

Wilderness and recreation in New Zealand

By Gordon Cessford and Paul Dingwall

New Zealand has a rigorously defined approach to management of wilderness within an extensive system of conservation lands. A major challenge confronting conservation managers is how to maintain and enhance wilderness qualities in the face of changing recreation demands, accentuated by significant tourism growth. While the formal designation of Wilderness Areas will remain fundamentally important, the integration of wilderness qualities and recreation needs will also need to be addressed in other backcountry areas.

1. INTRODUCTION

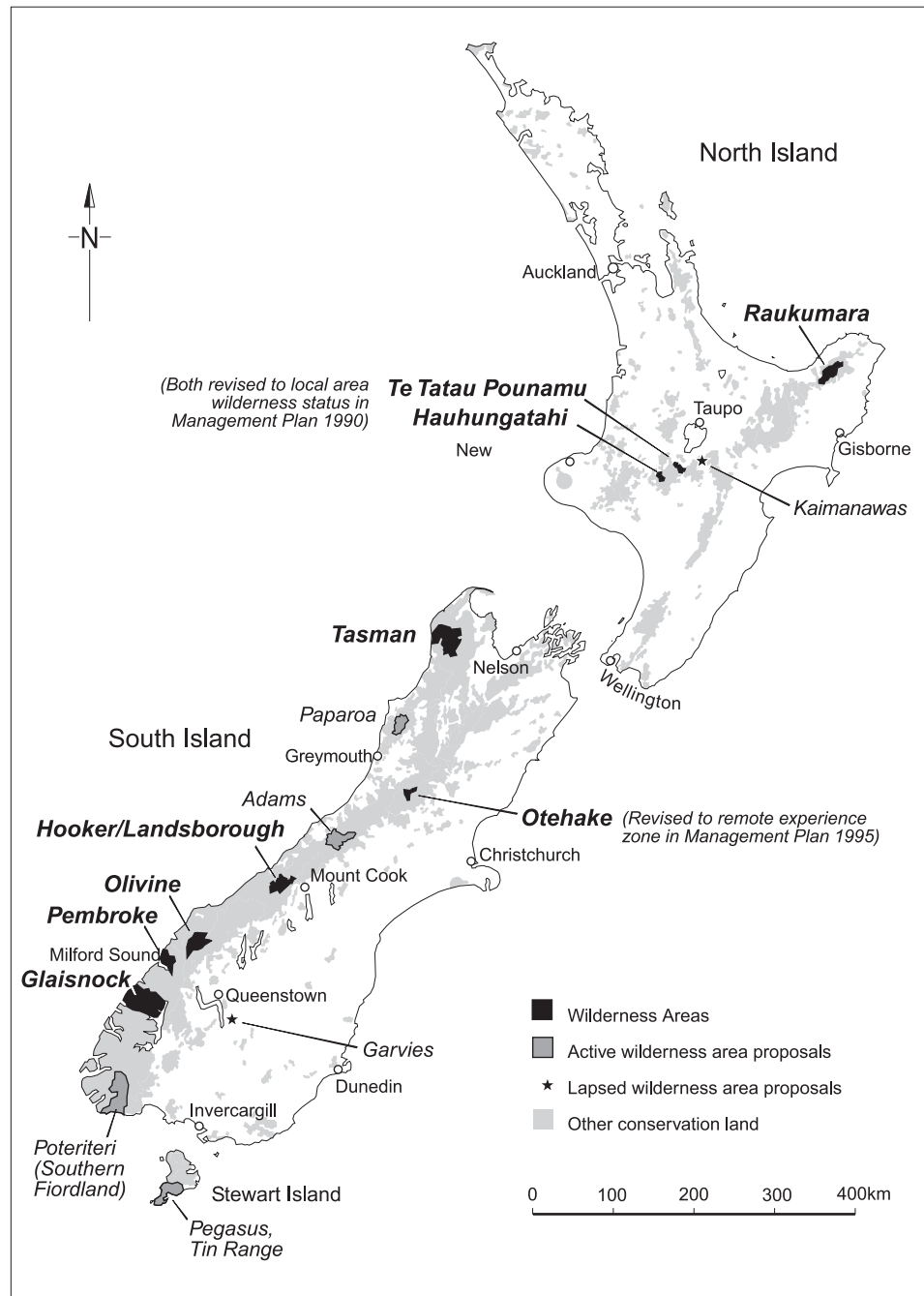
Conservation lands cover almost 30% of New Zealand (Fig. 1), a country with a total area of 103,500 square miles (270,500 square kilometres), or approximately two thirds the size of the state of California. Subject to their primary biodiversity protection roles, these conservation lands are also the principal settings for backcountry recreation and the predominantly nature-based tourism of New Zealand. Formally designated Wilderness Areas occupy a very small proportion of these lands (see Molloy, p. 11 of this volume, for wilderness management policy).

Most conservation lands are located in challenging mountainous terrain remote from the major urban population centres. Until the 1970s, this was an adequate buffer against increasing recreational pressures. However, in what became locally termed a 'backcountry boom' (Mason 1974), recreational use levels began to grow more rapidly, reaching as much as 300% between 1970 and 1985 in some key areas (Davison 1986). Initially most of this growth resulted from greater interest in outdoor recreation among New Zealanders, made possible by improved access and increasing affluence, mobility, information and leisure time. But since the early 1980s, outdoor recreation growth has become dominated by overseas tourists, whose numbers have increased ten-fold since 1970 to around 1.5 million per year at this time.

More than half of these tourists make visits to conservation lands, where traditionally their activities have been concentrated on sightseeing and short scenic walks at a few key sites along a distinct tourist circuit. However, data from the New Zealand International Visitor Survey (New Zealand Tourism Board 1996) show that in recent years the scope of tourist activities and variety of sites visited in New Zealand have broadened rapidly, and now encompass a wider range of conservation lands. Apart from raising concerns about the spread of environmental impacts, these changes in recreation and tourism patterns

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Figure 1. Existing and proposed Wilderness Areas in New Zealand.



present a threat to the quality of recreation experiences available both in Wilderness Areas and in other conservation lands.

2. RECREATION EXPERIENCES IN WILDERNESS AREAS

Recreation experiences provided in New Zealand Wilderness Areas are represented in the 'Wilderness' opportunity class from the New Zealand Recreation Opportunity Spectrum (ROS) (Fig. 2). This is characterised by a particular combination of physical, managerial and social setting attributes.

