Waiau River Working Party - Recreation Task Group

Report on Tourism and Recreation in the Waiau Catchment

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Report on Research Contract:
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Background to this report

At it's first meeting on 17 October 1990, the Waiau River Working Party adopted the following as it's mission statement:

> To identify the values in the Waiau Catchment and to prepare guiding principles and actions to protect these values in resource allocation decisions.
> This forum recognises that power generation is important to the country and that in the process of generation a water right for the Waiau River is required by Electricorp, or whoever is responsible for this generation.
> While recognising this, the ratepayers of Southland require that, in the granting of the water right, the concerns of all residents in the catchment, other resource users and ratepayers should be addressed.
> The proposed management plan should encompass all the relevant issues.

The Recreation Task Group of the Working Party agreed on the following brief to present to the Working Party:

> "to collate existing information (including anecdotal where possible) on the recreational, tourism, historical and scenic values/uses of the Waiau catchment.
> To determine where there are gaps in the knowledge base, and identify those which need to be filled.
> To decide upon the studies necessary to fill those gaps."

The first part of this brief is the subject of this report.

Waiau River Working Party - Goals and Objectives (August 1991)

The goals and objectives relevant to this study are:

Goal 1 - Flow Regime
For the Waiau to have a flow regime that recognises and gives value to all the neighbours and users of the Waiau River and it's tributaries.

Goal 2 - Flow Regime and River/Lakes Physical Characteristics
To ensure that the lake management regime appropriately takes account of downstream effects, as well as, those pertaining to the lakes.

Goal 3 - Water Quality
Reduce the amount of sediment in the river and the silt and gravel build-up at the Mararoa Weir, and reduce the effect of silty/dirty water from the Mararoa River spilling into the discharges from man-made sources and ensure flushing of sediment loads.

Goal 4 - Water Quality
Improve the water supply quality at Tuatapere.

Goal 6 - River/Lakes Physical Characteristics and Recreation/Tourism
Preserve the natural, scenic, recreational and historical values and characteristics of the Waiau River and it's surrounds.

Goal 10 - Recreation/Tourism
To ensure that opportunities for a wide range of water based recreational uses are maintained and/or improved.

Goal 13 - National Issues
To have the Articles of the Treaty of Waitangi as an intergral part of the management plan for the Waiau Catchment.

Introduction

The **divisions** of the catchment given were:

Lakes (Te Anau, Manapouri, Monowai)
Upper Waiau
Lower Waiau
Mararoa/Whitestone Catchment (including the Mavoras)
Remainder of Waiau Catchment.

In order to carry out this contract, and in the absence of further information, it was assumed that the Waiau catchment included all areas within the catchment of the Waiau River, from the Divide to the sea, and including all tributaries, lakes and other contributing waterways within this boundary. Lake Hauroko was not included as it does not contribute to the catchment of the Waiau River.

It was further assumed that the Upper Waiau referred to that part of the river between Lakes Te Anau and Manapouri, and that the upper part of the catchment, including the Eglinton and Clinton rivers, down to Lake Te Anau, was to be included under the section "Remainder of the Catchment". These are the divisions that have been adhered to in this report.

The **use categories** to be included were given as:

Recreational (swimming, tramping, canoeing, rafting, camping, boating, fishing, onlooking, picnicking, bird watching etc)*
Tourist (visitor numbers, tourist operators)
Historical
Scenic.

*These categories have been used where the appropriate information was available, otherwise a general "recreation" category has been used. Other types of recreation have been included where relevant.

The report is presented in several parts, covering the divisions of the Waiau catchment and each main category of use. Appendices of references and sources of information are attached at the end of the main report.
A see-at-a-glance chart of levels of use in each division is included.

Fiordland National Park

The relationship between the Waiau catchment and Fiordland National Park is particularly relevant, as the Waiau River and the Lakes form, or are included within, much of the eastern boundary of the Park. Most of the major waterways, except the Mararoa/Whitestone and lower Waiau are in, or border on, the Park. In terms of recreation, tourism, history and scenic values, the Park provides the major interest in the upper parts of the catchment, including the Lakes. (See map 2, Fiordland National Park Management Plan, Revised Draft Review March 1990, p.7 for Park boundaries and classifications.)

While it is not within the scope of this report to go into detail regarding the Fiordland National Park as a whole, the following information is relevant to this study:
(extracts taken from the Fiordland National Park Management Plan, Revised Draft Review, March 1990.)

Introduction - Preamble

- Fiordland National Park is the largest national park in New Zealand and is one of the largest worldwide. It is one of the greatest natural areas of the world.... The vastness of Fiordland National Park is illustrated by considering that it's size exceeds the total area of all the other eleven national parks in New Zealand. (p1)

Fiordland National Park - Mountains of Water

- Water has had a major role in the shaping of Fiordland, and continues to do so. Glaciers of past ages have carved out the sheer and rugged landform. Water now permeates the landscape in the form of lakes, rivers and ocean, also snowfields and rain. Dominant are the great lakes and rivers on the eastern border and the fourteen fiords in the west. (p2)

- The valleys and lower mountain slopes are clothed in temperate rainforest while upper slopes rise through alpine grasslands and herbfields to high peaks, some retaining small glaciers. About two thirds of Fiordland National Park is forested : it is the largest continuous area of indigenous forest remaining in New Zealand. (p2)

- Fiordland provides a wide diversity of habitats which support a great variety of native and introduced fauna....(and) is a stronghold for many of the less common of the New Zealand endemic birds. (p2)

- Fiordland is almost a biogeographic island, with an eastern boundary of major lakes and rivers stretching - almost unbroken - from Martins Bay in the north to Te Waewae Bay in the south. Collectively, these lakes and rivers comprise the largest system of inland waterways in New Zealand. The three main lakes, Hauroko, Manapouri and Te Anau, are also the deepest in the country (462m, 444m, and 400m respectively). (p2)

- Waters in the park are high in natural quality and generally cold. (p2)

- The lakes and rivers are scenic gems enhanced by the grandeur of native forests and towering snow-capped mountains. Visitors' impressions of Fiordland are the almost overpowering steepness of the mountains, comparative narrowness of the valleys and inundation by water. The prescence of water and it's influence predominates through the park, providing a wide range of ecological, scenic and recreational attributes. (p2).

History - Maori Tradition

- For centuries past Fiordland was a regular seasonal home of southern Maori from the coasts of Murihiku (South land (sic)) and from Otago. For these people the main attractions of the lands now within the national park were pounamu and takiwai (greenstone), and the food supplies - seafood, seals and birds, to be gathered and taken back to their settlements on the shores of Foveaux Strait and south Otago coasts. The large lakes of eastern Fiordland were used regularly for travel. (p4)

- Maori presence is known from tradition (of the Kai Tahu-Kati Mamoe people), from ancient place names, from archeological study, and from the records of European explorers. (p4)

European Exploration and Industry

- Fiordland figured prominently in European exploration and early industry in New Zealand. The southern fiords especially, bear the relics of European occupation - which proved to be temporary - for sealing, whaling, coal and gold mining. (p4)

- Milford Sound saw the beginnings of European development in 1878; the early settlement was consolidated a few years later when tourists began using the Milford Track from Lake Te Anau. (p5)

Heritage

- Fiordland had a rich and varied history prior to the area being reserved for national park purposes. It is bound in the heritage of the Kai Tahu and Kati Mamoe people - the tangata whenua - for whom Fiordland is a sacred place; and it bears witness of the earliest exploration, exploitation and settlement of New Zealand by Europeans. (p5)

Use and Management of the Park

- Tourism had an early significance in the area... the Milford Track and associated tourist services at Milford Sound flourished, and other guiding services were established to Doubtful Sound and the Hollyford Valley. In 1948 two rediscoveries were made : takehe were found in the Murchison Mountains (after the species had been 'officially' extinct for 50 years) and the Te Ana-au caves were found on the western shore of Lake Te Anau. (p5)

- Establishment of the Fiordland National Park in the early 1950s coincided with opening of the Homer Tunnel to public use, which provided road access direct to Milford Sound. Milford is perhaps the grandest of all the fiords - it is certainly the best known and most popular attraction for visitors to the park. (p5)

- Fiordland has become one of New Zealand's prime tourist and recreational areas for both overseas and domestic visitors. The north-eastern sector, from Manapouri to Milford Sound, is the most intensively used portion of the park, largely due to it's accessibility and the level of promotion it receives. (p5)

- Opportunities are available in the park for camping, picnicking, tramping, walking, climbing, sports fishing, hunting, boating, sailing, rafting, canoeing, caving, sightseeing, bird watching, photography, and painting and sketching. A number of commercial operations (concessions) provide services including guided walks, scenic flights, fishing and hunting safaris, mountain guiding, launch trips and water taxis. The tramping tracks with high-class facilities are world renowned; and the steep granite peaks of the Darran Mountains offer the finest alpine rock climbing in New Zealand. (p5)

- Information, and interpretation of park features and values, is provided for visitors at Tuatapere, West Arm and Te Anau. An education centre, principally for use by school children, has been established at Deep Cove. (p5)

