space over visitors accessing the area by aircraft or water taxi. Most people agreed that a change in the layout of the hut or an expansion of the living area would alleviate many of the problems.

Harris (1983) reports differences in opinions between visitor groups regarding access restrictions on the Routeburn track. He found that guided walkers were 'more favourably disposed toward restriction of access' and suggests that this is because they are already constrained to some extent by booking procedures and a structured itinerary, and therefore have less to lose.

4.4.4 Level of hut facilities

Opinions on this issue were divided between those who were unhappy with the existing facilities (and wished to see them upgraded or expanded), and those who would prefer things to remain as they are. Of the circuit walkers with whom the researcher conversed, almost all were entirely against any expansion or development of the facilities, as they believed it would lead to a further increase in visitor numbers. There was, however, a general agreement that the current toilet facilities were inadequate, and that the layout of the living area could be altered to allow more space for cooking. Numerous short-stay visitors, and especially the guided walkers, commented that the facilities should be improved to reflect the increasing numbers of visitors. Suggestions included fitting a shower to the water tank, installing flush toilets, constructing a larger kitchen area, fitting gas cookers, providing kitchen utensils, building a new bunk room, and employing someone to clean regularly.

4.4.5 Accessibility

The final issue that became apparent was the access values provided through air and water taxi transport to Mason Bay. Visitors of all ages (from 2 to 80 years old) and tramping abilities passed through the area during the study period. Mason Bay provides an opportunity for instant immersion in remoteness for almost anyone who desires it. It enables visitors who are on a tight time scale to see both sides of the island, and is a relatively safe place for people of all ages and abilities to spend time. For many of the short-stay visitors, this was one of few opportunities they may ever get to experience such a place. It is therefore important to view Mason Bay in a wider context when preparing any future management strategies for the area, and to assess whether similar opportunities are provided (or could be provided) for this visitor group elsewhere in the region.

4.5 FOCUS GROUP PART 2 RESULTS

An aggregate score was calculated by compiling the views of all respondents so that the final acceptability thresholds reflected the views of all the key stakeholders. Participants evaluated twelve visitor-related impacts that were of significance to them in the first stage of the research. Following this, the process was repeated with the Department of Conservation Southern Islands Area Manager. The results are summarised in Table 8.

TABLE 8. ACCEPTABILITY THRESHOLDS FOR VISITOR IMPACTS OCCURRING AT MASON BAY.

| IMPACT | ACTUAL VALUE | GROUP ACCEPTABILITY THRESHOLD | ACCEPTABLE OR UNACCEPTABLE AT CURRENT LEVEL? | MANAGER'S ACCEPTABILITY THRESHOLD | ACCEPTABLE OR UNACCEPTABLE AT CURRENT LEVEL? |
|---|--------------|-------------------------------|--|-----------------------------------|--|
| Percentage of visitors going to The Gutter | 18% | 54% | Acceptable | 38% | Acceptable |
| Av. number of aircraft noticed per day | 3 | 7 | Acceptable | 4 | Acceptable |
| Percentage of visitors feeling crowded in the hut | 56% | 28% | Unacceptable | 18% | Very unacceptable |
| Number of pieces of litter left in hut each week | 38 | 4.5 | Very unacceptable | 10 | Very unacceptable |
| Percentage of dissatisfied comments regarding conflict between visitor groups | 8% | 14% | Acceptable, but close to threshold | 18% | Acceptable, but fairly close to threshold |
| Percentage of dissatisfied comments regarding hut facilities | 24% | 32% | Acceptable, but fairly close to threshold | 38% | Acceptable |
| Percentage of visitors finding more mud and water on track than expected | 34% | 57% | Acceptable | 38% | Acceptable |
| Percentage of visitors who are inadequately prepared | 6% | 5% | Unacceptable | 18% | Acceptable |
| Percentage of visitors who expect to see kiwi | 69% | 45% | Unacceptable | 18% | Very unacceptable |
| Percentage of visitors who see kiwi | 39% | None* | Acceptable | 88% | Acceptable |
| Percentage of visitors noticing people behaving inappropriately around kiwi | 4% | 2% | Unacceptable | 2% | Unacceptable |

* No unacceptable value.

Five out of the twelve impacts were unacceptable to the group, and four of these were also unacceptable to the Area Manager. Impacts that are currently at an unacceptable level for both parties are:

- **Crowding in the hut**—Currently 56% of visitors feel crowded. The group's threshold for crowding is 28% of visitors, and the Area Manager's threshold is 18%.
- **Litter in the hut**—Currently 38 pieces of litter are left in the hut each week. The group believe that over 4.5 pieces per week is unacceptable, while the Area Manager believes that more than 10 pieces is too much.
- **Expectations of seeing kiwi**—Currently 69% of visitors expect to see a kiwi. For the focus group, over 45% is unacceptable, and for the Area Manager the acceptable threshold is 18%.
- **Inappropriate behaviour around kiwi**—Currently 4% of visitors notice people behaving inappropriately around kiwi. Both the focus group and Area manager believe that the threshold should be 2%.