The physical setting requires a natural landscape with no apparent modification and no huts, tracks (trails), bridges, signs or other facilities. No motorised access is allowed, and at least half a day's walk by foot is generally required from any motorised access point (road, air or water). Once in the Wilderness Area, foot access is dependent upon the prevailing environmental conditions, and the resources, experience and skills of the individual to cope with them. The quickly changing weather patterns and rugged terrain in New Zealand require that wilderness parties be prepared for any weather conditions and to sometimes sit tight for many days if trapped by flooded rivers, snow, and storms.

The management setting requires there be no discernible management presence, and any exceptions for specific environmental management tasks or for search-and-rescue operations must be temporary and unobtrusive. Serious threats to the survival of the natural indigenous flora and fauna of New Zealand conservation lands from foreign animal pests (such as deer, stoats, cats, and brush-tail possums) require that aircraft are often used in control operations, and that basic staff facilities may also be temporarily located inside Wilderness Areas. For safety, many wilderness parties now carry radios to receive weather forecasts or to alert authorities, should assistance be required, although parties are expected to be self-sufficient, except in extreme emergency.

The social setting emphasises small party sizes (the minimum recommended for safety is four) and minimal likelihood of any interaction with other groups. Wilderness visits are likely to be of several days duration and physically strenuous due to rugged terrain and the need to carry all necessary clothing and equipment.

Under these conditions the activities most often possible are the backcountry extremes of tramping (hiking), mountaineering, hunting, fishing, canoeing, rafting, and some specialised nature tours. In most cases, overseas tourists do not have adequate local knowledge, equipment, experience, time, or backcountry skills in camping, route-finding, alpine travel, and river-crossing, to undertake such wilderness recreation opportunities unassisted.

The resulting visit experience includes an extremely high probability of isolation from the sights, sounds, and activities of other people, and little likelihood of interaction with other visitor groups. Visitors must apply their outdoor skills and fitness, and it is likely that there would be a high degree of closeness to nature with a sense of discovery, solitude, and freedom. This visit experience is what could be considered the New Zealand version of the 'purist wilderness

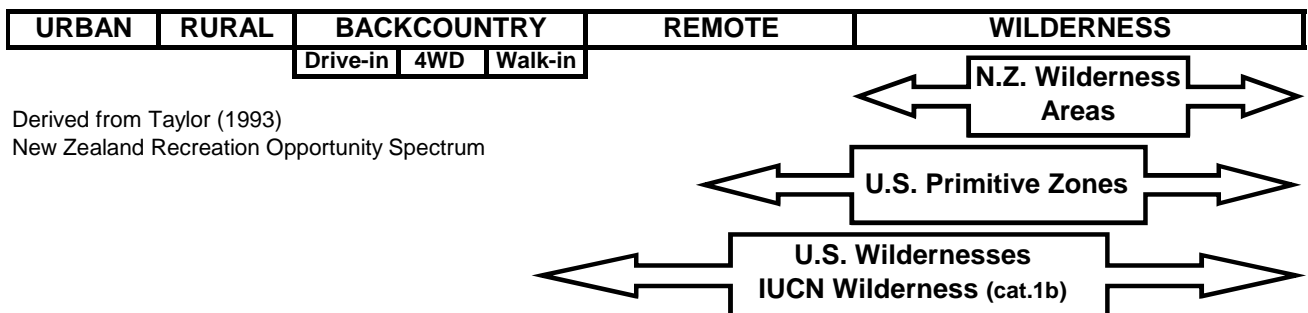


Figure 2. New Zealand Recreation Opportunity Spectrum classes (after Taylor 1993).

experience'. Only the 'Remoteness Seekers' from the range of visitor groups to conservation lands (Table 1) aspire to these experiences. The New Zealand Wilderness Areas fulfil these purist expectations, and the extremes of weather, terrain, river-conditions, and remoteness they encompass have ensured that, apart from the notable exception of overflights by aircraft, the growth of tourism has not yet significantly intruded on these experiences. However, such intrusions are progressively more evident in other conservation lands.

3. RECREATION EXPERIENCE IN NON-WILDERNESS BACKCOUNTRY

Outside designated Wilderness Areas lie extensive areas of conservation lands with few human settlements, little roading, and broad tracts of landscape free of obvious human alteration. Recreational access to these areas is primarily by foot tracks. While often very similar to Wilderness Areas, many of these 'Remote' and 'Backcountry Walk-in' areas do not sufficiently meet the rigorous wilderness criteria to be formally designated as Wilderness Areas, although the distinction is often not apparent. In the US system, such areas would likely be categorised under the generic 'wilderness' label.

Over a long period, an extensive facilities network (comprising 10,000 km of walking tracks and almost 1,000 backcountry huts) has developed in many of these areas. Track types include the highly developed and maintained *walks*, the marked and formed *tracks*, and the often unmarked and unformed *routes*. Huts vary from small and basic shelters to large huts with gas cooking, heating and lighting, mattresses, running water, flush toilets, and supervision by wardens. Camping is largely unrestricted, except along the more popular and developed tracks, where it is sometimes confined to specified sites. These tracks and facilities support the bulk of the *backcountry* recreation currently occurring in New Zealand.

Most backcountry activity involves tramping, concentrated particularly on the eight Great Walks, the busiest of which receive up to 10,000 walkers over the six-month 'summer' walking season. These are the premier backcountry walks in New Zealand, managed to a high level of development, due to their high use levels and importance for the tourism industry. These tracks provide the settings used primarily by the Backcountry Comfort-Seeker visitor group. By contrast, the traditional tramping trip of New Zealanders has usually been based on widely dispersed use of less developed backcountry tracks and facilities. These tracks provide the settings used primarily by the Backcountry Adventurers and some Remoteness Seekers.

While growth in the numbers of New Zealanders using these backcountry areas appears to have recently stabilised, overseas visitor numbers have continued to increase in key settings such as the Great Walks. Numbers on the more backcountry-oriented tracks are lower, usually numbering in the hundreds, but there are clear indications that visitor use is diffusing from the main tracks as overseas visitors exchange word-of-mouth information about new places where 'there are not so many people'. Once this information makes its way into the

TABLE 1. RECREATION FEATURES OF VISITOR GROUPS TO CONSERVATION LANDS IN NEW ZEALAND.

