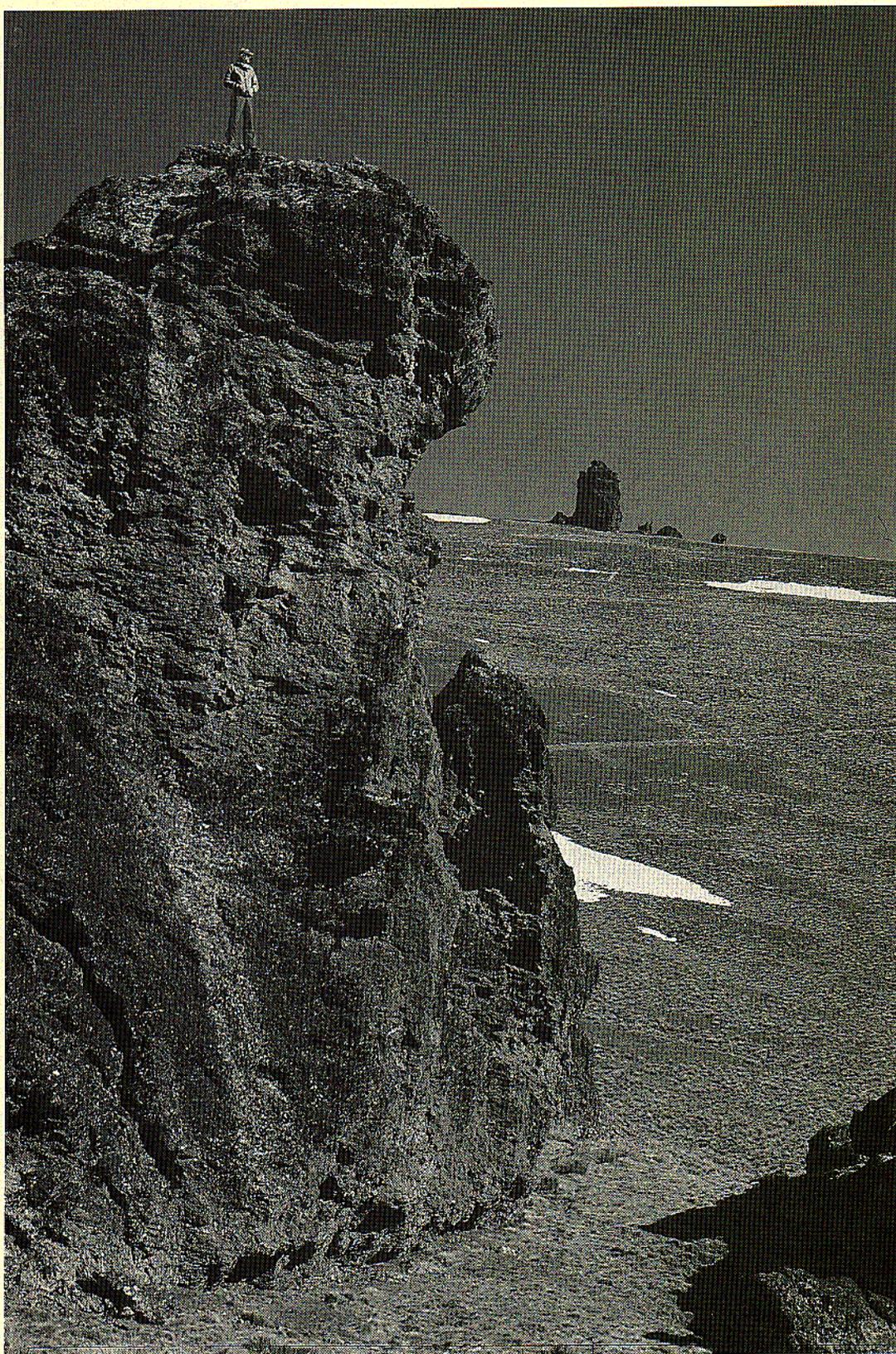


# OUTDOOR RECREATION in OTAGO

A Conservation Plan

Bruce Mason



Volume One:  
CENTRAL OTAGO'S  
BLOCK MOUNTAINS

## THE AUTHOR

Bruce Mason is a recreation and conservation consultant, based from his home town of Dunedin.

As an active outdoor recreationalist he has spent much of his free time roaming the South Island high country during the last 20 years. His travels have taken him to Antarctica, and to North America where he undertook a private study tour looking at recreational impacts and the management of national parks and forests. His conclusions were published by the New Zealand National Parks Authority in 1974. This work was instrumental in introducing a minimum impact code of user ethics to back country New Zealand. Concern for the environment and recreational users' welfare led to terms on the Otago Walkway Committee and the FMC Executive, and as President of the Otago Tramping and Mountaineering Club. The latter body awarded him life membership in 1985.

Professional involvement in the outdoors has included 8 years as a reserves ranger with the Department of Lands and Survey, engaged in historic resource assessment and the establishment of the Otago Goldfields Park. During this period he obtained a Diploma in Parks and Recreation from Lincoln College. For the last 8 years of private practice, he has been variously engaged by FMC and the Public Lands Coalition (FMC, Royal Forest and Bird Protection Society, New Zealand Acclimatisation Societies). His primary role has been to conduct research and give advice on matters relating to South Island pastoral lease management and requirements for protecting recreational values, wildlife habitats, landscape, and areas of botanical importance. A recent major involvement was the successful national campaign by the PLC reversing the misallocation to the new State-owned enterprises of large areas of Crown land with high recreation and conservation values.