- Most tourist accommodation and servicing for the park is located in the towns of Te Anau and Manapouri just outside the park boundary. (p5)

- Uses of the park other than recreation and tourism also have to be recognised. Commercial deer recovery operations are of vital assistance to wild animal control... Of greater significance perhaps, are the large scale hydro-electricity developments - at Lake Monowai, and at West Arm/Deep Cove. Lakes Monowai, Manapouri and Te Anau, although within the park, are controlled for power production. (p6)

The Park and the Region

- While the park has national status as a protected natural area, it also has significant functions in the regional context. (p6)

- Fiordland is contiguous with other mountain and lowland native forests in Western Southland. Together these areas are the habitat of several threatened forest bird species, as well as other wildlife. The park should not be managed in isolation from broader conservation strategies. (p6)

- Fiordland is an international tourist attraction, and is a major asset for outdoor recreation in the region. Visitors to the park contribute to local economies, but conversely they require utilities and services such as improved roading and sewage disposal which are traditionally provided outside the park by local authorities. Developments and increased or changing use can bring impacts as well as benefits. (p6)

- It is important that management planning looks beyond the park boundaries. (p6)

World Heritage Status

- Fiordland National Park, world renowned for it's rugged grandeur, environmental attributes and natural character, has been accorded international recognition by it's inclusion on the 'World Heritage' list, as established by the World Heritage Convention under the auspices of UNESCO. (p6)

- The World Heritage status confers considerable international standing and promotes Fiordland as one of the world's natural wonders; it does not change sovereignty or allow the international community to interfere in management of the park. (p6)

Management - National Parks Act 1980

- The National Parks Act 1980 determines a structure for the control and management of national parks in New Zealand, and it determines the broad principles by which the parks are to be managed. National parks are established for the purposes of:

> preserving in perpetuity .. for their intrinsic worth and for the benefit, use and enjoyment of the public, areas of New Zealand that contain scenery of such distinctive quality, ecological systems, or natural features so beautiful, unique or scientifically important that their preservation is in the national interest. (Sect. 4) (p8)

Treaty of Waitangi

- The Department of Conservation, in carrying out it's function to administer the National Parks Act 1980, must take account of the principles of the Treaty of Waitangi.

- The department and the Southland National Parks and Reserves Board are nga kaitaki (caretakers) of the public estate, with an obligation to have regard for and protect Maori interests. Management planning can assist the caretaking role by recognising and incorporating Maori perspectives. Fiordland as a whole has ancestral significance for southern Maori; it bears a number of wahi tapu (sacred sites); and it contains resources of traditional value. Proper stewardship of these values requires close consultation and co-operation, and involvement of iwi (tribal) authorities in relevant park management programmes. (p9)

- In recognition of the spiritual and cultural significance of Fiordland to the Kai Tahu-Kati Mamoe people, the appropriate runanga will be consulted on park management activities and issues of interest or concern to them. (p9)

Conservation Management Strategy

- National park status has been placed over Fiordland because of it's impressive natural attributes.

Preservation of these natural features and values requires active management, principally to prevent, minimise or redress man-induced impacts. The aim of preserving historic sites also requires some active management. (p11)

Conservation Audit

-Assessed as landscape, the park is in an excellent condition - essentially still in it's natural state, except for the very small areas where development has occurred. (p12)

- The larger lakes in Fiordland are also situated in old glacial valleys or troughs; their shorelines have evolved similarly to those of the fiords. (p12)

- Water levels of Lakes Manapouri and Te Anau are controlled for the purposes of hydro-electric power generation. Operating guidelines have been established under S.4A Manapouri Te Anau Development Act 1963, with the aim of achieving optimum energy output from the Manapouri generating station while preserving the natural shoreline features of both lakes. Monitoring of lake management and the impacts (if any) of controlled water levels upon lakeshore processes, is undertaken by the Guardians of Lakes Manapouri and Te Anau. (p13) (note: since Conservation Law Reform Act, 1990, the Guardians have assumed responsibility for advising on the management of Lake Monowai.)

- Artificial replenishment of beaches on the lakeshore adjacent to Te Anau township has been carried out in recent years. The presence of man-made structures on the lake edge has interfered with natural movement of littoral sediments along the lakeshore. Damage to beaches has also occurred during periods of high lake levels. (p13)

Vegetation - Significant Features

- Other rare or endangered plants found within the park include: Brachycome linearis (a tiny daisy), Carmichaelia lacustris (a native broom), Ranunculus recens (a tiny rosette buttercup) and Crucifer, all of which have been recorded on the shores of Lakes Manapouri and Te Anau; (p14)

Park Waters and Fish

- The pristine natural quality of inland waters in Fiordland is compromised only on the eastern fringe where agricultural nutrients can enter the lakes by way of tributary rivers and streams. (p19)

- Since 1976 the Mararoa River has been diverted to flow into Lake Manapouri, as part of the Manapouri hydro-electric power scheme, and is a source of introduced plants such as gorse, broom and willows. There is a requirement to release silt-laden flood waters through the Mararoa weir (down the Waiau River) to prevent them entering Lake Manapouri, regardless of lake level. (p19)

- Various native fish species inhabit waterways of the park... Lakes Manapouri and Te Anau together with their tributaries provide the largest freshwater native fish reserve in New Zealand. The Mararoa weir, together with reduced water flows in the lower Waiau River, acts as a barrier to migratory native fish, which may effect (sic) the continued survival of these species in the lakes (long finned eels, lampreys, koaro and Torrent fish). (p19)

- Introduced Salmonids (trout and salmon) are well established on the eastern side of the park, although only rainbow trout and brown trout are abundant. Trout have been slow to colonise the western waters though they occur in the lower reaches of a few rivers and in several lakes... and small populations of Atlantic salmon are found in the large eastern lakes. (p19)

Historic Sites and Heritage

- Fiordland National park contains a great number of historic sites, and locations of ancestral significance. Most sites are located on shorelines of lakes or fiords. Many vestiges of the past remain, ranging from the sites of Maori encampments to the junk heaps of early European mining ventures. (p19)

- Sites and relics are protected under the Historic Places Act 1980 and the Antiquities Act 1975, as well as the National Parks Act 1980. (p20)

Maori Sites and Heritage

- Artifacts and other evidence of Maori inhabitation are located throughout Fiordland. Of particular interest and concern to Maori are the burial sites.... Promotion of wahi tapu as tourist or visitor attractions is an anathema to Maori values. (p20)

- Many ancestral ties of the tangata whenua are manifested in place names. A knowledge of these and the linked traditions can greatly enhance both interpretation, and appreciation of the park by visitors... recognising the presence and heritage of two cultures in Fiordland is fundamental to achieving the aims of park management. (p20)

European Sites

- The European sites result from from early exploration, sealing, whaling, prospecting and mining, timber milling, failed settlement.... They are well documented and have been publicised in written histories of Fiordland. (p20)

Recreation/Tourism Management Strategy

- In recent years Fiordland National Park has experienced a steady increase in visitor numbers. Growth in recreation and tourism is expected to continue, with international attention on Fiordland enhanced by the park's World Heritage status. Needs and aspirations of visitor use must be addressed within the context of the prime aims of management - preservation of the park's natural and historic features. (p35)

- To a large extent recreation/tourism activities in Fiordland are dictated by the constraints of nature. The climate, rugged terrain, remoteness and inaccessibility place limits on levels and type of use. Within these constraints, however, a wide and diverse range of recreation opportunities are now available in the park. (p35)

Recreation/Tourism Audit

- Fiordland National Park is a major recreational area for New Zaelanders and contains several significant tourist attractions for domestic and foreign visitors, the most popular being Milford Sound. The park is an integral part of a "tourist region" with focus at Queenstown; in the regional context the park has many unique attributes such as the high standard walking tracks, the mountain wilderness, and the south-west fiords with their natural and historic interests. On the other hand, activities such as snow skiing and off-road driving are catered for at other locations within the region. (p36)

- The park attracts an estimated 450,000 visitors annually, with the main concentration of visits being to the north-eastern sector - from Manapouri to Milford Sound (see map 4) - which has road access. Most recreation and tourism facilities are located in that sector (see map 6). The main visitor season occurs from Mid October until the end of May - it has extended earlier and later, over recent years. The peak period is during January/February/March. Moderate, and increasing numbers, mainly tour groups, do visit the area outside the main season. (p36)

- The 1981/82 survey showed that the greatest preference of visitors is to enjoy the scenic grandeur and naturalness of Fiordland, by viewing scenery and nature, photography, launch trips and walking. A moderate response and lighter preference was expressed for the more active and time oriented recreational pursuits such as tramping, driving for pleasure, picnicking and camping. There was a very light response and demand for the more expensive, physically demanding and time consuming pursuits of scenic flights, fishing, climbing, hunting and sailing. (p36)

- Since the 1981/82 season, visitor numbers have steadily increased. The most notable increase has been

in visitors on "fly-drive" type holidays using campervans, particularly young foreign visitors who want to spend a minimum amount of money on accommodation but want to travel or walk extensively.... The consequences are a steady increase in track use and an increase in demand for camping sites. (p36)

- The increase in numbers of independent travellers has been matched by an increase in adventure tourism activities. The main influence, however, on any substantial change in the pattern of use in Fiordland National Park would appear to be the future prospects of Te Anau township. If Te Anau develops further as a tourist accommodation centre then the "focus" may be diluted from Queenstown... The result could be more tourists staying longer in the vicinity of the park, with an associated demand for more accessible attractions. Demand may develop for over-night stays away from the Te Anau or Manapouri base. (p36)

- While much of the tourist activity occurs around the southern lakes, initiatives are being made to promote a wider region using promotions such as the Southern Scenic Highway route, which runs from Te Anau to Tuatapere, to Invercargill, and on up the east coast to Dunedin. Increasing tourist traffic on this route, and the associated upgrading of facilities, is likely to stimulate interest in recreational opportunuties in the southern part of the park. (p38)

Access

- The park is accessible by three modes: water, land and air (see map 5).