RECREATION FEATURES	VISITOR GROUPS TO CONSERVATION LANDS						
	SHORT STOP VISITORS	DAY VISITORS	THRILL SEEKERS	OVER-NIGHTERS	BACKCOUNTRY COMFORT SEEKERS	BACKCOUNTRY ADVENTURERS	REMOTENESS SEEKERS
Settings and accessibility	Roadside travel-breaks or attraction visits for up to 1 hour.	Across most of ROS, often coastal/lake/river sites. Road access, often long travel times.	Natural/spectacular sites across ROS. Access by vehicles (land/sea/air) or short well-built tracks.	Rural/backcountry drive-in and boat-in to camps or other overnight facilities.	Backcountry walk-in, good transport links to high-use walking tracks, some boat/air options.	Back-country walk-in and Remote. Variety of less developed tracks, boat/air options uncommon.	Remote/wilderness. Basic track access to edges, no tracks, facilities, signs or boat/air options within.
Nature of visit and activities	Passive viewing and short easy walks. Casual sightseeing or recreation.	Day at a site/day doing a specific activity. Facilities allow casual visitors.	Exciting/extreme activity. If more than 1 day, then Backcountry adventurers.	Camping main use, base for variety day activities 1 night to 1+ weeks. Often reg. holiday spot.	Mostly tramping well-developed tracks (Great Walks). 2-5 days, with 1 night at each hut/camp.	Tramping/backcountry activity, high self-reliance. 2-7 days or more. Some specialised day visits.	Tramping/backcountry activity, total self-reliance. 3-7 days or more.
Experience sought	Convenience or easy visit to attractions of scenic or historical, cultural, and natural significance.	Social group visit or specific activity in outdoor natural setting. Sense of space and freedom.	Managed risk in exciting outdoors. Attractive and natural setting desirable.	Traditional NZ family summer holiday. Mainly overnight stays, associated outdoor activities.	Backcountry walking in managed safe conditions. Often first introduction to NZ backcountry settings.	Traditional NZ exp. in backcountry, challenge, sense of freedom, accept some risk/difficulty.	Activities with purist wilderness experiences, challenge, freedom, accept much risk/difficulty.
Facilities Sought	Quality carparks, toilets, interpretation and information facilities and short tracks catering for most abilities and ages.	Quality road access, toilets, carparks, picnic sites, good access to tracks and waterways important.	Specialised facilities (e.g. skifields, bungee ramps) or key natural features (e.g. cliffs, rapids, caves). Often commercial agents.	Basic camp facilities (toilets water) and high activity facility standards. Some seek developed sites. Activity information important.	Quality tracks, bridges, huts, camps, signs. Often hut wardens. All-weather access. Some commercial provision of opportunities.	Basic facilities, varying standards of huts/tracks, route-marking, limited signs and key bridges. Access often subject to weather/environment.	No facilities once in remote/wilderness areas. Access totally subject to weather/environment.
Visitor types and numbers	NZ and overseas visitors. High numbers if sites at scheduled stops or key attractions.	NZ and overseas, med.-high numbers. Sites for local repeat users or non-local one-off visits.	Young and affluent. Low numbers if independent activity, high numbers if commercial operation.	NZ family groups stay longer, independent overseas mostly 1 night while touring country. High peak summer use.	Often mostly overseas aged 20-40. NZ ages wider. Inexperienced relative to other NZ backcountry visitors.	Experienced, fit, young, male, NZ in low numbers. Fewer o'seas, who lack required knowledge, experience, and opportunity.	Experienced, fit, young, male, NZ in very low numbers. O'seas rare, lack required knowledge, experience, and opportunity.
Projected use	Rapid overseas visitor growth, pressure around main tourism highways and attractions.	Growth rapid for overseas visitors and slow for NZ. Pressure on sites used mainly by non-locals.	Demand in activities popular with overseas visitors. Supply pressures may intrude on other sites.	Slow increase, where most visitors NZ, pressure at key sites 'discovered' by overseas visitors.	Rapid increase in o'seas numbers. NZ numbers static, or even declining (crowding displacement).	Slow increase as most from NZ. Displacement from busy tracks may lead to growth in some areas.	Slow increase as most from NZ. Overseas visitor growth limited by current management conditions.
	FRONTCOUNTRY FOCUS				BACKCOUNTRY FOCUS		

(Derived and developed from Visitor Strategy categories—see Department of Conservation 1996.)

popular travel guidebooks and the new areas are ‘discovered’ by the more adventurous tourists, changes in use-levels may be rapid.

In some cases it is apparent that this localised increase in overseas visitors, and their progressive dispersion to less-used backcountry areas, have affected how New Zealanders feel about their backcountry experiences. While no specific research has been undertaken, observations by management staff over time, and anecdotal accounts from backcountry enthusiasts, provide numerous examples of displacement. Until recently, the Milford Track was unique among tracks in New Zealand in having a limit imposed on visitor numbers and requiring reservations. However, a similar reservation system has recently been applied to address crowding issues on the popular Routeburn Track, where it was not uncommon for the 40-bunk huts to accommodate up to twice their capacity during peak tourism periods. Such regulation further conflicts with the attitudes of New Zealanders who have traditionally valued freedom of the outdoors as one of their defining cultural attributes. The imposition of such regulations, along with the effects of overseas visitor diffusion, are the main concerns for maintaining high-quality backcountry recreation experiences. For many observers, these backcountry areas are where wilderness experiences are being most compromised, while the true Wilderness Areas remain largely unaffected.

4. DISTINGUISHING FRONTCOUNTRY RECREATION

On the margins of backcountry areas and alongside road corridors through conservation lands lies an undefined zone commonly termed the ‘frontcountry’. In practical terms this includes any areas directly accessible from formed tracks, within 1-2 hour’s walk of major roads. The vast bulk of New Zealand and overseas visitors confine their activities to the frontcountry, and this use is projected to continue increasing with overseas tourism growth and a progressively ageing New Zealand population. These visitors are the Short Stop Travellers, Day Visitors, Thrill Seekers, and Overnighters, described in Table 1, each contributing to the greater diversity of recreation in the frontcountry. One of the challenges facing management is to maintain those aspects of visit satisfaction which are derived from these peoples’ perceptions of natural quality, or keeping some of the ‘wilderness’ in their recreation.

5. KEEPING THE ‘WILDERNESS’ IN RECREATION

Keeping the *wilderness in recreation* for Remoteness Seekers in Wilderness Areas is not difficult, unless management conditions are altered and intrusions are allowed for inappropriate recreation activities. However, when considering the other visitor groups outside the Wilderness Areas, this management challenge involves identifying those elements central to their perceptions of ‘wilderness qualities’, and applying management for protection and enhancement of such qualities.