The focus group also feel that number of inadequately prepared visitors to Mason Bay (6%) is unacceptable. They believe that this should be no more than 5%. Other impacts that are nearing the acceptability thresholds, and may require management attention in the near future are 'conflict between visitor groups' and 'the level of hut facilities'.

It is important to view these thresholds as **indicators**, rather than absolute values. The next stage in the LAC process (section 3.1) is to suggest strategies

that will enable the area to be managed to remain within these limits. Other major issues that were raised at the focus group meeting will be presented in the following section and potential management strategies resulting from the meeting will be discussed.

5. Discussion

This section will involve a discussion of the research findings in relation to the specific study objectives, as outlined in section 1.1.

5.1 USE LEVELS

During the study period, Mason Bay experienced relatively high use levels. An average of 17.2 people used the area each day, and an average of 10.6 people used the facilities each night, (an average nightly occupancy of 66%). These use levels are relatively high for an area valued for its special remote opportunities. Hut book data indicates that the Mason Bay hut receives between 2–3 times more visitors per year than other similar huts on the North West Circuit (DOC 2004). Monthly hut book and track counter data from the past five years, however, indicates that this use is heavily concentrated in the peak summer season from December to March (especially at Christmas, New Year, and Easter). The current survey data also shows that nightly hut occupancy was considerably lower towards the end of the survey period than during the first few weeks. Assuming that the visitor group does not alter significantly between seasons, we can assume that most of the visitor impacts at Mason Bay are focused on the four summer months, and that many are not an issue for the rest of the year.

5.2 SOCIAL IMPACTS

5.2.1 Crowding

There has been considerable research into the effects of increasing use on the quality of the recreation experience (Shelby & Heberlein 1986; Manning 1999). Early concerns with crowding were based on assumptions of an inverse relationship between use density and satisfaction (Devlin et al. 1995). However, research has found this link to be weak or non-existent, which has led to the development of an expanded model of crowding (Manning 1999). The model is based on the realisation that crowding is a perceptual concept, influenced by a number of issues, including coping behaviours of recreationists, normative definitions of crowding and methodological issues (Manning 1999).

Crowding in the Mason Bay hut was the biggest social issue: 56% of respondents felt crowded to some extent, and the hut was over 110% capacity for 5 out of

the 30 nights surveyed, or 17% of the time.²³ In support of the expanded crowding model (Manning 1999), three factors appear to be causing the problem:

1. The hut is situated at the juncture of two major tramping tracks on the island—the North West and Southern Circuit—and is also a popular overnight stop for visitors walking the shorter Freshwater-Mason Bay track. In addition to this, a significant proportion of visitors (almost a quarter) chose to spend more than one night at the hut.
2. The increasing popularity of the area: because of ease of access (via air and water taxi transport) and opportunities to see a kiwi in the wild. The hut remains the same size, but the number and diversity of users is steadily increasing, placing increased pressure on facilities and users.
3. The layout of the hut: the current kitchen / living area is extremely small, with little room to move around or prepare food, and nowhere to sit and relax. Confining large numbers of people to such a small space is guaranteed to cause friction, especially when such diverse groups are involved.

Various respondents suggested implementing a booking system to alleviate the crowding problem; however this was not a popular option amongst Circuit walkers who value the freedom and flexibility offered by the current hut system. Other ideas were to increase bunk capacity and to provide two sets of accommodation—one for Circuit walkers, and one for short-stay visitors. This may seem like the most obvious mitigation strategy, however it would conflict with the current Conservation Management Strategy which states that hut capacity on the North West Circuit should not exceed 20 bunks, and that facilities should be limited in order to minimise impacts elsewhere and to preserve the remote experience away from the hut (DOC 1997: 138). Increasing hut capacity is not a long term solution because eventually the management issues will re-emerge as increased supply can be anticipated to lead to increased demand. Wohlwill & Heft (1977) refer to this process as the ‘positive feedback system’. Manning (1999) also suggests that this may eventually lead to the displacement of visitors who prefer low development and low use levels. More favourable options, therefore, could include providing a combination of flexible bunk space for circuit walkers, and a booking system for people accessing the area by aircraft or water taxi, and / or ensuring that visitors are aware of the possible crowding problems. Educating visitors about their potential impacts on other users, and advocating for single-night stays at the hut are other options. Given that crowding was more of an issue in the kitchen / living area than the bunk rooms, it may be more appropriate to focus management attention on upgrading and enlarging this area before taking more restrictive measures.

It is important to note that overall satisfaction levels at Mason Bay remained high despite the reported levels of crowding. Manning (1999) proposes a plausible explanation for this, based on the theory of cognitive dissonance developed by Festinger (1957) and others. He suggests that reported

²³ DOC considers a hut to be crowded when it is over 110% capacity for more than 10% of the time.

satisfaction is often not related to use levels because, in order to reduce internal conflict, people tend to ‘rationalise’ their behaviour and rate their recreation experiences highly, regardless of actual conditions.