Water Access

- Currently, a dozen or so concessionaires provide boat access on the park's inland waterways; the larger companies run regular launch services on the two big lakes and at Milford Sound and Doubtful Sound. Private boating using sail or motor-powered craft, is popular on the larger lakes. (p38)

- Transport by boat is a distinct feature of recreation/tourism opportunities in Fiordland... On the lakes, the existing range of boating opportunities is considered appropriate... Growth in tourist boat services is expected, and will require additional lakeshore facilities. (p38)

Land Access

- State Highway 94 (Lumsden to Milford Sound) is the major land route into the park.... Overall use of State highway 94 is increasing, subject to seasonal fluctuations, with more than 300 vehicles (each way) per day in peak summer. (p38)

- The Borland Saddle road was constructed during the mid 1960s to provide access to the transmission lines from the Manapouri power station; it was not built to highway standards. The road has recently been opened for public use over the summer months, subject to Electricorp requirements. The Wilmot Pass road providing access between West Arm (Lake Manapouri) and Deep Cove was also built as part of the hydro-power scheme. Transport services operate on both these roads. (p38)

- The southern part of the park is accessible via State Highway 96 and the Lake Hauroko road. (p38)

Air Access

- There are airstrips within the park at Milford Sound, Martins Bay, Knobs Flat, Quintin Huts (Milford Track) and in the Kaipo and Hollyford valleys; and also some 70 possible float plane sites on inland waters. Helicopters can land virtually anywhere there is sufficient clear and level ground. Currently there are eight aircraft concessions for the park or various sectors of it. Air transport is used by fishermen, hunters, divers and for various other recreational or tourist activities. (p40)

Travellers Accommodation

- Accommodation is abundant in or adjacent to the park, including an excellent range and standard of motels, hotels, lodges, cabins, caravan parks, camping grounds and hostel accommodation. (p40)

-The main dormitory centre adjacent to the park is Te Anau - where the majority of travellers accommodation is located. Manapouri township also offers a range of facilities, but to a much lesser extent. Visitors to the southern sector of the park can be accommodated at Tuatapere. (p40)

- Within the park, travellers accommodation is available at ... Cascade Creek (Motor Inn); (note: now O Tapara Lodge) (and) Te Anau Downs (Motor Inn)... The hostel at Deep Cove is available when not required by educational groups. (p41)

- Additional facilities could be provided at the existing locations along State highway 94... Other opportunities exist on the southern road corridors... visitors are not all the hardy walking/camping type, and additional accommodation facilities appropriate to the setting, would make this vast park more accessible to a wider range of people. (p41)

Recreation Facilities

- Within the park there are some 500 km of walking tracks, ranging from short nature walks to long distance tracks and routes of up to several days duration... Over 60 huts and shelters are provided for visitor use, some supplied with gas and coal for heating and cooking. (p41)

- The 14 picnicking and camping sites in the Eglinton Valley have toilets, water supply and fireplaces. Other sites are provided along the Waiau River and at Lakes Hauroko and Monowai. Use of campervans for overnight stays is steadily increasing... Low-impact camping is allowed anywhere within the park, except in those areas adjacent to roads and high-use tracks. (p41)

- At present there are no areas within the park which are being seriously over-used or suffering significant detrimental effects from visitor use. (p41)

Te Anau Lakefront

- The lakefront at Te Anau has, over recent years, been subject to increasing pressure from a variety of visitor facilities and activities generated by tourism and growth of the township. (p42)

- Commercial facilities include jetties for floatplanes, launch services on Lake Te Anau and boat hire. A helipad juts out from the lakeshore. On shore there is an operations building and carpark, and fuel pumps and buried tanks associated with the launch and float plane services. Public facilities include a boat harbour, moorings for boats and several launching ramps. In addition to small boat hire, recreation activities along the lakefront include yachting, waterskiing, para-gliding and swimming. (p42)

- The lakefront is a significant amenity for Te Anau, providing an attractive setting for the 'gateway' to Fiordland. Accommodation services benefit from the quality views across the lake. Many visitors walk to the lakeshore between the town business area and the motor park, wildlife park and national park visitor centre. (p42)

-The water edge forms an administrative boundary for activities on the lakefront. National park status extends to the waters and bed of Lake Te Anau. The lakeshore is partly legal road and partly recreation reserve, both being administered by the Southland District Council. (p42)

Park Interpretation Services

- Interpretation facilities and services consist principally of displays, exhibits and information at park visitor centres located at Te Anau, West Arm and Tuatapere. Small museums are located at the Te Anau Visitor Centre and Gunns Camp (Hollyford). (p44)

- The park handbook, brochures, hut displays, leaflets and special publications on topics such as biology, geology and history provide visitors with an extensive range of references with which they

can familiarise themselves with Fiordland. In addition, seasonal visitor programmes have been operating. (p44)

- A number of potentially important interpretation opportunities require investigation and development : they include the Te Anau Wildlife Park; the historic sites in south-west Fiordland; Maori heritage (in cooperation with the tangata whenua); (p44)

Summary

- The special attributes of Fiordland National Park for recreation/tourism use include: the lakes and fiords which offer a range of superb boating and nature/historic tourism opportunities; the mountain wilderness areas; the wide range of walking tracks; and the Milford road corridor which offers a variety of activities for visitors to Milford Sound and other park users. Recreation/tourism opportunities have been developed by park management and by commercial enterprise. Both have an essential role in the continuing provision of user facilities and services. (p46)

- The park will be able to sustain continued growth in visitor numbers if appropriate facilities are provided, both inside and outside the park, to avoid congestion and minimise environmental impacts. Some restrictions on use will be required to protect features such as historic sites and cave systems, and to ensure park users can enjoy their chosen activity among the many opportunities that the park provides. (p46)

Report on each division

1 Lakes - Te Anau, Manapouri, Monowai.

Tourism:

- The Lakes area is the hub of tourism in the catchment, with most activities based in or near Te Anau and, to a lesser extent, Manapouri.

- Tourism is a major industry in Te Anau, with many overseas visitors as well as local and domestic visitors. The scale of the tourism industry is shown by the number and size of the commercial operations based in Te Anau and the numbers of visitors they cater to.

- There are at least 10 sightseeing operators based in Te Anau and several more in Manapouri. All known operators in the Te Anau - Manapouri area were visited and/or phoned to request information. Most were willing to give the information. The largest sectors are transport, particularly on the lakes, and accommodation.

Transport: boats

- On Lake Manapouri to West Arm, Deep Cove (including school groups) and Doubtful Sound, there are two major operators carrying around 35,500 visitors annually.

- On Lake Te Anau, one large operator and several smaller ones carry around 60,000 visitors, of which about 45,000 go to the Te Ana Au caves and 15,000 to Glade House for the start of the Milford Track, across the lake to the start of the Kepler Track, or cruise on the lake.

- Fishing and hunting guides use boats to transport their clients to suitable fishing areas on the lakes and for access to the more remote rivers and valleys on the western side of the lakes. The numbers of clients using these guiding services is in excess of 600 but was not available from all operators.

Transport: aircraft

- Fixed wing, float-plane and helicopter aircraft operate out of Te Anau.

- They carry fishermen, hunters and trampers to less accessible parts of the lakes and rivers (Grebe, Irisburn, Freeman, Upper Waiau, and to West Arm) and to the start of the main tracks (Milford and Kepler). The total number of visitors carried on these aircraft would be around 600 to 700, not including scenic flights to Milford Sound.

Transport: road

- The road through Te Anau and along the eastern shore of the lake is part of the highway to Milford Sound. Around 250,000 to 300, 000 visitors travel that road each year, mostly in buses,(pers. comm.) with up to 300 vehicles each way per day in the peak season (Fiordland Nat. Park Draft Report). Other roads are used for travel to Manapouri (although there is now no public bus service between Te Anau and Manapouri) and for access to other rivers and lakes, especially for fishing.