Identifying key elements of wilderness experiences among different visitor groups is a considerable management challenge. As described in the Wilderness Policy (refer Appendix 1 and 2), the idea of wilderness is very personal, and embodies perception of remoteness and discovery, challenge, solitude, freedom, and romance. A wilderness experience is not completely determined by the characteristics of the physical setting, but by how the setting and the visit to it are perceived by the visitor. For example, the Greenstone Valley near Queenstown is largely managed as a setting for backcountry tramping experiences suitable for Backcountry Comfort-Seekers (Cessford 1987). But it is also a renowned trout fishery, and is among only six rivers classified as a 'wilderness fishery of national importance' (Tierney et al. 1982; Richardson et al. 1985). Rivers classified as such were characterised by a combination of remoteness, foot access, good catch rates, dry-fly fishing only, large fish, extensive fishable water, scenic beauty, and solitude. In this case the anglers demonstrated their own array of setting and activity qualities that comprised their 'wilderness experiences', but which did not fulfil the requirements for a Wilderness Area.

While recognising such activity-specific aspects, maximising the general qualities of 'wilderness in recreation' outside the Wilderness Areas will require management which reinforces visitor perceptions of:

- Unaltered natural settings
- Low-impact and experience-sensitive facilities and services
- Unobtrusive regulatory presence
- Minimal apparent visitor numbers

Recreation planning and management should promote these four principles wherever possible. Wilderness Areas completely fulfil these elements, but managers face more difficulties in other areas. For example, while the Milford Track is not in a Wilderness Area, it traverses remote and spectacular mountainous terrain of high wilderness quality, and fulfils the wilderness expectations of many visitors. A well-formed track, good huts and limited visitor numbers combine to promote 'wilderness experiences' among track walkers who represent the Backcountry Comfort Seeker visitor group (Table 1). Yet current impact research (Cessford 1997) highlights aircraft noise as a negative impact on almost 70% of these visitors. Moreover, although Milford Track numbers are controlled to minimise crowding, perceptions of congestion are created by a bottleneck at an alpine pass, where the congregation of walkers at an extensive scenic attraction is accentuated by the daily walking pattern between huts. While visit satisfaction remains apparently high, such a finding suggests the quality of the anticipated wilderness experience is being compromised. In this case, change, promoting alternatives for both flight paths and daily walking patterns, may provide a means to enhance the wilderness component of visit experiences.

As a further example, at a roadside site managed primarily for Short-Stop Visitors, management to maximise the wilderness components of their visit experiences may require emphasis on the design and layout of facilities, maintaining highly natural appearance, and finding means to minimise the apparent visitor numbers (e.g. visual layouts). It may not be a true wilderness

experience, but even in this roadside context there are means by which wilderness qualities can be promoted. Such specific management of particular visit components may be the main answer to providing the 'wilderness in the recreation' outside the Wilderness Areas.

6. CONCLUSION

In the face of growing recreation pressure, the greatest threat to maintaining real wilderness experiences does not lie in the Wilderness Areas themselves, but in the related backcountry areas. Particular attention is needed for those tracks in backcountry which are being progressively discovered by overseas tourists. Generally, though, the pressures for substantial development are on the areas most popular for tourism. These are mainly on the Great Walks and other more developed tracks, in the frontcountry areas near key tourism attractions, and along tourism highways. Overall, while there are some recreational and tourism pressures on wilderness experiences, biological conservation issues remain far more critical. The underlying conservation values of wilderness and other natural areas continue to be seriously eroded every day by the ongoing pressures from invading animal and plant pests. This deterioration of fundamental wilderness quality is a phenomenon only the most aware wilderness users would notice.

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Wilderness status and associated management issues in New Zealand

By Gordon R. Cessford and Murray C. Reedy

The physical setting and management status of wilderness in New Zealand are outlined. The main ecological, recreational, and indigenous cultural issues currently affecting wilderness are discussed, with a brief description of the continuing pressure of introduced animal and plant pests on indigenous biodiversity, the recreational conflicts related to wilderness use by aircraft, and some implications arising from re-emerging indigenous cultural issues. These cultural issues are related to an increasing official acknowledgement of customary links of Maori with the protected natural areas of New Zealand.

1. INTRODUCTION

Full understanding of the place of wilderness in New Zealand's protected natural area system cannot be achieved without considering its unique physical setting and historical context. The land area of New Zealand is similar in size to that of countries such as Italy, Norway, Vietnam, and Great Britain; the American State of Colorado; and the Indian State of Andhra Pradesh. Much of the land is rugged hill country or mountains, with the Southern Alps including 29 peaks over 3000 m, and two active volcanoes dominating the extensive volcanic zones of the central North Island. New Zealand is also an island nation, with the North and South Islands having a combined coastline of 11,000 km. These islands are isolated in the temperate Southern Pacific Ocean. Apart from the tiny Polynesian Pacific islands, the land-mass closest to New Zealand is Australia, 2000 km away. The next closest land is 2500 km distant—Antarctica.

This isolation occurred with the separation of New Zealand from the ancient southern continent of Gondwana some 80 million years ago, and resulted in divergent development of a unique assemblage of plants and animals. A feature of this biota was the lack of any mammal or marsupial life, some small bats excepted. The ecological niches such species filled elsewhere were occupied in New Zealand by birds, insects and reptiles. In the absence of any competition or predation by mammals, some bird species became flightless, some insect species grew to large size, and plant species evolved with minimal pressure from browsing by animals.

This paper is an edited reprint, republished with permission, from Watson, A.E.; Aplet, G.H.; Hendee, J.C. (Eds) 1999. Personal, societal and ecological values of wilderness. Sixth World Wilderness Congress Proceedings on research, management, and allocation. vol. II; 1998 October 24–29, Bangalore, India. *Proceedings RMRS-P-000*. US Department of Agriculture, Forest Service, Rocky Mountain Research Station, Ogden, Utah.