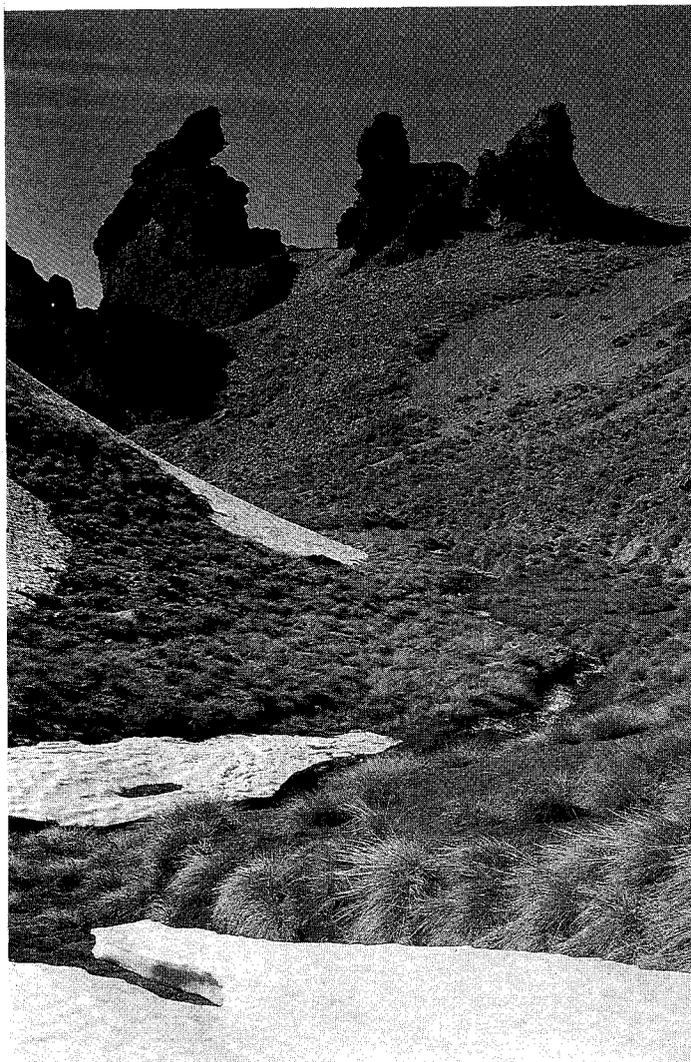
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The Federated Mountain Clubs of New Zealand (Incorporated) is a national alliance of over 120 affiliate and associate clubs representing some 16,000 members who are interested in climbing, mountaineering, tramping, hunting and skiing in the mountains and wild places of New Zealand.

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*Pisa trio.*



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## CONTENTS

<i>Preface</i>	5
<i>Introduction</i>	6
Rock and Pillar, Lammermoor and Lammerlaw Ranges	17
Kakanui Mountains	26
St. Marys Range	33
Hawkdun and Ida Ranges	37
St. Bathans Range	41
Dunstan Mountains	45
Pisa Range	49
Old Man, Old Woman and Carrick Ranges	55
Garvie Mountains	66
<i>Glossary</i>	78
<i>Maps: see</i> pages 15, 16, 28, 36, 44, and 67	

Dedicated to the Memory  
of

Peter Child  
1923 - 1986

*Tramper, mountaineer, naturalist,  
and lover of Central Otago*

## PREFACE

This work is the first of two volumes to cover the high country and upland recreational resources of Otago, east of the main divide.

*Outdoor Recreation In Otago* has been long in the gestation (eight years) and follows from the well-received *Outdoor Recreation On The West Coast* by Les Molloy. This was published by FMC in 1979. The latter work was a broad-brush exercise to quickly identify the extent and location of differing categories of outdoor recreational areas, most of which were directly administered by State agencies, but were in imminent danger of large-scale loss to the demands of the timber industry.

The Otago series adopts a similar approach to the West Coast volume, however a more in-depth assessment of the settings in which recreation occurs has been necessary. This is primarily due to the prevailing pastoral land-use and land tenures. Crown pastoral leases cover the greater extent of the land reviewed, with only relatively small areas away from the main alps under direct state control. The solutions required to achieve an integration of recreation with pastoral production involve an intricate mix of social/legal factors, and political and statutory decision-making. This is a situation peculiar to these leaseholdlands.

The need for recreational assessments in the high country could not have been more apparent than during the recent debate over moves to alienate pastoral leases from State control. That battle was won, but it was quickly followed by perhaps the greatest carve-up of Crown lands this century. Fortunately most high country lands were hauled back from the brink of corporatisation and privatisation. History demonstrates that alienation of the public interest is rarely, if ever, reversed. The risk is greater while natural and recreational values remain undocumented, and not widely recognised within government or the community at large.

The Protected Natural Areas (PNA) Programme has made important beginnings in documenting remaining natural areas in the South Island high country, however such efforts must be paralleled by recreation and landscape assessments so that the total public interest of nature conservation-recreation can be properly satisfied. The recommendations in this volume need to be integrated with those of PNA surveys, where these are completed, and used as a basis for the Crown exercising its rights as landlord, and for negotiation with pastoral lessees.

*Outdoor Recreation In Otago* is a first attempt to take a composite view of high country Otago as a recreational resource. It is not intended that it removes the necessity for further assessment, in particular of individual localities.

In September 1986 Cabinet charged the yet-to-be-established Department of Conservation with the 'key tasks' on pastoral lands of 'the protection of native plants and animals, the unique high country landscape, soil and water conservation, and negotiating increased opportunities for public recreation.' Specific information on all these concerns is the essential ingredient for furtherance of these objectives. This plan has been prepared in the earnest hope that official initiatives in this field can be expedited. Economic and pro-development forces

have been well catered for by the present system; there is not too much time left if non-material recreational values are to have an effective influence.

This plan focuses on those recreational activities which the Federation feels it is competent to address. That is, foot and ski orientated activities of which its members have first-hand experience. It generally excludes low country rural lands where different recreational activities and perspectives apply. Where other activities do coincide however, they are noted for completeness of record. FMC does not attempt to be an authoritative source on these, and commends consultation by decision-makers with user groups such as acclimatisation societies. One extensive *open space* not covered in this plan should not be overlooked. This is the Manorburn - Rough Ridge - Lake Onslow uplands. Although not generally used for foot recreation, there is considerable potential for reserves, and for protection of historic sites and trails. Parts are intensively used by anglers. Development pressure on these lands would indicate a high priority for PNA assessment.

A qualitative rather than quantitative approach has been taken with this work. Putting aside the considerable resources required to accurately quantify recreational activity, the essence of *wildland* recreation is the quality of the experience obtained by participants, whatever the actual activity pursued. Besides, projections of future use on a quantifiable basis are exceedingly difficult, if not impossible.

The Recreational Opportunity Spectrum (ROS) approach to allocating lands of recreational significance has been adopted. This entails zoning for different, desirable 'experiences', rather than along the historic model of land condition, as widely practiced by most existing land management strategies. The ROS approach has necessitated a comprehensive documentation of the physical and social settings in which various recreations occur; while this is intended to be useful resource data, it should be viewed as of secondary significance to the qualitative judgements implicit in the Federation's zonings.

The real strength of this exercise lies in the detailed field knowledge of all who contributed information and comment. This plan is an expression of individual values - values which are derived from many memorable experiences over a broad span of years. These perceptions may differ from others with enthusiasm for commercial opportunities or the status quo, or who actively participate in non-compatible recreations. It is the intention of this work to provide a documented basis for the on-going debate over the many pressing issues in the high country.