- Transport operators are using the lakes, air and roads daily and are carrying mainly overseas visitors. Domestic travellers and some overseas visitors tend to use cars or campervans and be independent of the main transport operators (NZTD stats), although they need to use them to travel on the waterways.

- Access is generally not a problem in this area, as it is mostly in the Fiordland National Park, but there are restrictions on the use of aircraft near some rivers and tracks. Fluctuating lake levels can

cause problems for both boat and float-plane operators, especially at high water levels, when wharves are under water, or at low water levels when boats cannot get alongside the wharf (pers. comm).

- Silting from the Mararoa weir backflow is an added problem at Pearl Harbour on Lake Manapouri, with the build-up of sand bars, while fluctuations in the water level have caused slips on the river banks. The beach and access road have also been subject to erosion and washouts (pers. comm.). Access to the Circle track at Manapouri could be improved with a bridge over the Waiau outlet, so that walkers do not need to rely on boats to reach the start of the track. There is no longer any boat trip to Stockyard Cove, so those people who want to 'go out on the lake' must join a longer trip to West Arm instead.

Accommodation

- Te Anau has a population of about two and a half thousand and this swells to ten thousand in the summer season. Accommodation is offered from first class hotels to camping grounds, with the full range of hotels, motels, cabins and lodges, and camping grounds having more than three thousand beds available for visitors (Fiordland Promotions pamphlet).

- Total visitor numbers and bed nights in the Southland region in 1990 (NZTD Tourism Summary) were;
  International visitors to the region - 144,000 (not including those in transit, eg. to Milford)
  International person nights in the region - 404,000
  Mean length of stay - 3 nights
  Mean expenditure per day - $90
  Domestic visitors to the region - 274,000
  Mean length of stay - 4 nights.
  Domestic person nights in the region - 1072,000

- Details of all Te Anau and Manapouri accommodation figures have not been made available, but for one sector, the camping and hostel/cabin type, information has been gathered from the operators.

- The people staying in this type of accommodation tend to be younger and from overseas, although domestic family groups use the camping grounds over the Christmas-New Year holiday period.

- The average length of stay is 3 days, although some stay for two or three weeks, and the activities for the young overseas visitors are based on the walks, tramps and tracks in the park, fishing, sailing and canoeing, with day trips to Milford Sound or Doubtful Sound.

- The main season is from October to May, and more than 90,000 visitors are accommodated in this sector alone per year in Te Anau and Manapouri.

- Further information has been sought from the Fiordland Promotions Association, but is not yet available.

Recreation

- Information on recreation within the catchment is less readily available than for tourism. Some recreation, such as fishing, requires permits or licences and so numbers are available, (and have been requested from the Southland Fish and Game Council), while activities such as tramping within the park are noted through bookings or hut fees (and numbers have been requested from the Department of Conservation (DoC) in Te Anau).

- DoC is currently preparing a report on recreation and tourism in the region, including tourism concessions in the parks under it's jurisdiction, and this report is due to be published in July of this year (1992). Otherwise, recreational users fall into two broad groups, members of sports and recreational clubs and individuals who do not belong to any organised group.

- There is also a cross-over between recreation and tourism, where tourist services are used by people in pursuit of their recreational activites. The known sports and recreation clubs in the region (24) were contacted and asked for information, but so far only a few have replied. Of the replies received, the recreational activities in this lakes division of the catchment include hill climbing, mountaineering, tramping, boating, fishing, canoeing, skiing, sailing (cruising and racing), water skiing, running and cycling.

- While the numbers involved in these clubs are small, with 78 in the local tramping clubs, 150 in the yacht club, 40 in the fishing club, 80 in the alpine club, and 320 in the boating club, they are frequent users of many parts of the area and are in a good position to see changes to the environment. Some club events attract outside interest, such as the Te Anau Downs sailing race, with as many as 200 participants (pers. comm).

- The most common comment from these clubs is that the fluctuations in lake levels, especially low levels, cause some difficulty for them in access to beaches and for launching boats, and devalue the natural beauty of the environment. Problems encountered by boat users at low lake levels include exposure of unmarked hazards such as rocks, restricted access to moorings and harbours, and launching ramps not adequate in length, while high water levels often bring debris and other hazards into the lakes as well as damaging the boat harbours and straining moorings.

- They also express appreciation of the high scenic value of the area and some attach importance to the historic places (Maori and European) that they identify in the area.

- The recreational activity that seems to be most affected by changes in lake and river levels is fishing. Anecdotal information suggests that the quality and size of the fish, as well as numbers, has deteriorated over the last 30 years. The Te Anau region has enjoyed an international reputation for fishing, especially fly fishing (in the rivers) and trolling (on the lakes) for brown and rainbow trout, but local fishing guides feel that this reputation is in danger because of poor catches and disappointed anglers.

- At one time this reputation was said to rival that of the Turangi/Taupo region, but not any more. Local guides are embarrassed by the poor fishing for their clients, especially on the lakes. Some of these clients are well practiced fishermen (generic use of the term) and are very disappointed with catches such as 1 fish in 4 hours on the lake. Small to medium fish, up to 2lb are the average now, compared to the catches of large fish, from 7 to 12lb remembered from the past (pers. comm).

- The reasons for this deterioration are beyond the scope of this report, but local fishermen suggest a combination of factors including the year-round season, loss of breeding areas with river and lake fluctuations, loss of food with some migratory food sources (smelt, whitebait, galaxiids, eels) not able to return to the lakes because of the control gates and the Mararoa weir, and lack of new bloodstock as sea-run fish cannot return to the lakes to breed. The food chain, including the insects such as may and caddis nymphs, requires a stable, clean river bed with a constant water flow, and fluctuations and silting in nearby rivers may also contribute to the problem. The effects on quality of fish has become worse in the last 10 years and this may be due to the isolation of populations in the lakes.

- The local guides point out that while the Te Anau area had a good base for tourism, with the walking tracks, hunting, fishing and trips to the Sounds, only the tracks are left now as the hunting and fishing have declined and the centre for visiting the Sounds has moved to Queenstown. Other fishing areas in the catchment will be mentioned in the discussions on their particular divisions.

- Other recreational activities that reflect visitor numbers are the hire of bikes (about 530), fishing and tramping gear (about 1,000), and the 2,000 visitors per year (from green fees) to the golf club.

- The recreation of those individuals who do not belong to clubs can only be guessed at by observations.

- Many of these people will be walking, swimming, water skiing, boating, fishing, tramping, bird watching, picnicking, and other activities, but cannot be distinguished from tourists or club members and some survey method would be required to separate out the different groups.

- The main groups in the non-tourist, non-club category probably include families on summer holiday and local people enjoying their recreation. If these people do not use tourist services or the booking/hut fees services in the park, there will be no easy way to count them, but they should not be overlooked in their recreation needs or their contribution to the local economy (especially food and grocery buying). The comments from local people suggest that there are fewer family groups in the area this summer and this may in part be due to the downturn in the economy, especially the freezing works lay-offs in Southland.

Scenic values

- The lakes area is highly valued for it's scenic qualities, especially the spectacular views of lakes and mountains in the park. Any deterioration of the lakeshores or loss of the native forest cover would detract greatly from these views. The groups using this area for recreation have commented on the high scenic value they place on it, while the tourism industry stresses the spectacular natural environment.

Historical values

- The Te Anau/Manapouri/Monowai area is intimately linked with the Maori and European occupation of southern New Zealand. It has very high historical value and significance for both Maori and European peoples and their descendants.

- Several Maori villages (probably Waitaha/Kati Mamoe people) were known along the lakes and the area was used both for food gathering (eg. eels, lampreys, inunga, whitebait in the rivers and and fresh water mussels in Lake Manapouri) and as a route to the western fiords and greenstone rivers. The lakes and rivers provided transport, with food wrapped in kelp bags and totara bark and carried on rafts (pers. comm).

- The cultural and spiritual significance of the entire Waiau River to southern Maori will be discussed later in this report.

- The early European exploration and settlement of the Lakes region is closely linked to the early history of Southland and Otago. Routes to the West Coast were sought, for the ill-fated towns planned for the fiords and west coast at Cromarty, Martins Bay, and others. The development of steam ships removed the need for western ports and towns, but the tourist industry based on Milford sound, with access by sea around the southern coast, and over the Milford Track from Lake Te Anau, was internationally famous.

- The major historical eras for this part of Fiordland are;
  Pre-European - Waitaha, Kati Mamoe and Kai Tahu peoples.
  Early exploration - routes to the western fiords and coast.
  Tourism - based on Milford Sound and Track
  Settlement - runholders
  Settlement- Lands and Survey blocks, farm settlements.
  Fiordland National Park - development and history

- Historic sites around the lakes include sites of Maori and early European settlements, old walking tracks and the Dot Island memorial, erected near where McKinnon is presumed to have drowned.

- There are many books covering the exploration and settlement of Fiordland and the Te Anau basin.

2 Upper Waiau - the river between Lakes Te Anau and Manapouri

Tourism and Recreation

- The main tourism and recreation activities on the upper reaches of the Waiau are jet boating, rafting, walking and fishing.

