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TRADITIONAL LIVELIHOODS, CONSERVATION AND RECREATION: REFLECTIONS ON MANAGING VISITATION IN NEW ZEALAND CONSERVATION PARKS

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This article discusses the findings of research conducted in protected natural areas in the South Island of New Zealand over three consecutive summers between December 2005 and May 2008. The primary purpose of the research was to gather perspectives and data about local community members' and visitors' recreational experiences and aspirations for future management of the conservation parks. Since 2005, 'high country' conservation parks have been designated by the country's protected natural area manager, the Department of Conservation (DOC). The three South Island parks involved in this study - the Ahuriri, Ruataniwha and Hakatere Conservation Parks - were, prior to designation, leased and managed since the nineteenth century by multiple generations of farming families for agricultural purposes, primarily farming merino sheep and beef cattle. Thus the landscape has undergone transition from a farmed environment coexisting with natural features that have high conservation values to one where tourism and recreation activities dominate.

Keywords: *conservation, recreation, tourism, New Zealand, management*

INTRODUCTION

Decision-making processes about the management of protected landscapes can be enhanced through research findings that incorporate community members' and visitors' perceptions and experiences of place. Such research is one means by which resource managers can identify

issues and react to potential impacts in sensitive environments. This paper discusses findings from survey data and interviews with local users of three recently designated conservation parks in New Zealand (Carr, Lovelock and Wright, 2006; Lovelock, Carr and Sides, 2007, 2008; Thompson, Lovelock, Reis and Jellum, 2008). The research findings were of particular significance as a higher percentage of local New Zealanders' perspectives of how such areas should be managed were obtained by the research than is traditionally gathered through previous nationwide natural area or national park surveys see (Booth, 1989; Booth and Peebles, 1995; Higham, 1996; Kearsley, Coughlan, Higham, Higham and Thyne, 1998; Kearsley, Russell, Croy and Mitchell, 2001). With this conservation park research New Zealanders on average comprised 78-80% of research respondents (compared to national park/natural area surveys where New Zealanders are a minority amongst respondents, usually comprising 20-30% of research participants). Thus the baseline data for these studies provided rich, detailed, local perspectives for natural area management particularly when combine with interviews.

The research data informed management about general demographics; visitors' motivations; the significance of the conservation parks to family groups and recreational club members; participation in guided activities and preferences for facilities and recreational opportunities. This paper focuses on the findings that have enabled the Department of Conservation (DOC) to formulate and implement local community-relevant management plans and thus manage the destination with the aim of reducing potential user conflict whilst maximising conservation aspirations and recreational usage of the areas. The paper has broad implications for destination management and recommends destination managers of protected natural areas to: (1) assess requirements for research strategies that can examine the future aspirations of a diversity of visitors and existing local community members, and (2) gather research data that inform management responses to the provision of access and experiences of recreational and commercial tourism users.

THE DEPARTMENT OF CONSERVATION (DOC)

The Department of Conservation is the resource manager responsible for the majority of tourism and recreation activities in New Zealand's natural areas (DOC, 1993, 2000, 2001). DOC is guided in performing its obligations by government legislation, its primary function being "to preserve and protect natural and historic resources for the public and future generations" (Conservation Act 1987; DOC 1993, 2001). The first

legislation to specifically concern the management of tourism and recreation on conservation lands was the National Parks Act 1952. The National Parks Act 1952 was replaced by the National Parks Act 1980 which ensures individual national park management plans are in place for management of such activities. In 1987 the Conservation Act 1987 assisted the establishment of DOC and Conservation Management Strategies (CMSs) are a statutory requirement of the Act that provide direction for the management of non-national park areas such as the conservation parks. CMS's are informed by public submissions and the data gathered by research such as that obtained for this study. These sources of information are crucial in allowing local and Māori (the indigenous peoples of New Zealand) viewpoints to be considered and conveyed to DOC management. The Canterbury Conservation Management Strategy (CCMS) incorporates guidelines that affect the three conservation parks in this report and the CCMS enables the DOC staff at Raukäpuka (Geraldine) and Twizel area offices to manage these areas for recreation, tourism and other conservation purposes (DOC, 2002). The importance of involving community viewpoints in either top-down or bottom–up approaches to planning have long been advocated by tourism academics (Jamal and Getz, 1994; Getz and Jamal, 1994; Joppe, 1996; Simmons, 1994) but seldom is such consultation or opportunities for involvement available. Hall, Jenkins and Kearsley (1997) and Hall and Kearsley (2001) have noted the Department of Conservation being particularly active in the area of seeking public opinion to inform management decisions. In fact the Conservation Act 1987, CMSs and the Resource Management Act require such consultation (DOC, 2001, 2002).