In places the text is critical of State agencies and land use practices. For over the fifty years of the Federation's existence, it has always shown that it is prepared to contribute ideas and to engage in dialogue with the managers and other users of mountain lands. Any criticisms are made in a spirit of constructive commentary, which, with dialogue, must contribute to the long term well-being of the land resource on which so many different interests depend. It must be acknowledged that despite frequent recommendations in this work for rights of public access, the majority of runholders allow public recreation on their holdings. Unfortunately there are enough unreasonable obstructions to access to cause on-going irritation for the recreational community. Apart from these cases, the approach of FMC is not one of 'picking' on individuals, but rather of countering increasing commercial

incentives for 'locking out' the general public as well as pressures for widespread **freeholding**.

The views expressed are intended to reflect **FMC's** position. As author I accept responsibility for the interpretation of **FMC's** objectives and policy, and for the views expressed. Having stated this, **FMC** endorses the publication as a considered contribution towards improving the future management of Otago's recreational landscape. This work is part of an evolutionary process, as physical and political realities confront many perceptions and stances from the past. This situation applies to all parties to the high country debate. While **FMC** is clear in its objectives for these lands, it accepts the need for some flexibility in the attainment of these objectives.

This volume devotes nine chapters to Central Otago's **block-faulted** mountains. A second volume will deal with Dunedin's hinterland and north-west Otago. This will address the Silver Peaks region, the eastern half of Mount Aspiring National Park, and the Lakes district from the Hector Mountains in the south, to the Ahuriri Valley in the north.

## Acknowledgements

This publication would not have been possible without the financial support of several organisations over a period of years. Research, editorial, and printing costs have been variously met by **FMC**, the Environmental Council, N.Z. Council for Recreation and Sport, N.Z. Lottery Board, and the J.R. McKenzie Trust. To all of these my sincere thanks. **Les Molloy** and **Hugh Barr** were instrumental in arranging this support.

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**Brian Turner** readily accepted final editorship, and was responsible for layout and seeing this volume through to the printers, **John McIndoe Ltd.**

The following provided comments at various stages, however they cannot be held responsible for presentation, or views expressed:

**Hugh Barr**, **Cathy Brumley**, **Paul Chapman**, **Arne Cleland**, **Peter Child**, **Dave Craw**, **Dave Henson**, **Marjorie Mason**, **Brian Patrick**, **Stuart Mathieson**, **Rob Munster**, **Mark Stirling**, **Peter Strang**, and various members of the N.Z. Alpine Club, Otago Tramping and Mountaineering Club, Central Otago and Hokonui tramping clubs.

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Special thanks to my family, friends, and companions during many memorable expeditions in to the hills, for their interest, support, and forbearance throughout this project.

B.M. December 1987.

## INTRODUCTION

### An Overview

#### 1. The Character of Central Otago

Several distinct elements contribute to the character of Central Otago as a setting for outdoor recreation:

##### 1.1 Landscape

Otago is a geographic mosaic of landscapes, extraordinarily diverse and quite different from the rest of New Zealand.

Inland Otago presents a lonely vastness or spaciousness unmatched by most other regions. Mountaineer-essayist **T.H. Scott** observed this is 'a vast kind of land, whatever its size on the map, giving a sense of great distance...' (t)

The Otago region is one of the largest in New Zealand, spanning the broadest part of the South Island. It is distinctive for its steep-faced mountains, glaciated lake basins and large glacier-fed rivers, extensive ranges away from the main alps, and for an absence of large, continuous areas of lowland.

Central Otago provides a unique heartland. It is divided by a reoccurring pattern of alternating block-faulted ranges and basins. Striking features are bare, tor-studded crests and craggy faces of some of the ranges and tablelands. Deeply incised river gorges cut through many of the ranges, following courses older than the uplands they drain.

It is generally a region of subdued landforms, perceptions of which alter with the season, and the hour. The long shadows of late summer afternoon and evening create smouldering purple and blue castes over the landscape, intensifying relief and lengthening distances. As writer-recreationalist **Brian Turner** phrases, there is a 'brooding sensuality' about Otago's hills. (2) Golden autumns among the deciduous poplars of the basins, and the pungent fragrance of fields of flowering thyme are vivid banners of the seasons. Penetratingly cold valley fogs, hoar-frosts, extreme atmospheric clarity, and snow caps on the tops distinguish winter from the other seasons.

The skyscape can be as imposing as the land. Westerly cloud patterns mirror landforms, with wind-sheared north-west arches positioned to the lee of the ranges, which themselves can wear caps of contour-hugging cloud.

##### 1.2 Tussock Grasslands

The unifying element over most of the high country is the tussock grasslands. As **Scott** observed<sup>(1)</sup> '...here (is) a plant happily suited to plain, hill or mountain - the tussock - of which the earth nor eye could tire. It seemed to me a plant of

the spaces - the sprightly silver tufts and the great rusty bushes alike suited to some eternal wind sweeping over an endless land, to an ancient sun beating down or to a biting inland winter. A plant that could people, rather than cover desolate places.' The form of the land remains apparent under the tawny mantle.

The wind is master of the tussocks - its power and its patterns dominate. 'They nod and sway like enraptured beings', observes Turner.<sup>(2)</sup>

The high country leaves many visitors spellbound. These desolate places are as much a spiritual resource as they are a physical reality. Turner writes<sup>(2)</sup> that 'it is impossible to explain precisely the attraction the high country holds for many people, yet it seems to embody our need for some understanding of and kinship with the land that slopes up towards the high hills and mountains which are the nearest thing we have to shrines in this country.' However it has to be admitted that - 'to a large proportion of the population the "wide open spaces" are little more than scenery, sometimes pretty, sometimes desolate, boring or barren.' These are individual responses coloured by culture or personal experience; by living or actively recreating within the high country very different perceptions can arise.

### 1.3 Climate

Central Otago's climate is particularly striking. Arid 'barrens' co-exist beside the largest river in New Zealand, which drains glaciated alps only a relatively short distance to the west. Clear skies result in high sunshine hours and daily temperature extremes. This is as close to a continental climate as can be found in New Zealand. There are also great climatic differences between altitudes. The basin depressions can swelter with the highest temperatures in New Zealand, while adjacent range crests are among the harshest alpine environments in the country.

### 1.4 History

No sooner had the first pastoralists established their runs over vast tracts of country, then startling discoveries of gold, first at the Tuapeka in 1861 and then at the Dunstan, drew thousands of prospectors in to the sparsely inhabited interior. The goldrush era has largely determined the settlement pattern of today, with most towns strategically located near the goldfields. Communications links became quickly established through difficult terrain, the many ranges and gorges proving to be major obstacles. The roading pattern remains substantially unaltered today.