- There are several operators using the river, but numbers of visitors are not available beyond an estimate from one operator of 200 to 300 per year. Jet boating and rafting requires consistent water levels and the rapid fluctuations of this part of the river can cause problems with planning and services.

- The upper Waiau is used by fishermen and fishing guides but is restricted by fluctuations in water level, with control gates at the exit from Lake Te Anau, controlled by Electicorp. The control of the gates is seen by the boat operators and fishermen as too abrupt, with no phasing or fine controls on flow rates. The velocity barrier at the gates is a further deterent for native and introduced fish to pass through into the lake, and one local fisherman described seeing many small eels trekking overland to avoid the flow through the gates (pers. comm).

- This stretch of the river has gravel beds on the west bank, used by both rainbow and brown trout for spawning (May to July) and river levels at this time are critical for sucessful breeding. While the flow in the river has been seen as better this past year, there was one occasion when the flow dropped to about 5 cumecs, and the spawning grounds for the brown trout were left stranded with the loss of all the new stock (see article in Southland Times, July 23, 1991). This disaster for the brown trout population is predicted by local fishing guides to show up in three or four years time with reduced brown trout numbers and an increase in rainbow trout numbers.

- The river flow is supposed to be kept above 90 cumecs, with a previous 'normal' flow in the region of 160 cumecs, but it can be very erratic, with sudden large fluctuations, as reported by local guides, boat owners and fishermen. The river can rise to 220-240 cumecs or drop to 90-100 cumecs overnight and this interferes with any forward planning for boat operators, fishermen and guides (pers. comm).

- The cost to Te Anau in the loss of fishing from this stretch of river could be high, as it used to be considered one of the best trout rivers in New Zealand. Fishermen are not returning to this part of the river, according to local fishermen and guides. The big fish are not seen or caught there now, compared to the excellent fishing available (as remembered by local fishermen) 20 or 30 years ago. River fluctuations are thought (by these local fishermen) to be damaging the food chain, especially the mayfly and caddisfly nymphs and larvae, with no large swarms of newly hatched flies being seen.

- Below Rainbow Reach there has been silting and erosion into the river and this may also have a detrimental effect on the immature insect population. The loss of this part of the river is increasing the pressure on other fishing rivers in the catchment, in the opinion of local guides, and they fear that the damage to this part of the river may reach the stage where it is not reversible, no matter what efforts are made to restore it.

- Access to some parts of the river for fishing is difficult, although 4-wheel-drive vehicles are used (pers. comm).

- Access to the west side of the river and lake Te Anau, for tramping, walking and other activities, is possible via the Rainbow Reach bridge and the control structure at the river outlet. The reduction in the number of jet boats that can use this part of the river is appreciated by other users (pers. comm).

Scenic and Historic values

- The scenic and historic values of this stretch of the river are closely tied to those for the lakes, as the river runs between Lakes Te Anau and Manapouri.

- Historic sites include the site at Balloon Loop where the first European settler, Freeman Jackson, lived.

3 Lower Waiau - Lake Manapouri outlet to the sea

Tourism and Recreation

- Tourist and recreational activities in the lower Waiau region are based in the town of Tuatapere, with several other smaller centres. The Southern Scenic Route follows the river valley from the Manapouri outlet to the sea. There is no public bus service on this route, but transport includes tour buses, cars, campervans and cycles. The activities are carried out in the Fiordland National Park, with the Waiau River running near the eastern boundary of the park, and on the river and it's tributaries.

- The Waiau River below the former outlet from Lake Manapouri is controlled in flow by the Mararoa Weir, which forces the water back into the lake, along with the water from the Mararoa River. There has been a build up of silt and gravel from the Mararoa River and to prevent this from entering the lake the weir is to be opened from time to time to allow dirty water through into the Lower Waiau. A fish pass is supposed to allow fish to pass up beyond the weir into the upper catchment of the lakes and the Mararoa River. There is no minimum flow into the Waiau through the weir.

- A large amount of gravel has been flushed through the weir and been dropped by the river just in front of the weir, cutting off a large pool at the base of the weir from the rest of the river system. While there may be some seepage through this gravel, there was no flow over it when visited on 6 January, 1992, and no perceptable flow into the Waiau below this point. There was no way that fish could cross this gravel bed, and the entrance to the fish pass was buried under the silt and gravel.

- Fish have been trapped in the pool at the base of the weir and from time to time local fishermen return the fish they can trap over the weir into the upper catchment. On the last occasion this was done, more than 200 fish were returned over the weir. The first flow into the Lower Waiau seemed to come from the Excelsior Creek, below the dam. Fishing below this point, especially at Redcliffs, used to be 'brilliant' according to local guides, and now they do not use this part of the river at all. They estimate to have lost 100 miles of 'good to excellent' fishing river because of the control gates and weir reversing the flow at the Waiau outlet and diverting the Mararoa River (pers. comm).

- A study of recreation on the Waiau River (Riddell, 1989) showed that the most common recreational activites were angling, whitebaiting (near the river mouth), caving and onlooking, with different emphases at different parts of the river. (See appendices for details.) The part of the river immediately below the Mararoa weir was the least used and most activity took place around the pool at the base of the weir, at Jericho Creek and at the mouth of Excelsior Creek. The use was linked to access points along the river, as shown in Fig. 23. (Riddell, 1989, pp47, 48; see appendices)

- Borland lodge (Southland Youth Adventure Trust) is a school outdoor education centre on the Borland River, near Lake Monowai. It caters mostly for Southland secondary schools, with some primary groups and intermediate schools as well. School pupils come for 4 days to a week at a time, mostly form 4, but some senior subject study groups as well, such as biology and geography, to meet syllabus requirements for field work. The number of pupils visiting in a year is about 2,500. The Lodge is also used by other groups such as the Royal Forest and Bird Protection Society, Lions, Cubs, Scouts and

Guides and special interest groups. These groups come for the bush setting and to use the Lodge facilities, including the outdoor education activities.

- About 40% of the annual turnover is made up of non-school groups. They are mostly local groups from the Southland or Otago regions. There is a high return visitor rate of about 70% from these groups.

- The activitites available include a confidence course, walks ranging from an hour to several weeks, canoeing, bird watching, and some cycling. The longer walks include all branches of the Borland River, over the Borland Saddle to the South Arm of Lake Manapouri, into the Grebe River valley, and on to the Wilmot Pass road from West Arm. The roads over Borland Saddle and Wilmot Pass were put in for the hydro-electric development at West Arm and Deep Cove. They are not built to highway standards and in some parts are very rough, especially over to West Arm. There are park tracks from the head of Lake Monowai into the Green Lake area, the Grebe River and the South Borland, meeting the road over the Borland Saddle.

- The area has a very high recreational potential, and is right on the edge of the park, giving access to the bush, rivers and Lake Monowai for fishing, hunting and boating. The level of Lake Monowai is subject to fluctuations, with the Monowai hydro-electric power station using the lake water. Accommodation is also available at Blackmount Station, with tramping, climbing, fishing and bush walks advertised in the vicinity.

- Below Monowai, the first major contributing river is the Wairaki, draining from the Takatimu Mountains in the eastern side of the Waiau valley.

- The Waiau River from Monowai to Clifden is still subject to fluctuations in flow, because of the controls at Mararoa and Monowai. The Southland Jet Boat Association (250 members) has used this part of the river for racing and would like to see it included in the national marathon series as a permanent stage, but the water level is too unreliable (pers. comm).

- Although a managed flow in the river can be requested for major events, by arrangement with Electricorp (pers. comm. and Waiau River Events Calendar), other organised club runs have been cancelled because of the risk of damage to boats at low water levels. A managed flow was arranged for the national marathon race but requests were not received by Electricorp for local club runs (pers. comm).

- The abrupt changes make the water level unpredictable and may also be causing silt and gravel build-up in parts of the river, making navigation difficult (pers. comm).

- Tourist and recreation use of this part of the river is not possible with unpredictable flow and water levels. A regular or reliable boat trip service could not be maintained under present river conditions. The Wairaki Gorge is highly scenic but is not accessible by boat at the low river level at this time.

- Rafting is not feasible without a regular, reliable river flow. Riddell (1989) noted that boating was not a common activity on the Waiau River, although it is the only 'open' river in Southland where all forms of boating, including jet-boating, are permitted, without restrictions on speed or location. (p47)

- The main town on the Lower Waiau is Tuatapere. Compared to Te Anau, it does not have a well developed tourism infrastructure, but does offer accommodation in a hotel, motel and camping grounds. Compared to Te Anau, the numbers are small, with about 700 using the camping grounds in a year.

- Visitors include many young Europeans, mostly German, Swiss and Austrian, with some from UK and USA, who cycle the Southern Scenic Route and stay a couple of days before going on to the park

tracks. Longer stay visitors are mostly families from the Southland region, although there has been a decline in numbers and length of stay, which locals attribute to the downturn in the freezing industry. These people come for fishing and cheap family holidays.