It is estimated that the first Polynesian explorers arrived around 1000 years ago, bringing with them the first human impacts on the New Zealand environment. The following settlers changed their new environment and were changed by it, and became the indigenous Maori of Aotearoa (New Zealand). The most vulnerable wildlife and plant species were either extinguished, or depleted and confined to more isolated areas. As the ready sources of food and resources were depleted, Maori were increasingly required to adopt customary practices to allocate and regulate resource use (Davidson 1984; Ministry for the Environment 1997), and to shift toward more settled agricultural practices. These customs and practices contributed to a more stable relationship between Maori society and the environment prior to the next major change: the arrival of the first European explorers and settlers around 200 years ago. This signalled a new phase in New Zealand development, including many revolutionary social and ecological changes that have significant bearing on conservation management in New Zealand today.

1.1 Social changes

The single event of most enduring social and political significance was the signing of the Treaty of Waitangi in 1840, between the rangatira (chiefs) of most iwi (Maori tribes) and the British Government (Crown). This Treaty retains paramount importance throughout New Zealand society, and has major significance for current conservation management. In very simplified terms, the Treaty can be viewed as a partnership based on an exchange, with the three articles of the Treaty stating that:

- I. Maori tribes cede all government authority to make laws to the British Crown; and in exchange:
- II. The Crown promises to protect Maori customary rights to their lands, forests, fisheries and other valued assets; to guarantee Maori authority as vested in chieftainship; and also that the Crown (as opposed to individual settlers) has first right of land purchase if the tribe so wished, as protection against illegal land speculation; and
- III. Maori have the rights, privileges and responsibilities of British citizens.

Today Maori represent some 13% of the 3.6 million people in New Zealand, and participate fully in its predominantly westernised society. Three main issues affect how the Treaty is operating 160 years later. The first is that the New Zealand Government now represents the Crown. The second is that there have been acknowledged failings in the Crown's protection of Maori interests as promised in Article II and III of the Treaty. And the third issue is that there are some differences in translation and understanding between the English and Maori versions of the Treaty, that generate ongoing debate about its actual meaning on some points. These issues have contributed to a contemporary society in which social indicators clearly show that Maori have become relatively disadvantaged in health, wealth, and education. The 1975 Treaty of Waitangi Act established the Waitangi Tribunal, which continues to investigate Treaty grievances and make recommendations on how the Government might redress the consequences of these past wrongs. To address current issues and prevent future grievances, the Treaty duties of the Crown to Maori are now

recognised to varying degrees in most environmental laws and policies, including those governing conservation management.

1.2 Ecological changes

The change of most ecological significance was the introduction of a whole new array of human impacts. More effective means of changing the environment were available to both non-Maori and Maori, and many species of plants and animals were introduced. The consequent pressures from rapid habitat loss, new predators, competition and grazing had a devastating impact on the indigenous ecology. For example, in less than 1000 years, it is estimated that humans and their accompanying animals have removed 70% of forest cover and driven 32% of the indigenous terrestrial bird species to extinction. Moreover around 1000 species of indigenous plants and animals are threatened, including 37 of the 50 remaining endemic terrestrial bird species (Ministry for the Environment 1997: 9.6). In this context much of the conservation management that takes place in New Zealand today could be considered a critical biodiversity rescue mission.

Despite the widespread ecological transformation of the country, the particular physical and social development of New Zealand have combined to allow retention of a very large potential wilderness resource (see fig. 1 in Cessford & Dingwall, p. 36 above). Population pressures are low. Estimates indicate that the average population density for New Zealand is around 13 people per square kilometre, compared with a world average of 44 (Ministry for the Environment 1997). Some 85% of people are urbanised coastal dwellers, concentrated in the upper half of the North Island. Very few live in remote areas, and unlike in most other countries, nobody occupies the lands that are managed as protected natural areas. These lands comprise around 30% of New Zealand: among the highest proportions of protected natural areas of any country in the world. Also significant is that this extensive system of protected natural areas, including almost all the lands of remote wilderness, is managed by one integrated government agency—the Department of Conservation.

2. CONSERVATION MANAGEMENT IN NEW ZEALAND

The Department of Conservation is the sole government department responsible for managing protected natural areas. Established by the Conservation Act in 1987, it brings together all the functions of conservation management previously carried out separately by different government departments. Its mission is to provide for:

- Conservation of New Zealand natural and historic resources
- Appropriate use of these resources by the public
- Public awareness of, support for, and enhancement of a conservation ethic, both within New Zealand and internationally

To achieve this in the most integrated manner, the Department's management responsibilities include all national parks; forest parks; designated reserves;

conservation areas; protected indigenous forests; protected inland waters; wild and scenic rivers; indigenous wildlife; recreational freshwater fisheries; historic places on conservation land; marine reserves; marine mammals; and subantarctic islands. In all of these areas, the Conservation Act (1987) and other legislation also require that the work of the Department also provide for the principles of the Treaty. This effectively means it must recognise Maori environmental values and practices, and the need to establish effective working relationships with Maori communities where required.

3. WILDERNESS MANAGEMENT IN NEW ZEALAND

Subject to the primary aims of protecting natural historic resources, and giving effect to the Treaty, the Department is responsible for managing wilderness. It makes provision for wilderness and wilderness recreational experiences in three ways:

- Defining and legally gazetting specific Wilderness Areas
- Managing 'wilderness' in the Recreation Opportunity Spectrum (ROS)
- Managing for a Remoteness Seeker visitor group.

3.1 Wilderness Areas

The term 'Wilderness' in New Zealand conservation management has a very specific meaning. It is related to the designation of certain portions of land as Wilderness Areas. Legislative provisions for designated wilderness areas are included in the Reserves Act 1977, the National Parks Act 1980, and the Conservation Act 1987. In each of these statutes, the purpose of these wilderness areas can be summarised as preservation of natural state, primarily for wilderness experience (Department of Conservation 1988). More specifically, the Conservation Act lists the following provisions that must apply to any wilderness area:

- Its indigenous natural resources shall be preserved
- No building or machinery shall be erected on it
- No building, machinery, or apparatus shall be constructed or maintained upon it
- No livestock, vehicles, or aircraft shall be allowed to be taken onto or used on it
- No roads, tracks, or trails shall be constructed on it

The current operational specifications of what physical and social conditions are required to fulfil wilderness experiences in designated wilderness areas are provided in the Department's Visitor Strategy (Department of Conservation 1996), which guides management of recreation. Lands chosen for protection as wilderness areas should meet the following criteria. They will be large enough to take at least two day's foot travel to traverse. They should have clearly defined topographic boundaries and be adequately buffered so as to be unaffected, except in minor ways, by human influences. They will not have

facilities such as huts, tracks, bridges, or signs, nor will mechanised access for recreation be allowed. These specifications are based on a widely adopted wilderness policy. This was derived originally from a conference convened by the Federated Mountain Clubs of New Zealand, that included representatives of government departments, recreation groups, environmental groups, tourism interests, and industry interests (Molloy 1983). The Visitor Strategy goes on to list several more specific guidelines about how these wilderness areas should be identified and managed. These can be summarised as follows:

Allow no facilities or services. To retain natural wilderness qualities, developments such as huts, tracks, route markers and bridges are inappropriate, and in the few cases where such facilities exist they should be removed or no longer maintained.