Gold projected Otago in to economic prominence in New Zealand. The gold era spanned a 40 year period of sluicing, quartz mining, and dredging. The cultural legacy of this era, in terms of historic trails, workings, and cob and stone buildings is a distinctive characteristic of the region.

What isn't generally appreciated is the effect of Polynesian culture on the grasslands setting of today. While much of the district, excluding the driest basins, was probably covered by forest before the arrival of man, almost all was burnt off, either intentionally or unintentionally, since the arrival of the Maori in A.D. 900. Widespread totara logs, successive layers of soil charcoal, and preserved pollen in bogs, provides generally accepted evidence that the tussock grasslands and shrublands of Central Otago that first greeted the pastoralists had succeeded

forest. Most deforestation occurred from the 10th century onwards and is generally assumed to be associated with moa hunting activity.<sup>(3)</sup>

### 1.5 Pastoral Runholding

Of universal impact on the high country has been the effects of extensive pastoralism. Over the first 20 years stock numbers increased greatly on the native pasturage to reach peaks in the 1870's and 1880's. The high stocking proved to be unsustainable, and numbers declined erratically, through snow losses and rabbits, until the 1950's when it was only 10 per cent of the 1880 level.<sup>(4)</sup>

The widespread practice of burning to induce new growth and to control scrub, in conjunction with grazing, has caused major changes to the composition and vigour of plant communities. The semi-arid Central Otago basins and low altitude sunny faces suffered the greatest. Overseas commentators have observed this to be one of the most dramatic examples of severe land degradation to have occurred globally with the expansion of European pastoralism during the 19th century.<sup>(5)</sup> An explosion of rabbit numbers, after sheep numbers had peaked, greatly accelerated the process of desertification. A mosaic of short fescue grasslands and shrublands was replaced by bare earth, scabweed, exotic herbs, and more latterly by adventive, low producing exotic grasses. At the time of first settlement runholder Watson Shennan described the Manuherikia Valley as 'a land well grassed and watered, a very land of promise'. He found the country as far as where Clyde now stands 'all well grassed and watered, sufficient scrub for fuel for many years, but no bush or timber.'<sup>(6)</sup> In 1868 Alexander Bathgate observed an abundance of tussock and grasses in the now 'bare and barren' Cromwell Gorge.<sup>(6)</sup> On the ranges the upper and lower limits of tall tussock retreated under the impact of burning and grazing.

### 1.6 Wildlife

Changes in the fauna of Central Otago have been equally drastic during historic times, leaving Central Otago relatively undistinguished for its variety of native species. Botanist J. Buchanan described the Maniototo Plain in 1862<sup>(6)</sup>: 'The Taieri was a bright translucent stream, and at every bend of the river there was a bank of clean small gravel, and on these flocks of waders and other birds disported themselves including dotterel, golden plover, pied stilts, pied oystercatchers, and swarms of terns sitting around or whirling over the river. In the swamps and lagoons were a good many pukeko, and along the river not infrequent bitterns: on the open plains large flocks of paradise ducks. On the lagoons and river-bends grey ducks, shovelers, and teal were numerous. Weka were plentiful among the rocks and scrub in the gorge near the Styx, as were blue duck, an odd kingfisher, and a few fantails and tomitts. The little grebe (dabchick) was not uncommon in the quiet reaches of the river or deeper lagoons. The grass on the hills swarmed with grasshoppers, and cicadas were abundant, as also were lizards.'

Wild dogs were a major problem for the early runholders, as were swarms of rats and mice. Native quail were plentiful; they completely disappeared within a few years of settlement,

After 130 years of habitat destruction and modification, by farming and mining, the number and diversity of native species is now greatly reduced.

Loss of wetlands and lower water quality has adversely affected

wading birds. Weed encroachment on to riverbeds is an ongoing problem. Dry terraces and alpine herbfields with low, cushion vegetation now provide the more significant habitats for waders. Acclimatised fish and ducks are plentiful and have replaced most native species in remaining wetlands.

Within the extensive montane basins formerly rich insect fauna has been virtually eliminated. It is only on rocky outcrops and in salt pan areas that islands of biological richness survive. However some saline plants and animals are in extreme risk of extinction, Lizards are abundant in dry, rocky environments with Central Otago providing the richest lizard fauna in mainland New Zealand. Eleven species of geckos and skinks are recorded.<sup>(7)</sup>

The alpine zones retain the greatest diversity and richness of native insect and bird species within the region.

### 1.7 Hydra-electric Development

The upper Clutha power scheme currently under construction is drastically changing the character of basin-floor Central Otago. Coupled with irrigation development, expanding horticulture, and population increases, more intensified and diverse settlement patterns are emerging.

## 2. FMC's Objectives

In addition to FMC's national role in the promotion of active recreation and mountain safety practices, the Federation actively promotes public access to mountain lands and the conservation of these environments. FMC's particular goals in the South Island high country are:

- \* the protection and improvement of public recreational opportunities;
  - \* the conservation of natural landscapes and ecological values, as important components of the recreational setting.
- To achieve the above goals, the Federation seeks:
- \* the removal from pastoral leases and licences of high land unsuitable for grazing, and the making available of these lands for public recreation through more appropriate tenures;
  - \* the evolution of tussock landscape management systems, and the identification, for protection, of typical and special landscapes throughout the high country;
  - \* completion of the PNA programme to achieve a representative network of protected areas, with reserve status where significant opportunities for public recreation exist;
  - \* improved public access through leasehold land to public land within or beyond. Where recreational use is random and of low intensity, the Federation generally considers that informal arrangements are adequate. For regular access routes, and areas of regular recreational activity, formal arrangements for public use are sought;
  - \* allocation and management of recreational resources through local and regional planning, by application of the ROS concept.

## 3. Outdoor Recreation Demand

### 3.1 Patterns and Preferences

Several national recreation surveys and a few local surveys have been undertaken since the mid 1970's. These are usefully summarised in the N.Z. Council for Recreation and Sport's

*Policy for Outdoor Recreation in New Zealand.* @) The surveys establish that at the national level:

- \* most people are involved in a variety of activities;
- \* active outdoor pursuits are significant to, and positively pursued by nearly half New Zealand's population;
- \* participation in active outdoor activities is increasing at the expense of sports;
- \* approximately 10 per cent of the population participates in 'traditional' outdoor activities such as tramping and mountaineering;
- \* there is a growing multiplicity of specialised activities as developments of old ones. eg. ski touring and heli-skiing;
- \* skifields, with good road access, have attracted thousands of people in to the mountains who might never have gone there otherwise;
- \* conversely, 'big game' hunting is diminishing along with the resource.