5.2.2 Conflict between visitor groups

Conflict in recreational settings is likely to occur if the presence or behaviour of other visitor groups is seen as undesirable, or a possible threat to an individual’s recreation goals (Jacob & Schreyer 1980). In the instances where conflict was evident amongst visitors at Mason Bay, these two factors were found to be the main causes. Conflict was most visible between Circuit walkers and short-stay visitors (and more specifically those walking the Freshwater–Mason Bay One-Way track).²⁴ In support of much of the current research, the discord was largely ‘one-way’ in nature (Manning 1999),²⁵ meaning that Circuit walkers were often annoyed with short-stay visitors, but the reverse was not true. Some survey quotes regarding conflict between visitor groups are listed below as responses to the question: ‘*What were the most dissatisfying things about your visit?*’

- *‘Inconsiderate but users (not used to the ‘but code’)’*
- *‘Being woken up by loud talking and laughing from others in but’*
- *‘The attitude of others about expectations of seeing kiwi’*
- *‘Meeting other independent groups while kiwi spotting’*
- *‘Fly-in people who are absolutely inexperienced, but on the track’*
- *‘Suddenly there were so many people ... a few came by plane or boat. A bit disgusting because you walk for 8 days and they arrive with fresh food, etc.’*
- *‘I didn’t expect so many people to be flown in’*
- *‘The expectations of day-trippers and taxi / plane drop offs’*
- *‘The number of people coming in by plane and / or water taxi diminished the sense of wilderness’*
- *‘A hunter with a loaded gun very near us on the track’*
- *‘Hunting parties mixed in with trampers on tracks’*
- *‘People coming in by aircraft—they need to be better informed about consideration when sharing but’s’*
- *‘Just having trekked for 7 days through mud, only to arrive and see a group of people who flew in with a case of beer’*
- *‘Poor but etiquette from Freshwater tourists and coast-to-coast people’*
- *‘People who flew in and complained about having to walk to Freshwater’*
- *‘The number of day-trippers (coming in by water taxi / aircraft)’*
- *‘Too many people flying in and out just to see kiwi. Silly people who are not tramping ... this should be mandatory’*

²⁴ Conflict was also observed between guided and independent walkers, however, low numbers of guided walkers meant that further analysis was not possible.

²⁵ The conflict between hunters and trampers was two-way, but occurred very rarely and will therefore not be discussed in this section.

Different levels of tramping experience and knowledge of the hut 'rules' also meant that there were behavioural differences amongst visitors that led to conflict. Circuit walkers were generally very familiar with the hut system and how to behave appropriately within it, whereas many short stay visitors were inexperienced, and often did not practice good hut etiquette.

The second cause of conflict (the presence of other types of visitor) was due to differences in the personalities and social values of visitors (i.e. whether they perceived themselves to be similar or different to other visitors). This included beliefs about the importance of the natural environment and the 'appropriateness' of certain recreation activities (Moore & McClaren 1991; Blahna et al. 1995). Circuit walkers were generally outdoor enthusiasts who accessed the area entirely on foot. They had a high level of experience and commitment to their recreation goals, and a desire to experience the natural environment in some degree of solitude. Short-stay visitors, on the other hand, all used some form of mechanised transport to access the area, were often somewhat inexperienced in the outdoor realm, were more concerned with specific goals (such as seeing a kiwi) than appreciating the general environment, and were often combining their trip with a social occasion. As a result of these differences, regardless of the behaviour of the short-stay visitors, their simple presence was sometimes objectionable to Circuit walkers. It could be that Circuit walkers see themselves as being more worthy, or deserving of the recreational experience that Mason Bay has to offer. This was evidenced by discussions with hut users where several compared the presence of short-stay visitors to back-country skiing experiences where they spent days hiking up a mountain, only to arrive and find that people had been flown in by helicopter.

Manning (1999: 204) suggests that educational programmes may be an effective management approach for mitigating conflict in such cases (i.e. where it is 'related to indirect causes such as alternative social values'. He follows that education can help to establish a basic code of behavioural norms and increase tolerance for other types of visitors and activities. There is support for the notion that emphasising similarities, rather than differences between recreation groups may encourage a willingness to alter behaviour and reduce conflict (Ivy et al. 1992; Ramthun 1995 cited in Manning 1999).

Other factors contributing to conflict at Mason Bay were crowding in the hut and publicity or place promotion (Hawke & Booth 2001). Overcrowding in the hut meant that visitors frequently lacked personal space. Behavioural differences were consequently more apparent when the hut was more crowded, and the potential for inter-group conflict thus increased. Place promotion may have also added to the problems by portraying idealistic images of the area and attracting short-stay visitors who may have otherwise chosen to go elsewhere. Mason Bay is marketed through a variety of means (brochures, postcards, travel guides, tour operators). Certain information sources, however, do not accurately depict the Mason Bay experience. They portray idealistic conditions such as golden sandy beaches, blue skies, grassy tracks, few visitors and kiwi foraging during the daytime. As a result, visitors who may be put off by the unpredictable weather, poor track conditions, and basic hut facilities are basing their decision to visit on inaccurate information. During the study period, the researcher held conversations with numerous visitors who

had built up unrealistic images of Mason Bay based on information in tourist brochures and guide books. Comments included the chances of seeing a kiwi, the location of the hut (i.e. distance from the beach), the weather conditions, the track conditions, and the hut facilities. This is leading to dissatisfaction amongst visitors and also affecting the experience of other groups using the area, and will be discussed further in the following section.