Maintain adequate buffer zones. Adjoining areas should be managed as buffers to assist in the protection of a wilderness area; buffers may contain huts, tracks and bridges, but these should be few and vehicle access will be discouraged near the wilderness boundary

Limit access by remoteness. Wilderness is a fragile resource, susceptible to overuse; while wilderness areas are open to everyone, overuse will be minimised by selecting areas for their remoteness rather than by regulating access by permit.

Control commercial recreation. To ensure the use of wilderness areas at levels compatible with the maintenance of wilderness values, commercial recreation activities may only be undertaken under licence or permit.

Prohibit motorised access or use. Because wilderness areas are places for quiet enjoyment, free from obvious human impact, and require physical endeavour to achieve in full measure the wilderness experience, the use of powered vehicles, boats or aircraft will not be permitted; horses may be allowed where strong historical links exist and where legislation permits.

Require self-sufficient visits. Users of wilderness areas should be self-sufficient and depend on the natural environment for shelter and fuel only if the use of such resources does not detract from the values of the wilderness.

Allow no other development or use. Logging, roading, hydroelectric development, and mining are also incompatible.

Allow some management exceptions. Because of the over-riding importance of protection of intrinsic natural values and the safety of visitors to wilderness areas, restrictions on air access may be lifted temporarily for management purposes such as search and rescue operations, fire fighting, and control of introduced plants and animals.

On this basis, and taking into account past proposals for wilderness areas from the Wilderness Advisory Group (Molloy 1983, 1997; Cessford & Dingwall 1997), the Department currently manages six designated wilderness areas (see fig. 1 in Cessford & Dingwall, p. 38 above). The Department's renewed effort to establish more wilderness areas is evident from the commitments in its Strategic Business Plan (Department of Conservation 1998a) to designate an additional four by 2002. However, the Department has also re-classified three previous

wilderness areas, that do not adequately meet the strict criteria for designated wilderness area status, as being 'remote-experience' zones.

All these wilderness areas barely exceed 2% of New Zealand's land area. But it must be re-emphasised that the Department applies very strict criteria to this designation. The criteria specified for wilderness areas (Category 1b) by the World Conservation Union (IUCN 1994: 18) are similar to those for New Zealand wilderness areas, but make more allowance for minor human modification and habitation. The reality is that in most parts of the world people are living in the protected natural areas. In this context, a very high proportion of New Zealand's conservation lands outside of the designated wilderness areas would be considered the most remote kind of wilderness. Even in the more similar land use and habitation conditions of the United States, the management specifications for their wildernesses, if applied to New Zealand would include an expanse of lands far beyond what are currently managed as designated wilderness areas. This reflects the rugged nature of most New Zealand conservation lands, sparse road access and facility development, and low visitor numbers.

3.2 The Wilderness opportunity class

If we consider the categories from the New Zealand Recreation Opportunity Spectrum (Taylor 1993), US wildernesses would include lands outside of the Wilderness opportunity class (see fig. 2 in Cessford & Dingwall, p. 37 above). To illustrate this point, the 'remote' and 'back-country walk-in' opportunity classes in New Zealand are generally characterised by a high probability of experiencing isolation from the sights and sounds of humans, closeness with nature, and only a few encounters with other groups. Outdoor skills, challenge and risks are important although, subject to weather and river conditions, some reliance can be placed on different levels of track, bridge, sign and hut provision. There is likely to be only light regulation or other management presence. These conditions would match those in most US wildernesses, yet in New Zealand they exist in most of the extensive protected natural areas not specifically managed as wilderness areas.

3.3 The Remoteness Seeker visitor group

The Visitor Strategy extends the Recreation Opportunity Spectrum (ROS) approach to identify a functional range of visitor groups, distinguished by the manner of their activity. This includes reference to the setting the group uses; the accessibility of the areas; the nature of the visit; the activities undertaken; the experience sought; the degree of risk present; the facility and services sought; and the visitor group characteristics. The only visitor-group directly provided for in the designated wilderness areas are the Remoteness Seekers. They are seeking the types of experiences that could only be provided in wilderness areas, or the more remote areas that meet most wilderness conditions (Cessford & Dingwall 1997). Another group of 'Backcountry Adventurers' is also active in some of these remote areas, but are generally more often associated with the more accessible 'backcountry walk-in' zones. These two visitor-groups comprise only a small minority of all visitors to protected

natural areas. Most visitors make shorter overnight trips and day visits to more developed and accessible front-country sites (Cessford & Dingwall 1997).

Overall, the principles underlying these three types of wilderness provision illustrate the point made in the Visitor Strategy, that New Zealand wilderness has been defined primarily as a recreational and cultural concept. However, despite this recreational basis for assigning wilderness values, the actual specification of wilderness criteria has been driven by preservation-oriented attitudes to conservation, that separate the values of the natural world from the presence of people. Past consideration of wilderness values in New Zealand has generally been exclusive of other human interests or cultural values. For example, in the 1981 Wilderness Conference (Molloy 1983), Maori cultural values for nature and for outdoor recreation were barely mentioned. Any similar conference held today would most likely include much wider cultural parameters and public involvement processes. Recent developments in acknowledging Maori customary rights are now raising new issues with implications for wilderness designation and management.

4. CURRENT ISSUES FOR WILDERNESS MANAGEMENT

Today there are few threats to the integrity of New Zealand's wilderness areas. This is due to their extreme remoteness; the sustained difficulty of access; the low demand pressures; the regulations that are in place; and the focus of management on providing more services for front-country visitors to protected natural areas (Barr 1997; Cessford & Dingwall 1997). The only major issues that may affect how some wilderness areas are valued in the future relate to general ecological sustainability, the intrusive potential of aircraft overflights (Cessford & Dingwall 1997), and more recently, the implications of renewed customary rights for Maori.