At the local level, (in 1977)<sup>(9)</sup>:

- \* among Dunedin residents 'walking for pleasure' ranked as the 6th most popular recreational activity, with universal popularity among all age and occupational groups;
- \* tramping ranked as 22nd in relative popularity, but 5th as an ambition.

### 3.2 Influencing Social Factors

Leisure time and discretionary income have a major bearing on recreation participation, with lack of facilities ranking third.<sup>(8)</sup>

Increasing imbalance of wealth in New Zealand is not conducive to increasing participation in recreational activities by all socio-economic groups.

Most commercial activities and developments in the high country are tailored towards 'up-market', well-heeled clientele, particularly among overseas visitors. eg. heli-skiing, heli-hiking, lodges/condominiums, guided fishing and hunting. Conversely the high cost of transport, accommodation, and service charges are turning away an increasing number of domestic visitors from the more popular destinations.

### 3.3 The Recreational Land Resource in Otago

Scenic quality and grandeur are important attributes for most recreationalists, however areas around population centres, whether or not of great scenic attraction, can have high recreational value due to proximity and ease of access. More distant areas have significance as holiday and tourist destinations.

In Otago there is a relatively short history of formal provision for outdoor recreation, with protected areas clustered around the western and eastern extremities of the province. It was not until 1964 that the Mount Aspiring National Park was established, this being confined to the western alps. Scenic reserves around Dunedin, and on the south-east Otago coast, have only been actively managed for the last 10 or so years; these providing native forest settings for recreation.

Within the broad expanse of Central Otago there are almost no areas formerly available for public outdoor recreation. The Otago Goldfields Park, dating from the mid 1970's, is the only reserves system, consisting of a scattering of small historic sites. Only a handful Crown Land management plans exist with provisions for public recreation in the high country. There will be new opportunities for lake orientated activities after Lake Dunstan fills in 1989. However wild and scenic river values will be lost as a consequence.



The great potential for increasing recreational activities for the general public lies on the one million hectares of pastoral leasehold land in Otago, that is provided compatible farming practices are adopted and trespass rights currently held by lessees are withdrawn over areas of recreational significance. The range of recreational activities possible on these lands cannot be adequately accommodated elsewhere. Formal provision for public recreation on these lands would add significantly to recreational opportunities regionally.

### 3.4 The Future - A Changing Resource ?

Predictions of permanent changes to the earth's climate due to a 'green house' effect, may have a direct bearing on recreation potentials over most of the areas reviewed in this work. Higher average temperatures, and possibly reduced snow precipitation, will have a direct impact on skiing in the medium to long term. In the absence of large-scale snow making, marginal skifields will cease to exist, and even some of the better areas for snow cover may suffer due to changed snowfall patterns. Consolidation of future development at the better existing skifields may be prudent before embarking on new developments.

In the absence of major capital investments, cross country skiing, and to a lesser extent heli-skiing, is very flexible as to venues. The extent and reliability of skiable terrain may reduce. This will exacerbate present winter-to-winter

variations, however a sizable, if variable, ski resource can be envisaged for the foreseeable future.

## 4. Planning For Outdoor Recreation

Prior to the early 1970's, for rural-backcountry New Zealand recreation planning was unknown. With relatively few mountain recreationalists and 'lots of resource', official efforts were directed more towards mitigating localised, undesirable effects of recreational activities on the environment. Management planning within national parks and reserves, and more latterly in state forests, have attempted to grapple with the vexed question of how much and what uses of our protected lands is appropriate. Much effort has gone in to quantifying use, and its impacts, rather than towards understanding the processes at play; more often the management of individual parks has tended to reflect the managers' perceptions of users' requirements, in the absence of a coherent overview of regional needs.

Warning noises were made during the 1970's, to the effect that the historically 'infinite' resource was no longer so. Cries of 'wilderness diminishing'<sup>(10)</sup>, predictions of 'back country booms'<sup>(11)</sup>, and calls for more planning were heard.

Several national and regional conferences have occurred during

the last decade, which **have** attempted, from differing approaches, to identify the problems, the conflicts, and the legislative barriers in the way of change. Important shifts in government policy were a consequence of the debate, although so far they have largely remained 'paper' policies. The principle of maintaining a broad spectrum of recreational opportunities became generally accepted, however the problems, from the administrators' point of view, seemed too insurmountable or remote to warrant redirecting scarce planning resources away from more immediate tasks.

In many respects, back country recreational planning has lagged behind that undertaken in many urban and some rural settings. Leading local and regional authorities have been developing sophisticated profiles of their recreational clientele and their needs, and documenting the resources available to them; this has been to a considerably greater extent than has occurred on many nationally managed lands.

The first attempt at a regional overview of recreation was a pilot study of recreational planning processes in Marlborough.<sup>(12)</sup> This documented recreational activities and demands, and was derived from extensive public consultations. This ambitious effort has not been repeated.

An important benchmark for recreational planning was the publishing of profiles, needs, behaviours, and wants of mountain land recreationalists in New Zealand.<sup>(13)</sup> This signalled a recognition that user understanding and input is essential for any meaningful planning to take place, a point also stressed by the Marlborough study.

The first official regional planning exercise in the high country that had direct recreational consequences, was the *Central Southern Alps Crown Land Management Strategy* of 1981.<sup>(14)</sup> This established recreational zones over wide areas and applied Land Settlement Board (LSB) policies over the Unalienated Crown Land (UCL) between Arthurs Pass, and the Mount Cook and Westland National Parks.

The Canterbury United Council has used the ROS concept to review the recreational resources and potential of the Canterbury region.<sup>(15)</sup>

The culmination of national policy development for outdoor recreation was in 1985, with the completion of the *Policy For Outdoor Recreation In New Zealand*.<sup>(8)</sup> This document embodies:

- \* philosophy and principles reflecting societal values which should be taken into account;
- \* goals, and more specific objectives.

The Policy is intended to provide the framework for further policy development, and implementation. It is commended as a sound basis for official action. The concerns of user groups, including FMC, should be well addressed if the principles it advances were consistently applied throughout the country.

This plan had its origins back in 1973 when the Land Use Advisory Council approached FMC for its views on a broad zoning of New Zealand's outdoors into categories of recreational activity.<sup>(16)</sup> The resulting *Outdoor Recreation On The West Coast*<sup>(17)</sup> was one of the first attempts in New Zealand at rationing recreational resources on a regional basis. This was by broadly identifying **wilderness, natural, recreation, multiple use, and open space** areas.