The designation of conservation parks, as an outcome of tenure review (a review of publicly owned land management practises), has resulted in a change in direction in the dominant economic and social traditional uses of these areas – from farming to intensive conservation of sensitive wetland areas and the establishment or further development of recreational activities on the land. In exchange for loss of farming land the long term farming families of leasehold lands gained either financial compensation or a portion of freehold land area bordering the parks. This has not been without controversy as whilst access for public recreation has increased overall, access by motorised vehicles has been denied by DOC for conservation reasons in more sensitive ecosystems. The advent of conservation parks throughout New Zealand has generally, however, resulted in increased public use of many areas where lands previously leased from the government required leaseholders' permission for access. But access rights are a management issue and the research reported in this

article was partly instigated by DOC management because of access problems, public disquiet and some conflict arising from the sudden change in the management of land at the destination level. Some traditional recreational users and farming families felt previous access rights and traditional activities were being threatened when access to sensitive ecosystems was reduced. For instance, the removal of 4WD access to the upper Ahuriri Conservation Park (ACP) was not popular amongst recreationists who had previously sought permission from the local farming families to access the area prior to the management change (Carr et al., 2006). Generally the conservation parks are increasingly popular destinations as the recreational and environmental assets of the conservation parks have been the subject of various media articles (Barrett, 2005; Booker, 2007; Carter, 2007a, 2007b; Davison, 2008; Keast, 2007; Szabo, 2008). Road access at the three study areas in this article is available via motorbikes, cycles, 4WD and 2WD vehicles on designated roads but sensitive ecosystems (e.g., wetlands) are only accessible on foot. Since 2004, DOC has improved the road conditions for access to each park; existing huts and tracks maintained, new huts, tracks and toilets have been installed and interpretation panels have been designed and installed at strategic sites.

BACKGROUND TO THE STUDY AREAS

The three conservation parks are now described in more detail concerning the conservation and recreational values. Each of the three conservation parks has significant heritage and cultural values associated with human history in the areas which are all located in the South Island. Recent events in popular culture have affected the areas which were locations during the filming of the 'Lord of the Rings' trilogy. The parks have traditional cultural and ecological values for the local indigenous peoples – the Māori iwi (tribal group) of Ngai Tahu - which consider mahinga kai (natural food sources) and other resources in the parks as taonga (treasures). European heritage is also associated with the parks, in particular the heritage of high country farming, for instance the pioneering activities of Samuel Butler who wrote the book 'Erewhon' (Butler, 1940).

The Ahuriri and Ruataniwha Conservation Parks

The Ruataniwha Conservation Park (RCP) and Ahuriri Conservation Park (ACP) have been managed by the DOC Twizel Area Office since

late 2004 and consequently are described in conjunction with each other. The Ahuriri Conservation Park (ACP) (land area 49,000 hectares) was publically announced in 2004, almost two years earlier than the Ruataniwha Conservation Park (RCP) (land area 36,800 hectares). Both conservation parks are located near the main tourist route (SH1) between Christchurch and Queenstown and thus are ideally situated for ease of visitor access. Visitors are also accessing the areas via horseback, foot or bicycle using various easements and marginal strips alongside streams, rivers and on existing farm tracks. The parks feature tussock valley systems with braided river, wetlands, beech forest, sub alpine and alpine ecosystems located east of the Main Divide of the Southern Alps (Talbot, 2004).

In 2004 the then Conservation Minister, the Honourable MP Chris Carter, announced the purchase of the 23,783 hectare Birchwood Station from the leaseholders Ron and Jennifer Williamson, for $10 million to enable the establishment of the conservation park (Talbot, 2004). The Williamsons had a historical relationship to the area dating over 60 years. According to Talbot (2004: 26) the purchase would enable "protection of the landscape and ecology of the area, and providing public access – something that has not always been easy in the past, with the road running right through the locked gates in the station's stockyards". The RCP was formally established in July 2006 incorporating existing conservation areas with former pastoral lease land following tenure review. As a result of land tenure review processes on stations, the RCP incorporates land that used to be leased by Rhoborough Downs, Pukaki Downs and Ben Ohau stations. These stations had pastoral agricultural histories dating back to the 1850s with some present-day residents in the area having direct links to the original farming families. Recreational activities in these parks today includes camping, trout fishing, mountain biking, climbing, tramping (hiking), hunting (Himalayan thar, chamois and red deer) and horse riding. Whilst some river areas are suited for jet boating, canoeing, rafting and white water kayaking no such activities were observed during the research. Twizel area DOC staff members undertake regular visits to the parks to check on conditions of various facilities. The local farming families still live in and provide a human presence in the valley systems which are not only a heritage feature but also a critical safety feature should an emergency occur.