- Activities centre on the nearby park and tracks, including the Dusky track and the coastal tracks from Port Craig. Local people are working with DoC to open up other walking tracks including one of several days duration to the Hump ridge overlooking Te Waewae Bay but progress has been slow. There is some swimming in the river at the Domain, and at a local indoor swimming pool. Picnic areas in the surrounding bush are also popular over the summer holiday period.

- Tourism services include transport by boat or helicopter to Lake Hauroko and the tracks for fishing, hunting and walking/tramping (about 300 visitors per year use these services). Local people would like to see more walkers and trampers directed down to their area, especially by DoC when the Te Anau tracks are in heavy demand. Those visitors who do come south are reported to be very pleased with the recreation available, although the type of track is more suited to experienced trampers.

- Local operators regard fishing in the Lower Waiau as ruined because of the river conditions, and report that visitors, including fly fishermen from the USA, are very disappointed and are not returning. - The local angling club has gone into recess through lack of interest, and former members say that the quality and size of fish in the river has deteriorated over the last 5 years, with lack of water and loss of feed. No large fish are able to return from the large lakes and when the river mouth closes with gravel the whitebait and cockabullies cannot get in (pers. comm).

- Another problem for future tourism development in Tuatapere is the water supply. There are two systems, one drawn from the river and the other a bore. A turbidity guage switches to the bore when the river water is too dirty. The water needs an aeration tower and chemical treatment and is still not considered by local people to be of good quality.

- After the flood of 1984, older residents are concerned about their security and have been seen to check the river level during heavy rain. Local people are concerned that the river is becoming a flood channel and is only used for discharging dirty, silty water from the Mararoa weir, or for flood control at the lakes. Erosion of the papa rock beside the bridge in Tuatapere is also causing concern and is attributed to fluctuating river levels allowing the wet rock to dry out and crumble away (pers. comm).

- Major events in Tuatapere include the New Year's Day Sports Day, which attracts up to 5,000 visitors and is claimed to be the largest event of it's kind in Australasia. The event reflects Tuatapere's long involvement with the timber and sawmilling industry, with athletics, bushcraft (axe and saw events) and shooting included. The event is part of an international circuit and attracts top level competitors. This year the jet boat rides on the river near the Domain had to be cancelled because the water level was too low to load passengers in to the jet boat. A request was not received by Electricorp for a managed river flow for this event (pers. comm).

- Other events are the A and P show, the Wild Challenge in January (44 competitors and about 300 visitors altogether), the Waiau College Iron Man in March (200 competitors) and the Backwaters Music Festival in January (about 5,000 visitors). There are no figues available on total visitor numbers to Tuatapere or the surrounding area.

- Below Tuatapere the river is used for whitebait fishing, and is an important source of whitebait. In the lagoon, where the water has changed from fresh to brackish or salty, the fishing has changed and local people claim that the whitebait do not taste very good if they spend too much time in the lagoon.

- Reduced flow in the river has allowed sea water to seep back into the lagoon and gravel bars at the mouth sometimes block the river exit to the sea. The lagoon has suffered silting and a layer of mud

had built up. The lagoon used to be an important fresh water food source (including eels, flounders, whitebait, lampreys and inunga) for local Maori and fishing supported several villages at the river mouth. Schools of small fish (cockabullies) entering the river were caught and dried on mats in the sun (pers. comm).

Scenic values

- The Lower Waiau region contains a number of different landscapes, from the mountains near the lakes to the sea, and including pastoral as well as bush. While not as spectacular as the upper parts of the catchment, the scenic value is still high and the landforms are very interesting examples of glacial and river action. The western side of the river is mostly in the Fiordland National Park, with bush covered mountains and river flats, while the eastern side is a mixture of forestry and farmland with the Takitimu Mountains in the background. The variety and constant change of view adds to the interest for travellers on the Southern Scenic Route.

Historic values

- The Lower Waiau has a high historic value for both Maori and European.

- The Waitaha and Kati Mamoe people had settlements at the mouth of the river and used the river for access to the lakes and the fiords. The rock shelter Te Rua O Te Kai Amio, or the designated meeting place, at Clifden was where the tracks on either side of the river met and the river could be crossed. The river terraces provided a dry route to the coast at Te Waewae Bay. Oven stones on the river flats show where the camping and gathering places were, with fresh water supplies nearby. Every access point along the coast had camp site and cooking oven (shown by rings of burned stones) nearby (pers. comm).

- Also at Clifden is the carved cave, Te Ana Whakairo, where Tamatea of the Takitimu canoe is said to have carved all the information from the canoe onto the cave walls. Only a small piece of carving now remains. (See Working Party newsletters for a fuller description of early Maori occupation and tradition.)

- The coastal area around the Waiau river mouth is linked to the earliest European exploration and exploitation of New Zealand, including the sealing and whaling eras, while the river was used for exploration to the interior of fiordland and the lakes and eventually to Milford and the fiords.

4 Mararoa/Whitestone (including Mavoras)

Tourism and Recreation

- The major recreational activity on the Mararoa and Whitestone rivers is fishing. Guides from Te Anau use the rivers, although the Whitestone is sometimes affected by farmland runoff. Both rivers are cut off from the sea by the Mararoa weir, where the Mararoa meets the Waiau. This may prevent sea-run fish from returning to the rivers, as for the lakes, and may influence the food chain. Some deterioration in fish numbers and size has been noted for the Mararoa. This may be due to fishermen removing their catches rather than putting them back into the river. Since the weir was built an increase in rainbow trout has been noticed in the Mararoa River and the South Mavora Lake (pers. comm).

- Recreation at the Mavora Lakes used to be almost exclusively hunting and fishing, but now there is less hunting, with the drop in red deer population, and a wider range of recreational activities. Boating is becoming popular, with improved access, and the area is used by organised groups such as Scouts and Guides for outdoor activities. A Girl Guide Jamboree at Mount Nicholas Station (Lake Wakatipu) in January this year used Mavora Lakes for activites such as canoeing, civil defence,

mountain bikes, rafting, and water slides, and a total of 2,000 girls were transported from Mount Nicholas by bus for these activities (pers. comm).

- The upper reaches of the Mararoa is also important for Otago and Southland canoe clubs as a good slalom course exists on the river. There is no fixed accommodation, apart from DoC huts, but plenty of picnic and camp sites are available. Tramping tracks go from Mavora Park to the Eglinton valley, through the Snowdon forest and Livingstone Mountains, and to the Greenstone Track through the Thomson mountains. Another track follows the north branch of the Von River to Lake Wakatipu at Mount Nicholas.

- Numbers of visitors to this region have been requested from DoC in Te Anau but are not yet available. Fishing licence numbers have been requested from Southland Fish and Game Council, but are not yet available either. See also reports in appendices on the Mararoa River and Mavora Lakes Park.

Scenic values

- The lower reaches of the Mararoa and Whitestone Rivers do not have the high scenic value of other parts of the catchment, as they pass through grassland and pasture. The upper and middle reaches of the Mararoa are highly scenic, with rapids and a small gorge, followed by open tussock grassland and beech forest. The whole area has a highly scenic background, with the mountains of Fiordland to the west, the upper Wakatipu mountains to the north, and the Takitimu Mountains to the south and east.

Historic value

- Little historical or archeological information is available on the area, although Maori hunters and travellers probably used it as a route to and from Lake Wakatipu and to the Greenstone valley. Possible sites of occupation have been identified but not confirmed.

- Very little is known of European use or settlement in the area.

5 Remainder of the Waiau Catchment

The most important area in the remainder of the catchment is the upper part, from above Lake Te Anau to the Divide. The main rivers in this area are the Clinton and the Eglinton, with Lakes Gunn and Fergus near the Divide.

Tourism and Recreation

- The tourist services in the Eglinton include rafting on the river, fishing guides, bus tours and interpretive walks and tramps.

- Accommodation is available at Cascade Creek, where the motor inn had recently been taken over by Kai Tahu and renamed O Tapara Lodge. This lodge offers fishing and guided walking on the many tracks (14 are used) in the vicinity.

- The importance of the Eglinton is its use as part of the Milford Corridor, with the highway to Milford Sound and the Hollyford passing along the river valley to the Divide. The important walking tracks such as the Greenstone, Routeburn and Caples Tracks all meet the Milford road at the Divide and this is the main entry or exit for trampers to the upper Wakatipu parts of the Fiordland and Mount Aspiring National Parks.

- The Clinton River is important as the starting point of the Milford Track, which is walked one way from Lake Te Anau to Milford sound. The first two days follow the Clinton River (South branch beyond the forks) to Lake Mintaro and the Mackinnon Pass (or Noti Omanui to the Maori). Up to 40

independent walkers and the same number on Milford Track Guided Walks enter this track every day of the open season and it is a spectacular route to the western parts of the park. The Clinton and Eglinton Rivers are also used for fishing and the Eglinton valley for camping and picnicking, as it is so close to the Milford road.