5.2.3 Unrealistic expectations

The concept of expectations is central to understanding visitor satisfaction with recreational experiences (Devlin et al. 1995). Manning (1999) notes that recreationists choose to visit areas and undertake activities that are likely to meet their preferences and expectations. Consequently, if an individual has unrealistic or false expectations, they are less likely to be satisfied with the experience. Unrealistic visitor expectations were widespread at Mason Bay. A significant number of respondents had not received (or not sought) detailed information before making the trip, and were subsequently surprised or disappointed by what they found. The main inaccuracies were in terms of the level of hut facilities, the amount of mud and water on the track, the lack of signage or rest areas on the track, and the chance of seeing a kiwi. This was especially evident amongst the short-stay visitors who had not sought information from DOC and had relied on promotional literature or travel guides to plan their trip. Many of them anticipated a better standard of hut facilities because they were basing their expectations on experiences of other huts or hut systems (i.e. 'Great Walks' huts, huts on the Hump Ridge track, or even private hut systems overseas). Expectations of seeing a kiwi were also very high, probably because of information promoting the area as 'the place to see kiwi in the wild'. The Stewart Island Tourism Strategy (NZTB 1997: 32), recommended that 'the island's positioning be modified by concentrating on the presence of kiwi'. It stated that kiwi spotting 'could easily be turned into the major drawcard for the island' but that 'this is not feasible unless a plan can be developed with the Department of Conservation ...' (NZTB 1997: 34). Although a relatively high percentage (40%) of visitors do see a kiwi at Mason Bay, there is still a significant proportion that expect to see kiwi and do not. The focus on seeing a kiwi means that visitors may be failing to appreciate the numerous other attractions provided in the area.

As well as having a negative impact on visitor satisfaction, the lack of information on facilities and track conditions means that many people are arriving unprepared. This also raises some safety issues for management to consider. As yet, there have been no serious safety incidents at Mason Bay. However, it would be prudent to address these issues now, rather than wait for something to happen. It is important that visitors are given accurate information before making the trip. This will enable them to make an informed judgement as to whether Mason Bay will provide them with their desired recreation experience, to form more realistic expectations, and to hopefully have a more enjoyable visit. It may pay to work collaboratively with the tourism industry in developing an accurate image of Mason Bay that is acceptable to both the Department and the tourism industry, and that can be used in promotional material.

5.3 AIRCRAFT IMPACTS

The level of aircraft activity at Mason Bay during the survey period was relatively low, and few people were **seriously** annoyed by their presence. The number of landings is severely limited by tides and weather conditions, and cost is also likely to be a crucial factor in keeping the numbers low. Approximately 20% of respondents who noticed aircraft were annoyed by them, which is below the Department's threshold of 25%. It is, however, important to continue monitoring the effects of aircraft on visitors, because even a small increase in the number of flights may have a marked impact on satisfaction. It is recommended that visitor use data is collected at the same time as aircraft monitoring, because any changes in the user group may alter perceptions of aircraft. Something that became evident through survey responses and discussions with visitors may be of significance for management. This is that it does not appear to be the physical presence of the aircraft (i.e. the visual and noise effects) that is causing the greatest annoyance at Mason Bay, but more the type of visitor often transported in by this means. These impacts are mainly social, and are due to differences in the attitudes and behaviour of visitors accessing the area on foot (Circuit walkers), and those using other forms of transport (short-stay visitors), (see section 5.2.2). As stated above, a possible means of amelioration would be to educate short-stay visitors on the expected behavioural standards in a back-country setting by providing them with a leaflet or brief talk before setting out on their trip. It is also important to ensure that Circuit walkers are aware of the possible presence of other types of user. This would enable both groups to better understand the needs of other visitors, and perhaps therefore be more tolerant of the differences.

5.4 BIOPHYSICAL IMPACTS

A detailed assessment of the biophysical impacts at Mason Bay was deemed beyond the scope of this study. However, consultation with Departmental managers and scientists, in conjunction with observations during the survey period enabled the researcher to gain a broad overview of the current situation, which is briefly summarised below.

At present, there is no evidence of any serious negative physical or ecological impacts of visitor use in the Mason Bay area. Litter on the tracks is almost non-existent. Camping (and its associated impacts) appears to be largely confined to the hut site; and the creation of hunter camps appears to have succeeded in concentrating any impacts from hunters to the immediate area surrounding the huts. Track degradation is confined to just a few areas along the Freshwater-Mason Bay track,²⁶ and is relatively insignificant in the context of other areas on the island (J. Newman, DOC pers. comm. 2004).