## 5. Policies for Outdoor Recreation

Several government land management policies have a direct bearing on recreational availability and treatment. All Crown land tenures in Otago are affected.

The National Parks and Reserves Authority's (NPRA) *1983 General Policy for National Parks*<sup>(18)</sup> sets out criteria for accommodating recreation and tourism, and the framework for management plans and zoning.

The NPRA's *Draft General Policy For Reserves*<sup>(19)</sup> provides management requirements according to reserve classification, and criteria for preparation of management plans. This draft policy is being applied, pending ratification or further amendment due to administrative reorganisation. A series of **Guidelines and Policies** have also been prepared by the Department of Lands and Survey on aspects of reserves management.

A framework of principles and goals for all high country lands is provided by Government's 1979 *High Mountain Resources Policy*.<sup>(20)</sup>

UCL and pastoral leases and licences are subject to the LSB's 1984 *High Country Policy*.<sup>(21)</sup> This contains a **nature conservation policy**, plus policies for the regulation of land uses that require Crown consent (bush clearance, burning, roading, drainage, cultivation, afforestation, and stock increases; there are also powers of resumption, forfeiture, reservation, variation of covenants, and reclassification). The High Country Policy's provisions for recreation and tourism have been superseded by the 1985 **Commercial Recreation and Public Recreation policies**.<sup>(22)</sup> There are also **Wetlands, Rural Landscape, Principles of Crown Land Management, Public Participation, Game Management, and a Joint Policy: Skifields On Lands Of The Crown** among others.

Government has endorsed a joint NWASCA/LSB 1985 *Destocking and Surrender Policy*<sup>(23)</sup> for the identification and removal of 'significant areas of Class 8 and severely eroded Class 7 lands' from pastoral leases.

Establishment and management of walkways is subject to the Walkways Commission's 1984 *Policy Statement*.<sup>(24)</sup>

Former state forest lands, now generally conservation lands under DOC, are still subject to Government's 1977 *Management Policy for New Zealand's Indigenous State Forests*,<sup>(25)</sup> despite being overtaken by the Conservation Act 1986. Management plans over State Forest Parks now only apply in so far as they are consistent with the Conservation Act. The Forest Service's *1983 Recreation Policy*<sup>(26)</sup> has not been adopted by DOC.

DOC is preparing a corporate plan for the management of all DOC administered lands which will cause review of all existing departmental policies. Review of the role of the NPRA during 1988 will no doubt generate further reviews of its policies.

## 6. The Recreational Opportunity Spectrum

The zoning model used in this work is an application of the ROS concept.<sup>(27)</sup>

# A RECREATIONAL OPPORTUNITY SPECTRUM FOR THE OTAGO HIGH COUNTRY

RECREATIONAL EXPERIENCE ZONING					
	WILDERNESS	REMOTE	NATURAL	OPEN SPACE	CULTURAL
SETTINGS					
NATURAL • CULTURAL SETTING	Large tracts of unoccupied land, native forest and grassland; alpine, lakes, rivers.	Settings and activities same as for wilderness, but with minor incompatibilities. eg. smaller size, presence of a hut, less adequate buffering etc.	Unoccupied native forest and grassland; alpine, lakes, rivers.	Semi natural grasslands.	Facility orientated. May have natural landforms, but be highly modified. In mountain, forest, grassland, rural, coastal situations.
PREDOMINANT LAND USE	Wilderness recreation.		Nature conservation.	Extensive grazing.	Farming, forestry, hydro lakes, recreational facility areas/skifields.
ACCESSIBILITY	Physically inaccessible with unroaded buffer zone. No defined routes within. No Recreational air access.		May have foot tracks, bridges, roads/vehicle tracks. May have legal restraints on public use, but generally available. Variable air access.	Roads, off-road vehicles, foot tracks, horse trails. Aircraft use.	Roads throughout, defined walking and vehicle tracks.
SOCIAL SETTING	Very low density use. Minimum impact practices. No, or at most, very brief inter-group contact. No visual or audible contact with motorised craft. Legal rights of use.		Low to high use and inter-group contact. Density depends on degree of resource protection required. Minimum impact practices encouraged, Variable rights of use.	Low to moderate use and inter-group contact. Some sharing of space and facilities. Few rights of public use.	High density use. Heavy social and technological interaction. Use actively encouraged. Variable legal rights.
COMMERCIAL RECREATION	Very low density/negligible. Only under one-visit permits to avoid over-promotion and over-use: under same physical limitations as other users. ie. no facilities or aircraft or vehicle access.		Nil to moderately high intensity/highly variable. Activities and facilities excluded from some areas; otherwise under licence, subject to protection of environment and other users' rights.	Generally low intensity. With landholders, and official consents where required.	High to very high intensity. No restraints, other than land ownership and planning controls; official consents on lands of the Crown.
DEVELOPMENT & FACILITIES	None, except temporary facilities for management.		Variable; depending on management priorities, or policies to maintain diversity of recreational opportunities.	Some, confined to specific activity sites.	Considerable developments; sophisticated facilities.
MANAGERIAL SETTING	No Discernible management presence. Pre-entry education. No overt promotion of use. Free-ranging, unconfined use.		Management may be obvious: signs, rangers, but generally low-key. Some user group conflicts. Zone may be subdivided in to different intensities of use and management.	Informal use. No recreational management. User group conflicts.	Obvious signs of use, control, and promotion. Emphasis on visitor services. Separation of activities within defined areas.
ACTIVITIES	Mountaineering, ski mountaineering, cross country skiing, deer stalking, tramping, rafting without air access, fishing.	As in wilderness.	As in wilderness plus: Primitive camping, walking, canoeing, rafting, sailing, fishing; variable use of recreational aircraft.	Heli-skiing, cross country and ski touring, tramping, walking, horse riding, fishing, game bird hunting, off-road vehicles, informal camping, picnicking, sailing, rafting, power boats, aircraft.	Outdoor education and accommodation centres, camping grounds, picnic areas, skifields, walkways, horse riding, off-road vehicle trails, power boating, sailing, may be restraints on recreational aircraft.

The basic assumption underlying ROS is that quality recreational experiences can be best assured by providing a diverse set of recreational opportunities; these are defined in terms of the **activities** in which people participate, the **settings** in which they participate, and the experiences they derive from participation.

ROS provides a framework for outdoor recreation managers and policymakers, who must answer questions concerning both the allocation and management of opportunities for recreation. It does not provide a prescribed formula for providing recreation opportunities. It does however provide a systematic approach for looking at the actual distribution of opportunities and a logical procedure for assessing possible management actions. The zoning approach implicit in the concept recognises that all areas cannot be all things to all people. Regionally however all needs may be catered for.