Scenic values

- The upper parts of the catchment are mostly within the Fiordland National Park and they are spectacular in scenery, with glacial mountain valleys, rushing rivers and waterfalls, all in native beech forest or open river flats. The Milford Track is claimed to be the 'best walk in the world' and for scenic value it would be hard to beat. Boat trips to the start of the track at Glade House travel up Lake Te Anau for 2 hours and day walks on the first part of the track are also offered. Rafting on the Eglinton follows the small gorge not visible from the road and is also spectacular in scenic value.

Historic values

- The upper parts of the catchment are strongly linked to Maori and European exploration and travel through to the sounds and the west coast.

- The Maori name for Lake Gunn was O Tapara, and Maori guides accompanied the early European explorers in the region. Western Fiordland, beyond the lakes , was known as Te Rua o Te Moa, or the retreat of the moa, showing that moa had been hunted in the area. The route to the Greenstone valley was used to transport pounamu and takiwai to the east. Annual heke was made to walk the trails and recount the tribal history preserved in the place names (pers. comm).

- European exploration centred on finding a useable route to the proposed settlements of the west coast. The tourism industry started at Milford Sound, with access by boat from the south coast and Dunedin or over the Milford Track from Lake Te Anau. The other major event that involved Te Anau and the upper catchment was the building of the road and the Homer Tunnel, over the divide in the upper Hollyford valley, to link with the Cleddau valley as a route to Milford. Previous access from the Hollyford Valley had been a very dangerous, rocky trip through the mountains, with fixed ropes and ladders for the tourists to use (Talbots Ladder over Mt McPherson, see references). There are many books available on the exploration and development of this part of the catchment. See the attached bibliographies in the appendices.

Summary

The tourism, recreation, scenic and historic values of the Waiau Catchment, from the mountains of the Divide to the sea are very high and need to be protected. The Waiau River has special significance for the original Maori inhabitants, the Waitaha and Kati Mamoe, and also the later arriving Kai Tahu peoples. The river is part of the identity of these people and their descendants and has a Mauri, or life force that sets it apart as deserving respect. This life force is threatened by any threat to the river, especially any loss of continuity of flow, as may occur at the Mararoa weir, if some of the water that has flowed from the mountains to Lake Manapouri cannot continue into the Lower Waiau. The identity of the Maori people is part of their cultural and spiritual heritage guaranteed under the Treaty of Waitangi, as is access to and use of traditional food sources and other materials. There are issues here that will need to be considered further, by the appropriate Kaumatua and Runanga, but they have been raised to make this group aware of them.

The protection of the Waiau River should include looking at the damage that has already occured, and how it can be remedied. A section or sections of the river should not be written off to satisfy other needs, as this has flow-on effects to other sections and sets a precedent for futher damage. Any considerations of the river need to be for the whole river and not individual sections of it.

Some of the material presented here is based on anecdotal evidence. While it is important to have factual evidence that can stand up to challenge and testing, it is equally important to collect evidence of how the changes or events have affected people's lives, including their feelings and emotions. This can only come from the people most directly concerned.

Summary Chart of uses for recreation/tourism

Division	**Lakes**	**Upper Waiau**	**Lower Waiau**	**Mararoa**	**Remainder**
Category					
Tourism	high	low	some	low	some
Visitor Nos	high	low	some	?	some
Operators	many	v. few	some	none	v. few
transport	many	v. few	some	none	v. few
accommodation	high	none	some	none	low
services	high	none	some	none	low
Recreation	high	some	some	some	some
swimming	yes	no	yes	?	?
tramping	yes	some	yes	yes	yes
canoeing	some	?	?	yes	?
rafting	no	yes	?	yes	yes
camping	high	low	high	some	some
boating	high	some	some	some	?
fishing	high	high	some	high	high
onlooking	yes	?	some	?	?
picnicking	yes	some	yes	yes	yes
bird watching	some	some	yes	?	yes
others	golf, sailing	?	cycling	horses, bikes	?
Scenic	v. high	v. high	high	v. high	v.high
Historic	v. high	high	v. high	?	v. high
Maori	yes	?	yes	?	yes
European	yes	some	yes	?	yes

Note:
These distinctions, between 'high/some/low', or 'many/some/few/none', are subjective and relate to a comparison across the line.
No numerical value can be ascribed to them and they are based, in the main, on the assessments of those people contacted during this study. Some more accurate information is available in other studies but is restricted in scope, area or content and could not be compared between studies.
'yes' and 'no' or 'none' have been used to indicate use or lack of use, where the amount is not known; while '?' indicates no information is available.

Recommendations for further study

This report has identified the major tourism and recreation uses in the Waiau Catchment, but there are several gaps in the data base that need further investigation. This study was to collate existing information and in some cases sources may have been overlooked, or have been asked for information and have not yet replied. In other cases the information may not be readily available without further study.

The missing information may be available from other agencies (DoC, Southland Fish and Game Council, Southland Regional or District Councils) or from local individuals and organisations.

The most obvious gaps include:

Visitor numbers

For some regions, including the Mararoa/Whitestone and Mavoras there are no visitor numbers available (DoC and Southland Fish and Game could help here). Accurate visitor numbers are only available in the Te Anau/Manapouri region, where local operators have supplied them, and from NZTD statistics. The major bus operators from Queenstown may help with visitor numbers using the Milford Road.

Activities

In some regions, especially the Mararoa/Whitestone and the Mavoras, little is known of the range and extent of activities that visitors engage in. Some observations would be needed to fill this gap. In other regions the true extent may not be known as some recreational clubs have not replied with the information requested. A second approach could be made to these and any other clubs or groups who use the areas concerned. Submissions to the Wild and Scenic Rivers Inventory show that some areas are of particular interest to clubs such as canoe clubs (Mararoa River for slalom courses), but this information needs to be up-dated.

Other activities such as rafting, are mostly carried out by commercial operators and where these are in the Parks the information is held by DoC, but it is commercially sensitive to the operators and may not be available. Some operators were willing to provide this information, but where there was only one service operating in an area they were reluctant, as this would make commercial information about this operation identifiable. The DoC report due out in July this year may provided more information. Tramping numbers should also be available from DoC where the tracks and huts are in the Parks. Further study may be required if the numbers and types of activities are needed with any degree of accuracy.

Scenic

The scenic values of some parts of the region are well documented, but are subjective and depend on the point of view of the persons expressing their opinion. There has been a tendency to write off as less scenic any area that is not spectacular by comparison to the fiords and lakes, but to the visitor these areas have their own interest and value. Further assessment of the scenic value of the Mararoa/Whitestone and the Lower Waiau could be sought from those people who use these areas.

Historic

The historic values of the catchment are very different to different groups of people and each group has an interest in seeing their own special areas or places are respected and preserved. Liaison with other Task Groups (especially Maori) will provide more information.

There is very little information about the historic values of some parts of the catchment, especially the Mararoa/Whitestone and Mavoras area. Further study of the early literature and local Maori tradition may provide more information.

Anectdotal
The beliefs, feelings and traditions of those people with an interest in the catchment are also important. These could be sought by interview, as was used in this study, or by public meetings, meetings with different interest groups, or by written submissions. It is also important to find out what people want for the future of the river and how they think this can be achieved.

Tourism/Recreation potential
As well as looking at the present uses of the catchment, an assessment could be made of the tourism and recreation potential for further development. This would require another study, to identify the resources available, the existing infrastructure and future developments in these industries. The growth of tourism is predicted for the national and regional industry (New Zealand Tourism Board and NZTD), but little is known of growth and development at a local level.

Priorities
It is obviously not feasible for the Task Group to try to collect every scrap of information that may be available regarding tourism and recreation in the Waiau Catchment. It is recommended that the Group decides on some priorities of information and seeks that which is most important for the particular purposes planned. Before setting out to seek this information, several questions should be considered.
Eg. What do we already know?
What information do we need?
Why do we need this particular information?
How do we intend to use it?
What aspects of the information are of most use to this purpose?
How can we best obtain the information we need?

List of people and organisations contacted

Organisations

Department of Conservation, Te Anau (Helen Dodson)
Southland Fish and Game Council (Te Anau, Bill Jarvie; Lumsden, Stuart Sutherland)
University of Otago, Hocken Library (Stuart Strachan, David McDonald)
University of Otago Tourism Diploma (Geoff Kearsley)
Te Anau Public Library
Fiordland Promotions Association (Jan Wilson)
Southland Youth Adventure Trust - Borland Lodge (Manager)

Members of Task Groups

Coastal Task Group (visit to Waiau River mouth with Group)
Recreation Task Group
Maori Task Group

Tourism Operators

All operators identified in the catchment, particularly in Te Anau, Manapouri and Tuatapere. Sources of information regarding operators included local tourist guidebooks and pamphlets, local tourism promotion groups and word of mouth from other operators.
Youth Hostels, Backpackers hostels and camping grounds in Te Anau, Manapouri and Tuatapere.