In terms of wildlife disturbance, visitors are currently having no noticeable impact on the kiwi population (R. Colbourne, RD&I, DOC, Wellington pers. com. 2004). Future causes for concern, however, may be the numbers of people un-

²⁶ This study did not look at impacts on other sections of the North West and Southern Circuit, as its primary purpose was to assess impacts at Mason Bay.

dertaking kiwi viewing and their behaviour whilst doing so. Over three-quarters of visitors looked for kiwi during their stay, and observations revealed that this sometimes involved walking off track and trampling native vegetation. Four per cent of visitors noticed people behaving inappropriately around kiwi (i.e. shining torches directly on kiwi, following the birds into the bush, or making loud noises around them).²⁷ During informal conversations with visitors, the researcher noted that most had very little knowledge of the behaviour and ecology of the kiwi. Perhaps a basic understanding of the kiwi may help to reduce the level of inappropriate behaviour, whilst enhancing the visitor experience. The presence of a hut warden during the summer months could also help to resolve these issues. As part of their duties, the warden could explain the kiwi viewing guidelines to visitors, indicate the best places for kiwi spotting, and highlight the importance of remaining on the designated tracks. Reinforcing the fact (through pre-departure information such as pamphlets and visitor centres) that only around 40% of visitors to Mason Bay report seeing a kiwi may also help to reduce the numbers of people who go simply to kiwi spot, to lower expectations and lessen the amount of inappropriate behaviour currently occurring.

5.5 LIMITS OF ACCEPTABLE CHANGE

Using a multi-phase approach based on the 'Limits of acceptable change' (LAC) framework (Stankey et al. 1985), thresholds of tolerance were developed for certain visitor impacts occurring at Mason Bay. Of the 12 impacts selected for evaluation, 5 were unacceptable to stakeholders at the time of study. Four of these were also unacceptable to the Southern Islands Area manager (see section 4.5). Other major points that were raised at Part 2 of the focus group meeting are summarised below:

- Importance of accurate pre-departure information for managing visitor expectations.
- Potential to reduce impacts by educating visitors on the environmental care code and hut etiquette. This should be a joint venture between DOC and transport operators, possibly in the form of a laminated card to be given to visitors when they book or before they depart.
- Need for accurate information regarding the chance of seeing a kiwi. This could involve publicising the fact that only 40% of visitors see a kiwi, and attempting to change the visitor perception of seeing kiwi from a necessity to a possibility.
- Advantages of having a hut warden to reduce impacts and to inform visitors and control visitor behaviour (re kiwi viewing, litter, hut etiquette, etc.).
- Idea of providing an easy-to-understand, easily accessible grading system for track and hut standards throughout the country (especially for overseas visitors).
- Need to upgrade or improve the Mason Bay trampers hut to alleviate congestion problems. Changing the layout could go a long way to doing this.
- Use of the survey as a monitoring tool, which should be carried out every few years to monitor any changes in the area.

²⁷ Refer also to section 4.2.3.

6. Conclusions and recommendations for future management

‘... maintaining opportunities for certain kinds of [recreation] experiences requires the same care and planning as maintaining habitat for certain plant or animal species. Both are important and valuable and both can easily be threatened or lost.’
(Shelby & Heberlein 1986: vii)

This study has provided baseline data on the recreation activities being undertaken, and the types of visitors currently using the Mason Bay area. It has shown that diversity is found in many elements of the Mason Bay recreation experience, and has highlighted differences in terms of: recreation activities, motivations for visiting, characteristics and behaviour of visitors, attitudes towards (and knowledge of) the environment, preferences for services and facilities, and sensitivity to the behaviour of others. The findings are similar to Stankey (1972) who, in a study of wilderness hikers in the United States, concluded that:

‘Wilderness visitors are not in any sense a uniform or homogeneous population ... Represented among [them] are value systems that cover a wide and often conflicting range.’

(Stankey 1972: 92, cited in Manning 1999)

The research has enabled the management issues concerning Mason Bay to be viewed from a variety of perspectives; namely visitors, stakeholders, management, and through the eyes of the researcher (via participant observation). At present, the majority of visitor impacts are social, and it seems that there is little evidence of any negative physical or ecological effects associated with increased visitor use. The current social issues appear to be rooted in the increasing numbers of (mainly short-stay) visitors using the area. The present hut facilities are not sufficient to cope with the demand during high season; there appears to be a shortfall in the accuracy of pre-departure information, and the increasing diversity of visitor types using the area is fuelling problems such as crowding and conflict between visitor groups.