4.1 Ecological sustainability

While New Zealand wilderness originated largely as a recreation-experience concept, an important value component relates to the ecological integrity of the environment. Human effects on protected natural areas, and on wilderness in particular are now well regulated. However, continued depletion of indigenous species and habitat by introduced animal and plants remains the greatest overriding threat to conservation values. While wilderness is managed to be remote from people and their effects, it is not remote from this ecological pressure. In this respect, wilderness is not distinguished from any of the other protected natural areas. If ecological priorities require it, the Department itself will allow the use of aircraft, machinery and structures in wilderness. The main concession to wilderness status is that these necessary intrusions must be temporary (Department of Conservation 1996).

4.2 Recreation intrusion

The only recreation intrusions that may significantly affect wilderness experiences under current conditions of remote area management are

overflights by sightseeing aircraft. Controls on aircraft use are limited only to a ban on landings and a minimum overhead altitude of 500 metres. By international standards, the noise and intrusion impacts of aircraft on wilderness experiences are not widespread in most of the remote natural areas of New Zealand. However, extreme examples do occur in popular remote locations outside of wilderness areas, such as the 69% percent of Milford Track visitors who reported being bothered by hearing aircraft (Cessford 1998). While the Milford Track remains an outstanding wilderness experience for many people, the aircraft activity-levels appear to exceed what most visitors expect. In the more remote wilderness areas, expectations would be for few or no encounters at all, and conflicts can arise at very low levels of aircraft activity. Since wilderness managers continue to have only limited influence on the flight paths and behaviour of low-flying aircraft, this problem remains difficult to address. However, apart from these aircraft effects, and given current management practices and recreation trends, no other major types of recreation intrusion are anticipated (Barr 1997; Cessford & Dingwall 1997).

4.3 Maori cultural values

Another form of potential socio-cultural intrusion or conflict are the issues relating to traditional Maori values for natural areas and the customary use of resources, and how these might differ from those of current wilderness recreationists and advocates. This issue is important to address, because many of these customary values are being formally recognised as part of Treaty settlements, and being reasserted by Maori in general. Moreover, under the Treaty provisions outlined in the Conservation Act, the Department must now more pro-actively take account of these values and work directly with Maori.

Many New Zealanders, both Maori and non-Maori, have a powerful sense of belonging in New Zealand natural landscapes. But many traditional natural values held by Maori are very different from those derived from the western European cultures (James 1993). The predominant attitudes of early European settlers strongly emphasised the benefits to be derived from the development and use of land. However, like the original Polynesian settlers, the later European settlers were also changed by their new environment. In more recent times, the existence of protected public natural areas and the rights of access to them have been associated with unique values of freedom, equality, and heritage by many New Zealanders (Department of Conservation 1996). Along with preservation-oriented concerns about environmental degradation, these types of values have been important driving forces in the development of the New Zealand protected natural area system in general, and wilderness areas in particular (Molloy 1983; Department of Conservation 1996).

For Maori holding traditional values, close relationships with the natural world are part of the interconnected spiritual and ancestral bonds linking people, place, history, and identity (NZCA 1997). It was to protect such relationships from development pressures that paramount chief Te Heuheu Tukino in 1887 gifted the most sacred mountains of his Ngati Tuwharetoa tribe to the government for a park. When the Tongariro National Park was established from these lands in 1894, it was the fourth National Park in the world, and the first gifted from an indigenous people (Department of Conservation 1994).

Recognition of these relationships and the significance of this gift led to Tongariro National Park in 1993 being the first cultural landscape inscribed on the World Heritage List. It was considered an outstanding example of an 'associative cultural landscape', defined as being landscape 'justifiable by virtue of the powerful religious, artistic or cultural associations of the natural element rather than the material cultural evidence, which may be insignificant or even absent' (World Heritage Committee 1994).

However, these values are not just expressed in a spiritual sense. The traditional Maori view of the natural world correlates closely with those of other indigenous cultures which exhibit a philosophy of balance and interdependence. This philosophy is consistent with the sustainable use of natural resources, and includes mechanisms for protection resource (Department of Conservation 1997). Maori from different tribal, collective and family groups have traditionally had different customs for protecting historically significant sites, particularly ancestral burial grounds, and important food resources such as some bird species, fish stocks, and shellfish gathering areas. These values, customs and practices were sustained by making some sites and resources sacred and off-limits (tapu) for different periods of time. Some species and resources were also subject to temporary or seasonal harvesting bans (rahui), and other complex customary harvesting and use protocols (Ministry for the Environment 1997).

From a contemporary Maori perspective, these cultural values and associations remain applicable to any public and private lands, irrespective of their current management classification. In lands managed specifically for particular conservation or recreation purposes, such as wilderness, any renewal of these values and their associated practices may conflict at times with the largely preservation-oriented principles that have traditionally dominated conservation debates and wilderness management in New Zealand.

However, it is important to note that most of the current cultural use issues do not relate directly to wilderness areas. Historically, few Maori lived in the areas currently managed as wilderness. The present national preference for living in the north of the North Island was also reflected in past Maori population distributions (Ministry for the Environment 1997). Like most other New Zealanders, over 80% of Maori are now urbanised (Ministry for the Environment 1997), and share most aspects of the same international westernised culture. However, many Maori have retained or recently renewed their involvement in traditional tribal structures or their urban equivalents, which on the basis of Treaty provisions, are now getting more involved in conservation management processes and issues. While most of these processes and issues relate to those parts of New Zealand where population and human customary use has traditionally been concentrated, some will have increasing application to wilderness management. Although not generally occupied, the more remote areas often had major spiritual significance associated with them, and in many cases they still do.