Providing a range of settings, varying the level of development, access, managerial control etc. ensures that the broadest segment of the public will find quality recreational experiences, both now and in the future. The setting is a combination of physical, biological, social and managerial conditions that give value to a place. In the Otago situation the physical and biological settings are extremely diverse.

It is acknowledged that the specific experiences derived are a function of an individual's past experience, expectations, and present state of mind, and cannot be predictably engineered by recreation managers. However the provision of a diversity of opportunity maintains the individuals' freedom of choice. It follows that managing recreational opportunities to promote a diversity of experiences is crucial for social equity. Failing to provide diversity of opportunity invites charges of favouritism, elitism and discrimination. Some discrimination must be exercised however for certain high-impact activities such as trail biking or skifield developments, where use for these purposes must be matched to environments that can withstand their impacts. The actions of land developers, recreation managers, and commercial recreation activities can cause reduction in overall opportunities, by displacement (economic or by preference), and by exclusion in the latter situation.

Maintenance of diversity of opportunity ensures the flexibility necessary to mitigate changes or disturbances in the recreation system stemming from such factors as social or technological change. In this plan, regional diversity has been sought by identifying *remaining* opportunities within Otago's high country settings. Changes are recommended in managerial actions and land use to best maintain the diversity identified.

Opportunities at the cultural or facility-orientated end of the spectrum are increasingly common, particularly in the peri-urban and lowland rural settings not directly addressed in this work, but increasingly rare at the wilderness end of the spectrum. Careful stewardship of the few remaining wilderness-remote experience areas is essential if a full diversity of opportunity is to be maintained.

Natural and semi-natural settings, providing mid-spectrum opportunities, are under considerable encroachment from land development pressures. Recommendations are made to harmonise existing and anticipated land uses so that recreational opportunities are not needlessly lost.

The following recreational experience zones are adopted in *Outdoor Recreation In Otago* (see table):

- \* wilderness experience;
- \* remote experience;
- \* natural experience;
- \* open space;
- \* cultural experience.



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# REGIONAL COVERAGE

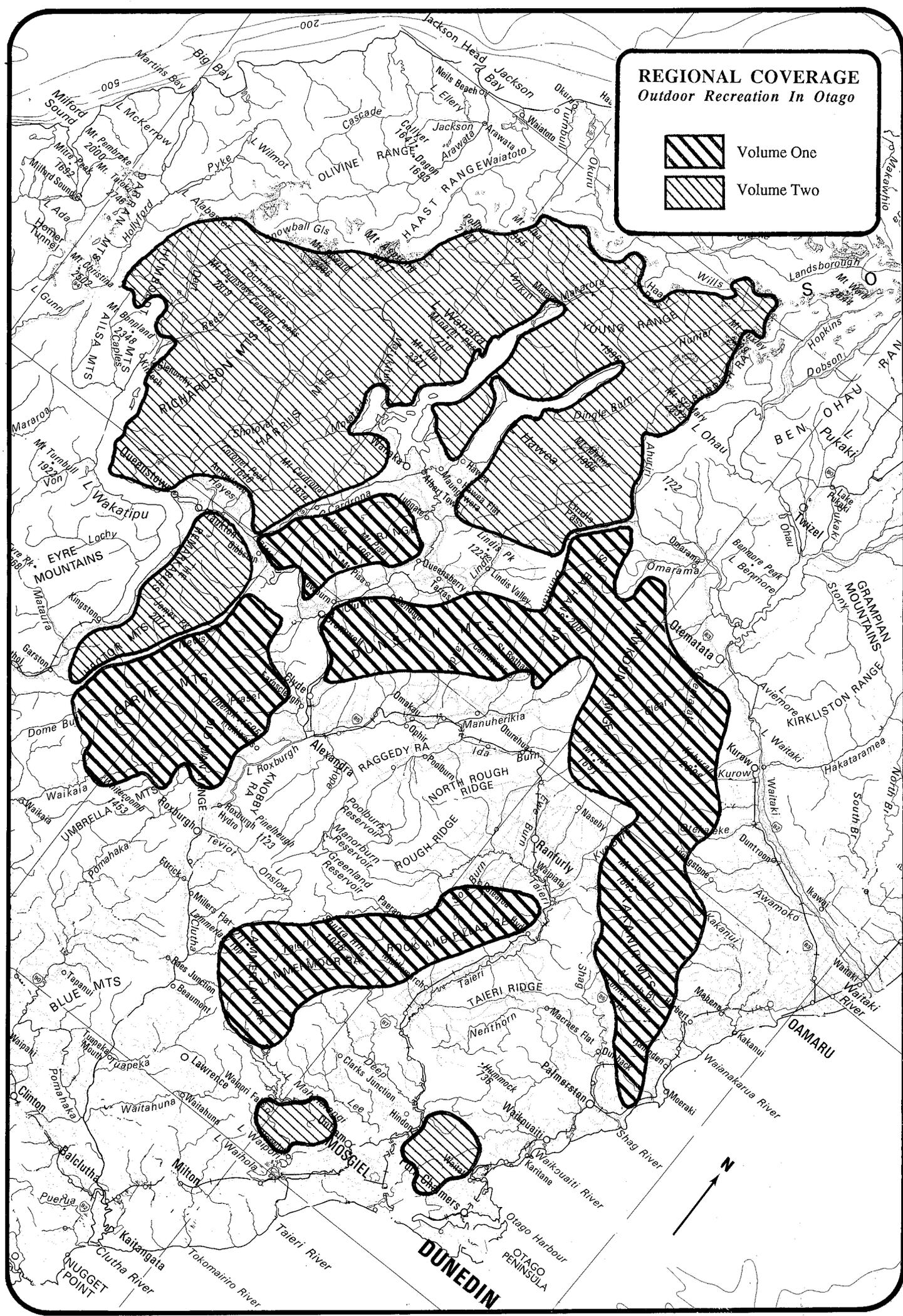
Outdoor Recreation In Otago



Volume One



Volume Two



# GLOSSARY

## LAND TENURE, TERMS, AND CLASSIFICATION

**Alienate** Includes a limited disposal by lease or licence, as well as an absolute disposal by sale or otherwise (S. 2 Land Act 1948).

**Deferred Payment Licence** Licence to occupy issued under S. 65 Land Act for a maximum term of 30 years, for purchase of freehold on a system of deferred payments.