Underlying any future management strategies should be a clear understanding of the fact that Mason Bay cannot and need not appeal to everyone’s recreational preferences. One of the Department’s main outcomes is to provide a range of recreation opportunities (DOC Statement of Intent 2004–2007), which means providing different opportunities in different places in order to maintain a sustainable and high quality experience for visitors. In the context of Stewart Island as a whole, the CMS states that:

‘Although a range of [recreation] opportunities could be made available, it is not essential to provide for every possible user taste or preference ... The special attributes of Stewart Island ... lie largely in its pristine nature and the remote and wilderness settings, its wildlife ... and the ease with which one can ‘get away from it all’
(DOC 1997: 101)

The authors firmly believe that this statement still holds true for Mason Bay. It is important to consider the area in a wider context; recognising the range of recreation opportunities provided on Stewart Island and by other locations throughout the South island. In attempting to cater for such a diverse range of visitors at one location, the quality of the experience will be compromised. Further increases in the numbers of short-stay visitors or guided groups have the potential to unacceptably alter the nature of the opportunities offered at Mason Bay, and may eventually displace those who come for remoteness and solitude. Careful management strategies are required to maintain numbers in these more recently arriving visitor groups at a manageable level. Although this is already being done to a certain extent (i.e. through water taxi concession limits, weather conditions, tides and cost), these measures may not be sufficient to safeguard the remote experience.

Stage 4 of the Limits of Acceptable Change process is to suggest management strategies to maintain the area within the acceptability thresholds (as defined in phase 3). Based on the visitor impacts at Mason Bay that were deemed 'unacceptable' by the focus group, there are various recommendations that can be made. The impacts are listed below, and are followed by recommended mitigation strategies:

6.1 UNACCEPTABLE IMPACTS

6.1.1 Too many people feeling crowded in the hut

Recommendation 1—Hut upgrade

In terms of alleviating crowding, the more preferable management option would be to extend and upgrade the kitchen / living area (rather than placing restrictions on the number of visitors), and perhaps add on a small conservatory area such as at Freshwater hut. This would be in accordance with guidelines in the CMS, and may help to reduce conflict situations. An increase in hut capacity is not feasible, nor recommended, for this would go against guidelines in the current CMS, and the likely outcome would be a further increase in visitor numbers and perpetuation of the crowding issue. The author believes that the Department must maintain a firm stance on this issue in any future planning documents in order to protect and retain the remote experience.

Recommendation 2—Improved visitor education and information

Given that crowding is likely to be concentrated during the peak season from December to March, it would be prudent to inform visitors of this when they buy their hut tickets, so that they are aware of the issue before they arrive.

Recommendation 3—Advocate for smaller group sizes and minimise distinctions between guided and independent walkers

Based on a plethora of evidence that suggests perceptions of crowding are often related to group size and perceptions of likeness, it would be advisable to encourage visitors to travel in smaller groups, and to advocate for smaller guided groups. This would help to protect the experience of the individual.

6.1.2 Too much litter left in the hut

Recommendation 1—Visitor education

Littering is more likely to be due to a lack of knowledge of the ‘pack in-pack out’ system than a conscious decision to leave rubbish behind. What is required is better visitor information (both pre-departure and displayed in the hut) explaining what is expected of visitors and why there is a need for such a system. Working with local tourism operators to develop a joint education programme is recommended here. This approach was also suggested by the focus group.

Recommendation 2—Continued use of hut wardens

The presence of a hut warden during the peak season is recommended as a further means of controlling impacts and educating visitors, and it would be advisable for safety and hygiene reasons, given the large numbers of people using the hut facilities at this time. There is considerable evidence to suggest that personnel-based techniques are generally more effective than signs or brochures (Manning 1999). Furthermore, this would ensure that the Department obtained accurate visitor data during peak periods, and that the current survey could be replicated in a cost-effective manner when required.

6.1.3 Too many inadequately prepared visitors

Recommendation 1—Improved pre-departure information

The authors believe that ‘Soft’ management solutions such as visitor education and improved pre-departure information could alleviate this problem and avoid the necessity for more stringent controls. It is imperative that visitors are properly briefed, before arriving, on what they can expect to find at Mason Bay. They must be able to make informed decisions as to whether the experience is suitable for them, and at present, with the lack of accurate pre-departure information, this is not entirely possible. Visitors need to know that facilities are basic; that there are no cooking facilities or utensils; that water supplies may be limited; that the hut is often busy, and that there may be no bunk space. They should be aware of the fact that the weather is very unpredictable; that it rains a lot, and that the track to Freshwater is often flooded and very muddy. And finally, visitors must be clear in the knowledge that although there are kiwis in the area, there is no guarantee that they will see one. Improving pre-departure information would be in accordance with the current CMS, which states that to maintain the recreation opportunities provided for each track, management should involve: ‘... increasing the dissemination of information about the tracks to ensure the matching of people’s expectations to actual track conditions’ (DOC 1997: 106).

Recommendation 2—National track standard classification system

On a larger scale, it would appear that DOC may benefit from developing a national publicity programme for track standards and service levels. This could be similar to the ski slope grading system in Europe and North America, where colours indicate levels of difficulty. This could be complimented by more site-specific information included in local track brochures or visitor centre information displays.

6.1.4 Too many visitors expecting to see kiwi

Recommendation 1—Move away from emphasis on kiwi spotting

It would appear that much of the current promotional literature places too much emphasis on kiwi spotting as a major ‘draw card’ to Mason Bay. In an attempt to move away from this, the Department could work collaboratively with the tourism industry and concessionaire operators to develop a more holistic (and perhaps more accurate) image of Mason Bay. This should focus on aspects of the visit such as the scenery, other birdlife and remoteness, and more importantly, should stress that tramping conditions can be difficult, and that less than half of visitors see a kiwi. It may also pay to contact the publishers of guide books such as Lonely Planet and Rough Guide, and to actively promote kiwi spotting elsewhere on the island (i.e. at Ocean Beach).