The Hakatere Conservation Park

The Hakatere Conservation Park (HCP) is managed by the DOC

Raukäpuka Area Office, Geraldine, approximately two hours south of Christchurch and two hours north of the other conservation parks discussed in this paper. It was the most recent park to be established (October 2007) and contains more than 68,000 hectares of land area. The HCP brought together 19 individual areas of conservation land including land purchased by the Nature Heritage Fund and obtained via land tenure review (LINZ, 2003). In April 2008, towards the end of the survey period, it was announced that the HCP would increase by an additional 17,000 hectares (DOC, 2008).

The HCP features wetlands, tussock land, braided rivers, lakes, sub-alpine and alpine ecosystems with significant wildlife habitat. In 2007 the Ashburton Lakes wetlands attracted government funding for the restoration of these unique ecosystems. The predominant vegetation for the HCP is tussock land and to a lesser extent, beech forest and matagouri shrublands (Harrington et al., 1986). The main access route to the HCP is Highway 77 with vehicle access primarily by 2WD and 4WD. Recreation activities within the HCP include tramping, camping, 4WD, mountain biking, windsurfing, horseback riding, motorized and non-motorized boating, climbing, skiing, fishing, and hunting. Several concessionaires offer guided walking, fishing, hunting and mountain-biking experiences of the HCP. Many formal and informal camping and picnic areas, commonly used by local patrons and family groups, are located near popular lakes. Private residences are located in the HCP, unlike the ACP and RCP, with holiday homes (cribs or batches) at Lake Clearwater village and families in high country stations are living there all year round. Approximately fifteen huts in the HCP are managed by DOC or owned by private clubs. As a result of the recognition of indigenous Māori rights to traditional lands and resources the Ngai Tahu Treaty Settlement Act 1998 resulted in the HCP's Hakatere Ashburton Lakes being incorporated into the Treaty Settlement with the 'Deed of Recognition' for O Tu Wharekai (Ashburton Lakes), Canterbury.

THE VISITOR SURVEYS

The research projects discussed in this article were commissioned by DOC to provide data to inform staff in the management of the three conservation areas. However the success of the first study in the ACP was the incentive for DOC management to commission the two subsequent studies in the HCP and RCP with one objective being the ability to compare data between each area. The resulting findings were merged where possible to provide detailed insights of the management of each

area independently or, as reported in this article are combined as a whole. Quantitative surveys have been a long accepted method of gathering useful data on visitor tourism and recreation use in national parks but no previous surveys have been undertaken in New Zealand's conservation parks owing to their recent establishment (see Booth, 1989, 1991; Booth and Peebles, 1995; Higham, 1996; Kearsley et al., 1998, 2001).

Survey design

The primary aim of the surveys was to gain insights (from open-ended responses) and statistical data about recreational users' and visitors' experiences of the conservation parks. Whilst the conservation parks provided case studies suitable for comparison this article is concerned with key concerns from respondents arising in the combined data from all three areas. Respondents were asked about the recreational activities they pursued and their satisfaction with services and facilities. Demographic and motivational information was also sought to provide baseline data which could assist with ongoing management of the area. The questionnaires for each comprised an information sheet describing the purpose of the visitor survey, a map of the park, and a number of items (questions) allotted to four sections: Your Visit, Motivations, Facilities, and About Yourself. The majority of items were closed questions. However open-ended questions were utilised to elicit respondents' views on recreational opportunities, specific areas of high conservation or recreational value (e.g. mountain huts) and general management issues for the areas. Furthermore, open-ended questions were also included to elicit participants' views on visitor management of the parks, and why they would (or would not) return to the park. Ethical approval for all the visitor surveys was attained from the University of Otago Human Ethics Committee.