5. MANAGING FOR MAORI CULTURAL VALUES IN PROTECTED NATURAL AREAS

In general, the Department of Conservation has made considerable provision for working in co-operation with Maori, particularly in the protected natural area system outside the remote wilderness areas. Special liaison staff (Kaupapa Atawhai Managers) act at a senior level in each of the Department's 13 Conservancy Areas, and an overall management strategy has been developed to outline the basis and principles for the extensive interaction required with different Maori groups (Department of Conservation 1997). In terms of the Department's relationship with Maori, basic legislative conditions require that provision be made for formal consultation and communication processes. The Department also facilitates increasing inclusion of Maori groups at the more inclusive levels of advisory committees, management boards, and some co-operative management arrangements. Initially, this has been achieved through development of inclusive planning processes at the strategic, site-based and issue-specific levels. Involvement opportunities are being further enhanced and diversified through the different co-operative management practices and programmes being increasingly applied on a case-by-case basis through these planning processes. Within the context of Maori involvement in planning processes, the main types of management provisions that appear to be required for wilderness management in particular, can be generalised as those that:

- Respect the formally acknowledged cultural values and associations held by Maori for different places
- Make allowance for any formally acknowledged customary practices and uses related to these values and associations

5.1 Respecting the cultural values and associations of places

It has become evident that the fundamental basis of any working relationship between the Department and Maori is an official recognition of the status of different traditional Maori groups. These can include groups such as iwi (tribes), hapu (collectives within iwi), whanau (local and family collectives), and more contemporary representative collectives such as urban Maori authorities and statutory trust boards. In each of these, official recognition is based most on acknowledging the group's status as the tangata whenua (people of the land) in particular areas and places. Once that recognition is established, there are four fundamental Maori values that conservation management should take most into account. As adapted from Matunga (1994), Durie (1998: 24) lists these as:

- Taonga—The objects or resources that are highly valued by a particular Maori collective.
- Tikanga—Moral guides to appropriate behaviour that apply to a particular Maori collective in how it interacts with its taonga.
- Mauri—The life essence and interconnectivity of all things.
- Kaitiaki—The role and responsibility of Tangata Whenua as guardians of their taonga, tikanga, and mauri.

Recognition of appropriate kaitiaki and the associated values creates the framework for developing co-operative consultation and management when engaged in normal planning processes, or when addressing specific issues. In many places this recognition has been well established for many years, and has resulted in long term management associations between conservation managers and Maori. For example, the Department works closely through formal processes with the Ngati Tuwharetoa tribe in management of Tongariro National Park and surrounding conservation lands.

However, in places where losses of traditional customary rights and associations are being addressed through negotiation of comprehensive settlements of Treaty claims and historical grievances with tribes, these values must be specifically identified, acknowledged, and re-established. A recent example is provided by settlement of the Treaty claim made by the Ngai Tahu tribe. The rohe (tribal area) of Ngai Tahu covers most of the South Island of New Zealand, and includes most of the national conservation lands (65%) and five of the six currently established Wilderness Areas. In this settlement, several new legal instruments were developed which created a new framework of recognition for Ngai Tahu values, objectives and roles in the conservation management of specific areas and sites. The objective of these instruments is to provide Ngai Tahu with an opportunity for greater input in to the Department's policy, planning and decision-making processes, consistent with the principles of the Treaty of Waitangi.

One example of a new provision with wilderness implications is the statutory classification attached to several prominent mountains and other areas of importance to Ngai Tahu. People are still free to climb these mountains and visit these areas, including New Zealand's highest peak—Aoraki/Mount Cook. But the Department must pro-actively inform visitors of the status and cultural values of Ngai Tahu in these places, and they will be encouraged to adopt behaviours that respect these values. Climbers, for example, will be provided with information that explains that standing on certain mountain summits denigrates their sacred status. Compliance is left as a matter of personal conscience and sensitivity, but does not necessarily represent a negative intrusion on the wilderness experience. Rather, this type of request is based on the substantial cultural value of these areas to Maori, which in effect enhances the other values already attributed to these special places by wilderness recreationists and advocates. However, where the Department's recognition of these values is also accompanied by provision for some customary use, perceptions of cultural intrusion or conflict may arise.

5.2 Making allowance for customary uses

One of the key benefits from having customary uses and practices specifically acknowledged and included in management processes is that an opportunity is provided to actively restore a right or protect a value. Subject to the need to protect species and ecosystems, the Department already meets a wide range of these needs. There is a wide range of legal provisions, policies and protocols in place for the customary use of resources including whalebone, feathers, plants, timber, freshwater fish, eels, sea-birds, shellfish, and fish (Department of Conservation 1997). One example is a recent protocol for the management of

whale strandings (Department of Conservation 1998b). In this document the relationship between the Ngatiwai tribe, the Department, and the resource is specifically defined and acknowledged. In addition, specific procedures for incident reporting, collection of samples, collection of scientific data, and recovery of cultural materials (e.g. whalebone) are specified.

Customary use issues can also relate to specific access and activity provisions on conservation lands. For example, as part of the Ngai Tahu Treaty settlement, provision is made for Nohoanga entitlements, which give some rights of access to rivers and lakes, temporary camping and fishing. In another example, the Visitor Strategy conditions for wilderness allow for possible use of horses where strong historical links exist, and legislation permits. As well as fulfilling Treaty obligations, these provisions also acknowledge that New Zealand is a signatory to the Convention on Biological Diversity, which recognises the rights of access to traditional materials on a sustainable basis by indigenous peoples (Department of Conservation 1997).

There are some conflicts over current and proposed provisions for customary uses of indigenous plants, animals and traditional materials, and related access conditions. In part, these reflect some differences between Maori and non-Maori perspectives on the status of traditional cultural rights in natural areas. When reviewing public submissions on customary use issues, the New Zealand Conservation Authority acknowledged this type of difference would be an ongoing issue to work on. But it also noted that there was considerable common ground in attitudes toward conservation of species and habitats, illegal poaching and unsustainable harvest, and general interest in active conservation involvement (NZCA 1997). In a more pragmatic context, Durie (1998: 47) noted that 'the many unresolved issues should not prevent the creation of new strategies to address particular situations. Sometimes, in the end, ownership may be a less critical issue than the capacity for active participation in decision-making.'

6. CONCLUSION

Given the relative security of Wilderness Areas and remote experience opportunities under current management conditions, and the proposals to establish further Wilderness Areas in the next few years, particular issues specific to wilderness are not a major concern in New Zealand at this time. Any management concerns about sustaining the ecological, recreational and cultural values of wilderness are transcended by the impact issues apparent throughout the wider protected natural area system. The Department's integrated management of the protected natural areas provides the best protection for these wilderness values. The main contribution the New Zealand experience can make to conservation management in other nations will come from examples derived from its integrated management approach across diverse protected natural areas, rather than solely from its management of wilderness areas. The main contribution that the conservation management of other nations can make to New Zealand will be from their greater experience in dealing with protected natural areas that are inhabited by people, or where the resources within are subject to some customary use.

7. ACKNOWLEDGEMENT

Thanks are due to Department of Conservation staff who reviewed drafts of this paper: Eru Manuera (Kaupapa Atawhai), Ruth Wilkie (External Relations Division) and Ned Hardie-Boys (Science and Research Unit).

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