6.1.5 Inappropriate behaviour around kiwi

Recommendation 1—Visitor education programme

Again, an improved programme of visitor education and information seems like the most appropriate mitigation strategy. This could include brochures and displays in visitor centres and in the hut, and could be implemented in conjunction with local tourism operators. The message contained in the information (i.e. the kiwi viewing guidelines) should be clear and persuasive, but it should also aim to enhance visitor knowledge of the behavioural ecology of the kiwi. This will help visitors to understand why they are being asked to behave in a certain way.

Recommendation 2—Presence of a hut warden

The presence of a hut warden would compliment the written visitor information programme by reinforcing what is stated in the kiwi viewing guidelines. It would also enable visitors to ask questions, and may act as a deterrent to visitors who may otherwise be inclined to behave inappropriately.

6.2 IMPACTS NEARING UNACCEPTABLE LIMIT

6.2.1 The amount of conflict between visitor groups

Recommendation 1—Visitor education programme

This could be incorporated into the broader visitor information and education programme discussed previously, and should be a joint venture between DOC and the major commercial operators transporting visitors to Mason Bay. The focus should be ensuring that all visitors are properly briefed and accurately informed about what to expect during their visit. The aim should be to persuade visitors to adopt behaviours that are compatible with the recreation management objectives for the area (i.e. the expected behavioural standards for a back country setting). Research suggests that this approach tends to be viewed very favourably by recreation visitors (Stankey & Schreyer 1987; McCool & Lime 1989; Roggenbuck 1992 cited in Manning 1999), but care will be needed to encourage the best uptake of information.

Recommendation 2—No further guided walking concessions

It is recommended that the Department do not allocate any further guided walk concessions, in order to minimise any negative impacts on the independent back country visitors who have traditionally used the area, and to maintain the status quo with regards to conflict situations. Working with guided walking concessionaires to try and ensure that their clients are less distinctive in appearance and behaviour would also be advisable. This could include working with smaller group sizes, cooking less elaborate meals, and providing equipment that is of a similar appearance to that of independent walkers.

6.3 ADDITIONAL RECOMMENDATIONS

6.3.1 Re-classification of Mason Bay under the Recreation Opportunity Spectrum

At present, various parts of Mason Bay fall into three separate Recreation Opportunity Spectrum (ROS) categories. The North West and Southern Circuits are zoned 'back country remote', the Freshwater-Mason Bay track is zoned 'back country walk-in' and the Mason Bay hut and beach track is classified as 'back country 4 × 4 drive-in'. This invariably causes some confusion as to how the area should be managed. It is recommended that the area be reclassified under one ROS zone which encompasses the hut site and the surrounding tracks. If this recommendation were to be followed, the two options available to the Department would be as follows:

1. Re-classify the area as 'back-country remote' and manage it as a compliment to the remote experience of the NWC and SC. This may require taking measures to reduce the levels of activity on the Freshwater-Mason Bay track—either by placing further limits on water taxi concessions, or by advocating for restrictions on aircraft landings.
2. Re-classify the area as 'back-country walk-in'. Manage it so that it is acceptable to the Freshwater-Mason Bay Return walkers, and attempt to minimise conflict between Circuit walkers and short-stay visitors. This will require monitoring (and possibly controlling) the level of walking activity, but the major focus would be on educating visitors about their impacts on other users and attempting to minimise and contain impacts to the hut site.

6.3.2 Continued monitoring

It is recommended that the Department continually reassess the situation to detect any changes in the visitor group and associated impacts, and the effectiveness of management strategies that are implemented as a result of these findings. The fieldwork programme should be repeated every 3-4 years to ensure that this happens. Monitoring numbers in the short-stay visitor group should be a priority, as it is likely that the impetus for more stringent controls will arise from a growth in this area. A replication of the focus group meetings may be appropriate after the 10-year planning cycle is completed (i.e. when the pending Rakiura National Park Plan comes up for review).

Mason Bay is a remarkable, unique area of New Zealand whose qualities currently lie in its' grandeur and special remote atmosphere. If the Department

wishes to retain and protect these values, they must be clear about the experience they wish to provide. There is growing pressure from tourism activities, and any major increases in visitor numbers or changes to facilities or track conditions, will alter the nature of the recreation experience and ultimately the types of users. The Department's challenge will be to ensure that these qualities are not compromised in the name of tourism, and to safeguard the Mason Bay experience as it stands for generations to come.