Survey distribution

Research assistants and DOC staff assisted with direct distribution of survey questionnaires to visitors and via visitors self-selecting to participate. Questionnaires were available in 'pick-up' boxes at gates along roads in the parks and in huts thus exposing as many users to the conservation parks as possible to the research. The availability of surveys via such locations and the convenience sampling method invited all interested people over the age of 15 to complete a questionnaire. This approach was a necessity as it acknowledged the fact that the

conservation parks are sparsely populated apart from, in the case of ACP and RCP, a few farming families. The HCP was the only one of the three to have holiday homes within the park and visitation consequently tended to be concentrated at peak periods during weekends, public holiday and summer holiday periods.

Posters advertised the surveys at these areas. Because of the isolation and infrequent visitation to each area survey staff did not remain on site but regular visits were made to each site to monitor the surveying and interview visitors if encountered. Postage-paid, return addressed envelopes were provided with each survey so respondents could return the completed form to the researchers by mail. The surveys were primarily distributed at the entrances to the parks and at road ends which were logical collection points. Drop-boxes (for depositing completed surveys for collection by researchers at later dates) were also provided at each park. The survey collection drop-boxes were regularly monitored by the researchers and DOC staff for resupplying and collecting completed questionnaires. The surveying periods enabled the participation of respondents who were in the areas during the main summer school holiday periods; Easter; weekend and week days. Over the period December 2005 to April 2006 a total of 370 self-completion questionnaires were distributed in the Ahuriri Conservation Park with 284 returns (76% response rate). Between February and June 2007 a total of 392 self-completion questionnaires were distributed in the Ruataniwha Conservation Park with 240 returns (61% response rate). Finally, surveying was undertaken at the Hakatere Conservation Park between late December 2007 and May 2008. A total of 780 questionnaires were distributed and a total of 509 usable surveys were returned, giving a response rate of 65%. Across all three parks 1542 surveys were distributed and 1033 usable returns were obtained (66.9% combined response rate).

Survey analysis

The data entry and analysis was undertaken at the Centre for Recreation Research, University of Otago, using SPSS Version 15 and Microsoft Excel. Answers to open-ended questions that required a comment or reason were summarised and grouped into like categories. The results are presented in three reports using graphs and tables. All graphs and tables are based on the total number of responses to each question; not-applicable or non-responses are not included unless specified. Some items have been excluded from this article as they were

not directly comparable between the three surveys. However information is obtainable from the authors on request. These excluded findings were area-specific questions, the purpose of which was to inform managers regarding specific facilities or management issues in the individual parks. All completed questionnaires were anonymous and confidentiality of participants observed by not identifying individuals in any published material, as per ethical requirements of the University of Otago.

Research limitations

The self-selection process, where visitors could voluntarily take a form and postal return envelope for completion, could be a source of bias as those people with strong feelings about certain issues could be more likely to fill in a survey (Booth 1991). However, the nature of visitation to the areas meant this survey distribution was the most practical and financially feasible method of surveying the intended participants. Thus the approach aimed for a broad representation of visitors to the parks.

RESEARCH FINDINGS AND DISCUSSION

Demographics

Most respondents regarded themselves as regular users of the New Zealand outdoors, with 72% of visitors reporting over 20 years of such experience, and many (57%) belonging to some form of recreational or outdoor club. The typical visitor may have already visited the HCP before, with regular or occasional users comprising 71.5% of the sample; 28.5% of visitors being first time visitors to the area. The median age of respondents was 45-54 years old at the RCP and ACP whereas the typical visitor to the HCP was in the 35-54 year old age groups and a New Zealander. Likewise, the greatest number of visitors normally resided in New Zealand (93% for ACP and RCP and 82% for HCP). However many of these international visitors resided in New Zealand. Of those respondents who reside in New Zealand, the majority were South Islanders, with 78% originating from the Canterbury and North Otago regions. Gender was slightly in favour of males, with 56.6% of respondents to the ACP/RCP being male. 244 respondents (47.9%) at the HCP were female and 249 (48.9%) were male and 16 respondents did not indicate their gender.

Respondents who were in full time employment (41% HCP and 44% RCP/ACP) were predominant with the remainder of respondents being

retired (15% for all 3 parks combined), self employed (15%) and students (8.3%). Fewer than 5% of respondents indicated they were unemployed. Over half the respondents to all three areas were employed in professional or managerial occupations.