**Depasturing Licence** Generally short to medium term licenses issued to early pastoralists by provincial governments. Had no rights of renewal.

**Disposal** See *alienate*.

**Farm Land** Being land suitable or adaptable for any type of farming (S. 51 Land Act).

**Fee Simple** An estate in fee simple confers the fullest rights of use and enjoyment allowed by law. It is one of three freehold estates entitling a tenant to hold for life and permitting inheritance by 'heirs general'. In practical terms fee simple conveys ownership of the land.

**Freehold** An estate (bundle of rights) of permanent duration, being free of servitude to the Crown.

**Land 'Use Capability** A classification system for systematic arrangement of different kinds of land according to their capacity for permanent sustained production in terms of the physical limitations of the land. There are 8 LUC classes used in New Zealand. These range from Class 1 with virtually no limitations to arable use to Class 7 with severe limitations to extensive grazing. Class 8 is unsuitable for primary production.

**Lessee** The holder of a lease.

**Lessor** Person who lets on lease.

**Marginal Strip** Land within 20 metres of any foreshore, lake exceeding 8 ha, river or stream of average width of 3 metres or greater held for conservation purposes under S. 24 Conservation Act 1987. See also *Section 58 strips*.

**Off-site development** Method of compensation used by catchment authorities for destocking/retirement of lands unsuitable for grazing under Soil and Water Conservation Plans (run plans). Development usually consists of pasture

Pastoral Land

Pastoral Lease

Pastoral Occupation Licence

Private Land

Reclassification

Renewable Lease

Section 58 strips

Small Grazing Run

## LANDFORM\* AND MINING TERMS

Auriferous

Backslope

Block(-faulted)mountain

Cirque

Dip slope

improvement to carry equivalent stock numbers to that removed from higher altitude country. Being suitable or adaptable primarily for pastoral purposes only (S. 51 Land Act).

33 year term with perpetual rights of renewal, entitling the holder to exclusive right of pasturage, but with no rights to the soil or other uses, and no right to acquire the fee simple. Subject to restrictions as to the numbers of stock carried.

Rights and limitations same as for pastoral leases but with no right of renewal. Maximum term 21 years.

Estates held in fee simple by anyone other than the Crown. Administrative process of redefining the primary use of Crown land. Classification determines the tenures offered. All Crown land available for disposal may be classified as farm land, urban land, commercial or industrial land, or pastoral land (S. 51 Land Act).

33 year term with perpetual rights of renewal, and right to acquire the fee simple (S. 63 Land Act).

Crown land reserved from sale (under S. 58 Land Act) not less than 20 metres wide along the high-water mark of the sea, around every lake in excess of 8 ha, and along the banks of all rivers and streams with an average width of not less than 3 metres. See also *marginal strip*. A tenure first introduced in 1885. 21 year term with right of renewal. Initially no right to freehold, but conditional rights granted in 1913. SGR's were abolished in 1948.

Escarpment	See <i>fault-scarp</i> .
Fault-scarp	Cliff or eroded equivalent formed by vertical displacement along a fault line. Can reach mountainside proportions.
Foliation	The laminated structure resulting from segregation of different minerals into layers during metamorphism, producing a slaty cleavage.
Greywacke	Grey sandstone rock.
Ground sluicing	The use of the natural erosive power of water to break up gold-bearing deposits.
Headwall	Steep ice-gouged cliff at the back of a cirque.
Hummockfield	Alpine patterned ground of closely packed soil hummocks and/or stripes.
Hydraulic sluicing	High pressure (piped) washing of deposits by use of sluicing guns (monitors).
Hydraulic elevation	Lifting of deposits from below drainage level by means of suction created by a jet of water directed into a throat at the base of an upright pipe.
Nivation features	Scalloped hollows, eroded (snow) banks and pavements formed at high altitudes by snowpatch erosion processes.
Patterned ground	Symmetrical small scale features produced by past uneven heaving and melting action of ground ice.
Pavement	Smooth bare rock surface resembling that of a paved road.
Peneplain	Gently undulating surface being the end-stage of erosion.
Pleistocene	The earlier of the two epochs of the Quaternary Period (2M-10,000 years ago) characterised by successive episodes of glaciation.
Ripple landscape	Irregular slope defining the surface of a debris layer transported by slumping and other forms of mass movement.
Rock pavement	See <i>pavement</i> .
Scarp	See <i>escarpment</i> .
Schist	Coarse grained foliated metamorphic rock.
Solifluction features	Terraces and lobes formed typically on the high-altitude lee slopes by creep of waterlogged debris matter.
Stone nets	Patterned ground feature of rings, polygons or quads of stones/pebbles.
Tors	Large blocky outcrops of rock exposed by erosion of the surrounding material.

## COMMON BOTANICAL NAMES

Alpine fescue tussock	<i>Festucamathewsii</i>
Blue tussock	<i>Poa colensoi</i>
Bog pine	<i>Halocarpus bidwillii</i>
Boxwood	<i>Hebe odora</i>
Briar (sweet briar)	<i>Rosa rubiginosa</i>
Broadleaf	<i>Griselinia littoralis</i>
Browntop	<i>Agrostis capillaris</i>
Celery pine	<i>Phyllocladus aspeniifolius</i> var. <i>alpinus</i>
Clover (white)	<i>Trifolium repens</i>
Common fescue	See fescue tussock
Fescue tussock	<i>Festuca novae-zealandiae</i>
Golden Spaniard	<i>Aciphylla aurea</i>
Hall's totara	<i>Podocarpus hallii</i>
Hard tussock	See fescue tussock
Kanuka	<i>Leptospernumericoides</i>
Manuka	<i>Leptospermum scoparium</i>
Matagouri	<i>Discaria toumatou</i>
Mountain beech	<i>Nothofagus solandri</i> var. <i>cliffortioides</i>
Mountain toatoa	<i>Phyllocladus alpinus</i>
Narrow-leaved snow tussock	<i>Chionochloa rigida</i>
Native broom	<i>Charmichaelia petriei</i> , <i>C. compacta</i>
Red beech	<i>Nothofagus fusca</i>
Red tussock	<i>Chionochloa rubra</i>
Scabweed	<i>Raoulia australis</i>
Silverbeech	<i>Nothofagus menziesii</i>
Silver tussock	<i>Poa laevis</i>
Slim snowgrass	<i>Chionochloa macra</i>
Snow totara	<i>Podocarpus nivalis</i>
Speargrass	<i>Aciphylla</i> species
Sweet vernal	<i>Anthoxanthum odoratum</i>
Thyme	<i>Thymus vulgaris</i>

\* (After Stirling, M.W. 19%).