6.3.3 Suggestions for further research opportunities

- Can the LAC method be successfully replicated in other Department-managed areas facing similar issues?
- Is it possible to develop normative standards and tolerance thresholds for different visitor groups with regards to issues such as crowding and aircraft overflights?
- How do different user groups vary in perceptions of crowding and conflict in back country settings, and how does this affect their recreation experience?
- Are use patterns / user types similar during the off-peak season Mason Bay, and to what extent is displacement (seasonal or total) an issue?
- Investigate perceptions of crowding and conflict in back country settings.
- What are the attitudes of independent visitors towards guided walk operations and encountering guided walkers in back country / remote environments?
- What are the characteristics, expectations, motivations, and satisfactions of guided walkers at Mason Bay and in similar back country / remote areas?
- Do short-stay visitors and circuit walkers (either at Mason Bay or a similar site) illustrate different preferences for management options?
- What is the most appropriate or effective form of information provision for encouraging visitors to modify their behaviour (i.e. with regards to kiwi spotting, hut etiquette, etc.)?

6.4 KEY FINDINGS

Mason Bay appeals to visitors for its landscapes and scenery, opportunities for peace and solitude, lack of human modification and chances to view kiwi in their natural habitat.

Mason Bay is becoming an increasingly popular destination for day and overnight visitors, who now outnumber circuit walkers by almost 2:1. Careful management strategies are required to maintain these visitor groups at a manageable level and to protect the remote, independent experience sought by circuit walkers.

Management and stakeholders share a variety of concerns over the future management of the area. They include: the erosion of remote values, social impacts (conflict, crowding, displacement), environmental impacts (litter, track degradation, kiwi disturbance, pest plants and animals), protection of cultural and historic values, safety concerns and aircraft impacts.

Through the Limits of Acceptable Change process, stakeholders found that various visitor impacts are currently at an unacceptable level. These were crowding in the hut, litter in the hut, inadequately prepared visitors, unrealistic expectations about seeing kiwi, and adherence to the kiwi viewing guidelines. Issues nearing unacceptable levels are conflict between visitor groups and the standard of hut facilities.

The root of the current problems is largely in the increasing numbers of (mainly short stay) visitors using the area, and their associated impacts. The present hut facilities are not sufficient to cope with demand during peak season, and the diverse nature of the visitors using the area is leading to conflict between groups.

Unrealistic expectations (resulting from a lack of, or inaccurate, pre-departure information) is also an issue that needs resolving. The main inaccuracies concern information on the possibility of seeing a kiwi, the track conditions, and the standard of hut facilities.

A variety of different visitor groups were identified at Mason Bay. Groups differed in their choice of recreation activities, motivations for visiting, characteristics and behaviour, attitudes towards (and knowledge of) the environment, and preferences for services and facilities.

The five distinct groups that were identified during the survey period were: Circuit walkers, Freshwater-Mason Bay One-way walkers, Freshwater-Mason Bay Return walkers, Hunters, and 'Other'.

Circuit walkers and Freshwater-Mason Bay One-way walkers exhibited the greatest differences in visit characteristics. They differed significantly in their method of access, trip duration, age, group size, motivations for visit, tramping experience, expectations of track and hut facilities, and sources of satisfaction and dissatisfaction. Conflict between Circuit walkers and short-stay visitors was noted on several occasions. A major factor in this conflict appears to be a general lack of experience in back-country situations amongst many short-stay visitors.

The number of guided groups at Mason Bay during the survey period was relatively low (13% of all respondents). However, the research indicated that many of the guided clients represented a very different category of visitor to most other walkers during the survey period. It is recommended that guided groups be kept to a minimum, and that smaller group sizes be encouraged. This will help to protect the experience of the individuals, to avoid conflict, and to maintain the remote back-country experience for which Mason Bay is famed.

Biophysical impacts of visitors to Mason Bay have been assessed as negligible at present. Track impacts and the monitoring of kiwi populations are ongoing within the Department, and litter counts took place during the survey period. Track degradation is confined to a few small areas on the Freshwater to Mason Bay track, and is relatively insignificant compared to other areas on the island. Kiwi populations are stable, and the presence of juveniles illustrates that the birds are still breeding successfully. Litter on the tracks was virtually non-existent.

The average number of aircraft noticed in the area each day was three. At present, the impact of aircraft on visitors is relatively low, with only 19% of respondents stating that they were annoyed by the presence of aircraft. This is below the Department's current threshold level of 25% (Booth et al. 1997). Annoyance with aircraft appears to be more closely related to the type of visitor that they transport into the area, rather than their physical presence.

It would appear that education may go a long way to resolving many of the social issues identified at Mason Bay, thereby reducing the potential for conflict and increasing overall satisfaction levels. It was suggested by stakeholders that commercial operators and booking agents should work alongside the Department to achieve these goals.

Finally, to retain and protect the special qualities of Mason Bay, the Department must be clear about the recreation experience it aims to provide. Growing pressure from tourist activities has the potential to significantly alter the nature of the experience and ultimately the types of users.

7. Acknowledgements

We thank all of the stakeholders and their respective interest groups who have been involved in this project. Without their input, the research would have been impossible. We would like to thank the numerous Department of Conservation staff members who have provided assistance with the research design and implementation, and with the final reviewing and publishing of the report. We are also very grateful to staff from Lincoln University for their comments and reviews of the fieldwork programme and final report.

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