The typical visitor accessed the HCP either by 2WD (43%) or 4WD (40.9%) but once within the park the main mode of moving around is by foot (61.4%). Only 12% of visitors accessed the RCP and ACP by 4WD. However, the HCP has a more extensive road network and can be traversed in several directions unlike the ACP and RCP meaning round trips that exit the park from an area different to the entrance point are possible. Because of the distances that could be travelled on existing HCP roads some visitors (31%) use 2WD and 4WD to access areas within the park. Visitors generally stay in the HCP for two to three days (at least one night) and were likely to stay in huts (25%), tents (24%) or a crib/bach (35.4%) within the HCP. Cribs and batches are not available in the RCP and ACP. At the RCP and ACP 40% of visitors stayed for 1 or more nights with visitors staying in tents (45%) and huts (55%). Very low numbers of visitors use campervans or caravans (20% in the HCP and less than 10% in the RCP/ACP). Day trips were common (31% of HCP and 40% of ACP/RCP visitors).

Motivations for visiting the Conservation Parks

The main motivation for those visiting the ACP and RCP was tramping (61%), then experiencing solitude (58%) and scenery (52%). This was the reverse case for the HCP where experiencing scenery (72%) and solitude (71%) was followed by tramping (59%). Other significant motivations at all three parks were the easy access to nature (66% ACP/RCP and 58% HCP) and to take children into the outdoors (54% HCP and 47% RCP/ACP). Whilst tramping was one of the main activities undertaken in the parks, other reported activities taking place included fishing, picnicking, boating, mountain biking, bird watching, climbing, hunting, 4WDing, motor biking and horse riding.

Visitor Satisfaction

Overall visitor satisfaction was very high for each park (95% HCP and 96% for both the RCP and ACP). A high level of satisfaction was expressed for huts, tracks and recreational opportunities generally. Toilets and road conditions received lower levels of satisfaction. Visitors also

reported lower levels of satisfaction with the information available on the DOC website and in the brochures, which lacked sufficient details about the variety of huts and recreational opportunities. The majority of visitors to the HCP (97%) and 96% to the RCP and ACP said that they would return. The main motivations to return to the areas are the range of recreational opportunities within the parks, the scenery and accessibility.

Visitor Information and Interpretation

Satisfaction with existing information sources was reasonably high, though a number of respondents commented on the difficulty of reading the existing brochures and felt these lacked information on possible activities in the park. There was also confusion regarding land access and it was recommended in the authors' final study reports to DOC that the department consider revising the CP brochures and DOC websites in order to provide more detailed activity/track/hut information (Carr et al. 2006; Lovelock et al. 2007; Thompson et al. 2008). Other report recommendations were to:

- Liaise with other DOC and I-site Information Centres in the Canterbury region in order to provide and distribute quality public information about the CPs.
- Assess the feasibility of having DOC field staff located within the CPs (possibly in a designated seasonal visitor centre) over peak summer months to provide information services alongside other general duties.
- Develop information brochures or booklets on the human history and ecological significance (particularly the wetland habitats and tussock lands) of the areas. These could include 'on-line' educational guides or field trip information about the history and ecological values of the areas.

Access issues

The RCP and HCP provided opportunities for 4WD users that were not available in the ACP owing to sensitive wetland areas. Qualitative open-ended responses to questions in the RCP survey suggested that the impacts of this activity needs to be borne in mind, especially considering the motivations of the majority of users, in terms of the quest to experience solitude. One participant stated:

"I think, probably with… maybe with a lot more of this area coming back into DoC's stewardship, there is potential I suppose for more signage in some places. But again my view is that, I mean, we don't want boardwalks and four lane highways everywhere. There needs to be places for people to get that wilderness-type experience. Where there are no tracks, and no signs and they can just wander at will and do their own navigation. So yeah, there needs to be a range of things, but some areas need to be left alone."

Visitors to the HCP did express concerns that motorbikes and 4WD use could impact negatively on other users (e.g. noise pollution) and the environment (damaging lake shores/wetlands). In the HCP jet boat and jet ski usage was a specific issue owing to the management traditionally allowing motorised vessels on some lakes in the park. Possible recommendations arising from the HCP study participants' concerns on these issues were:

- Codes of Conduct for motorcyclists and 4WD users in the CPs could be developed in conjunction with representatives from local 4WD or motorcycle clubs. Such clubs could then assist with the distribution of the Code of Conduct. The Code of Conduct would serve the purpose of raising driver awareness of wetland habitats and suggesting positive behaviours and practices in populated areas, around wetlands and lakes. The Code would also offer advice on preventing accidental fires by vehicles in high risk fire periods.
- Monitoring of the impact of 4WDs on conservation values of the sensitive wetlands was a notable issue. 4WD and motorbike usage resulting in multiple vehicle tracks damaging areas adjacent to wetlands and lakes could require fencing or temporary removal of access to sensitive areas. This again could be conducted in collaboration with respected spokespeople who are regular 4WD or motorcycle users of the area. DOC could investigate the potential and cost-effectiveness of working alongside scientists to photo monitor specific sites or undertake clustered transects on an annual basis.

Facilities

Visitor satisfaction with most huts, tracks and picnic areas was generally high. Most dissatisfaction from visitors cantered on toilets and accumulation of rubbish during the high use periods. Maintenance of

signage, huts, picnic areas, car parks and track marking in the areas are ongoing activities by DOC. A reasonable number of respondents felt that there were opportunities to develop more mountain biking, horse riding and walking trails or facilities in the parks, but did not want the area spoiled as reflected in this quotation:

"But if we want to keep the New Zealand mountains as New Zealand mountains, and not like Switzerland or Austria or Disneyland, then people should do it on their own two feet. Because the previous generations of people have shown that it can be done, and with modern equipment and modern tents and modern footwear it'll be a whole lot easier than the previous generations around it."

CONCLUDING REFLECTIONS ON FUTURE COMMUNITY AND VISITOR INVOLVEMENT

This article has presented research findings that inform staff and managers of recently established protected natural areas in their decision making regarding the transition of land use from farming to recreational practices. In particular, a balance of information from local community members and visitors to natural areas was required to inform management decisions where recently designated areas have resulted in relatively rapid changes to the traditional land use. These findings provided insights into current visitors' experiences. However, it must be noted that visitor patterns in the three conservation parks are likely to change over time. It is foreseen that non-local usage will increase as the reputations of the conservation parks spread and more first time users visit the areas. Ongoing monitoring of changing patterns of visitors' use, experiences and satisfaction levels, as well as acknowledgement of changing local values, are necessary considerations for land managers as recommended in the various reports (Carr, Lovelock and Wright, 2006; Lovelock, Carr and Sides, 2007, 2008; Thompson, Lovelock, Reis and Jellum, 2008).

It was observed by the researchers that visitors and community members could be involved in the management of the area if DOC worked in conjunction with walking and mountain bike user groups to investigate opportunities for development of further mountain biking and walking trail/tramping tracks in the CPs. The feasibility of volunteer programmes or summer holiday/education programmes could also be considered. The need for continued liaison with local Ngai Tahu *iwi* (Māori tribe) and high country station family members about the traditional value for the parks is another important management consideration. Cooperative approaches to problem solving and regular

liaison between DOC, the local holiday communities and other stakeholder organisations was considered a prime management responsibility by many participants. Better communication between authorities and local knowledge should result in a collaborative effort to solve major management issues, as noted by one participant:

"Well there'll always be a certain amount of conflict between farmers and conservation, and/or recreational use. There'll have to be an integrated approach, and it certainly wouldn't want to start off with conflict, or it'd be pretty much doomed. Co-operation would be the very best way to start it and let it evolve I suppose as to what's going to be satisfactory for different user groups."

The potential for local communities to have a role in the management of the CPs and other natural areas can be recognised through the consideration of the research findings and implementation of the recommendations. However, DOC and other natural area managers elsewhere can use other methods beyond standard research approaches. For instance, providing opportunities for public comment or inviting public submissions can be achieved through making information accessible via public notice boards/newspapers or public meetings in surrounding local communities. In this case study, future repeat surveys at each park (enabling the comparison of research data over time) could not only monitor but also assess on-going visitor satisfaction and experiences as the areas gain in popularity. Such surveys would thus provide rich longitudinal data for visitor management of the areas.

In-depth visitors studies conducted at protected natural areas such as the Ahuriri, Ruataniwha and Hakatere conservation parks also provide academic case studies useful for teaching and management purposes and if researched in a similar manner could offer insights into successful and unsuccessful management responses when compared independently (Yin, 1994). The research data provided rich information regarding local sense of place and place identities at each site and this will be the subject of future publications and ongoing studies by the authors of local inhabitants' place attachment and a nationally funded research project on families' and migrants' experiences of the New Zealand outdoor environment. The nature of these research projects means that whilst the locations are site specific there are many similarities geographically, in terms of environmental settings, socially (with visitor profiles) and finally with the applications of management tools (e.g. Recreation Opportunity Spectrum (ROS) and Carrying Capacity). Implementing such qualitative and quantitative approaches offer rich, complex and grounded insights into the management issues and local communities' and visitors'

experiences of such protected places.

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