Local groups

Tuatapere Historical Society (Mrs Dorothy Dowling)
Tuatapere Community Board (Mrs N Dixon)
Waiau River Action Group (Ray Horrell)

Clubs and Recreational Groups

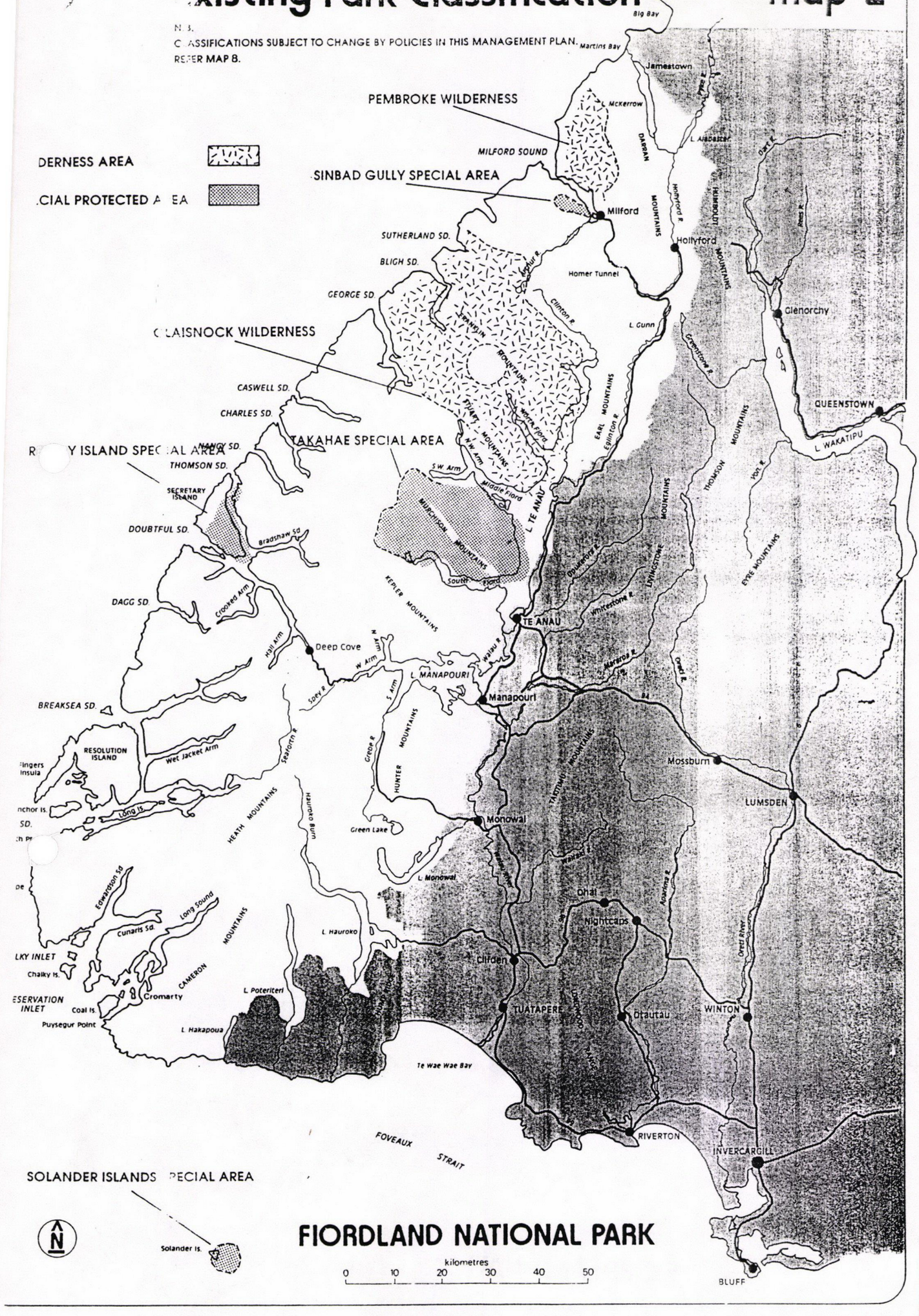
Te Anau Rod and Gun Club (Ron Todd, Fred Inder)*
Te Anau Boating Club*
Gore Boating Club
Marakura Yacht Club, Te Anau*
Fiordland Tramping Club, Te Anau*
Manapouri Boating Club
Southland Canoe Club
Southland Tramping Club*
Southland Branch NZDA
Southland Mountain Bike Club
NZ Mountain Safety Council, Southland District Committee
Southland Recreational Hunting Club
NZ Alpine Club, Southland Branch*
Southland Combined NZDA, Gore
Otago Water Ski Club (letter returned)
Dunedin Orienteering Club
Otago Yachting Association
Otago Yacht Club
Otago Tramping and Mountaineering Club
Otago Canoe and Kayak Club
Dunedin Canoe Association
Royal Forest and Bird Protection Society, Southland, Otago, South Otago, Upper Clutha and Waitaki
Southland Jet Boat Association (Alastair McLees)*
Tuatapere Fishing Club*
* spoken with or replied to written request for information.
All individuals interviewed are included in the above categories.

Appendices and Bibliographies

Existing Park Classification

map 2

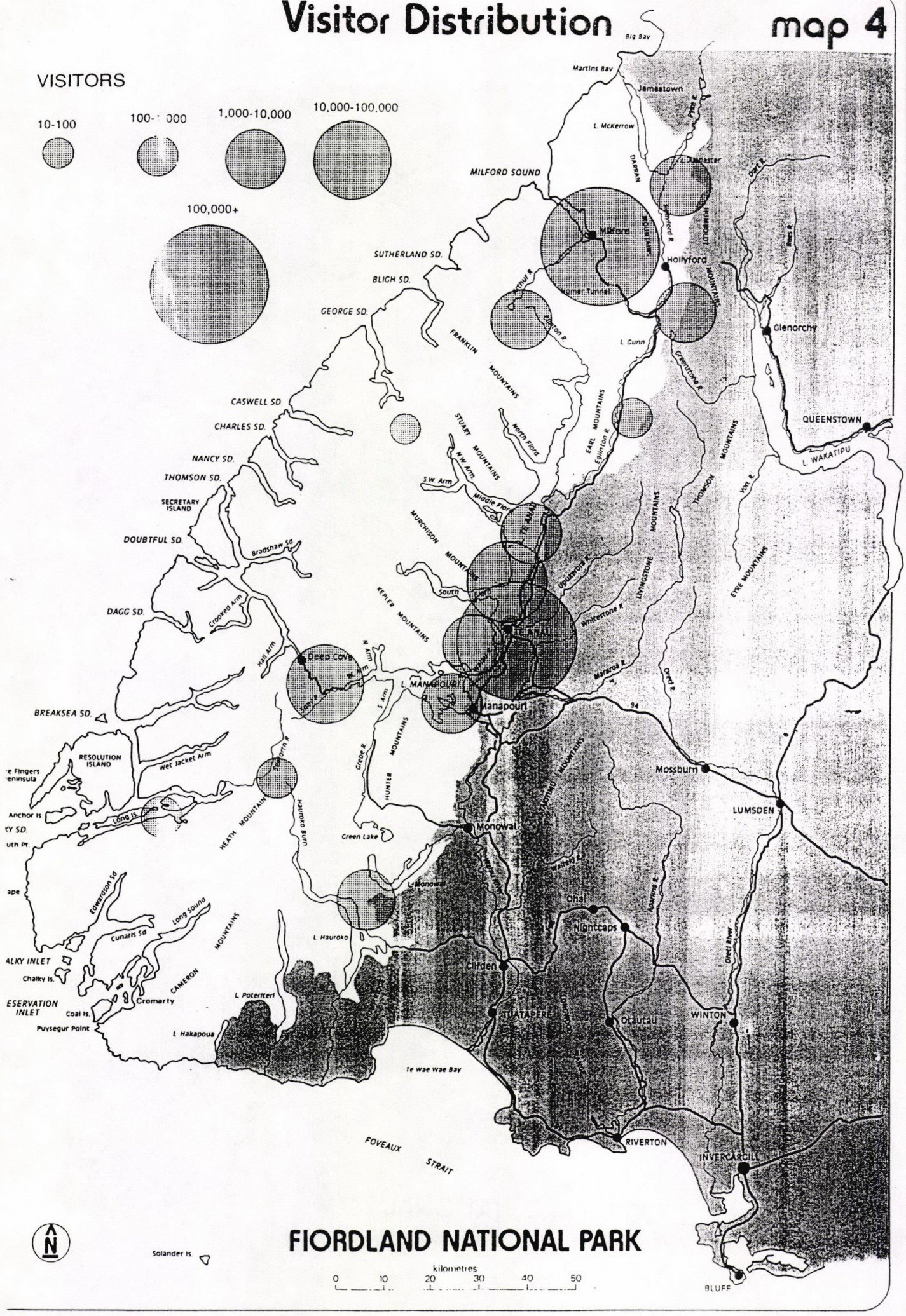
N. B.
CLASSIFICATIONS SUBJECT TO CHANGE BY POLICIES IN THIS MANAGEMENT PLAN.
REFER MAP 8.



FIORDLAND NATIONAL PARK

Visitor Distribution

map 4



FIORDLAND NATIONAL PARK

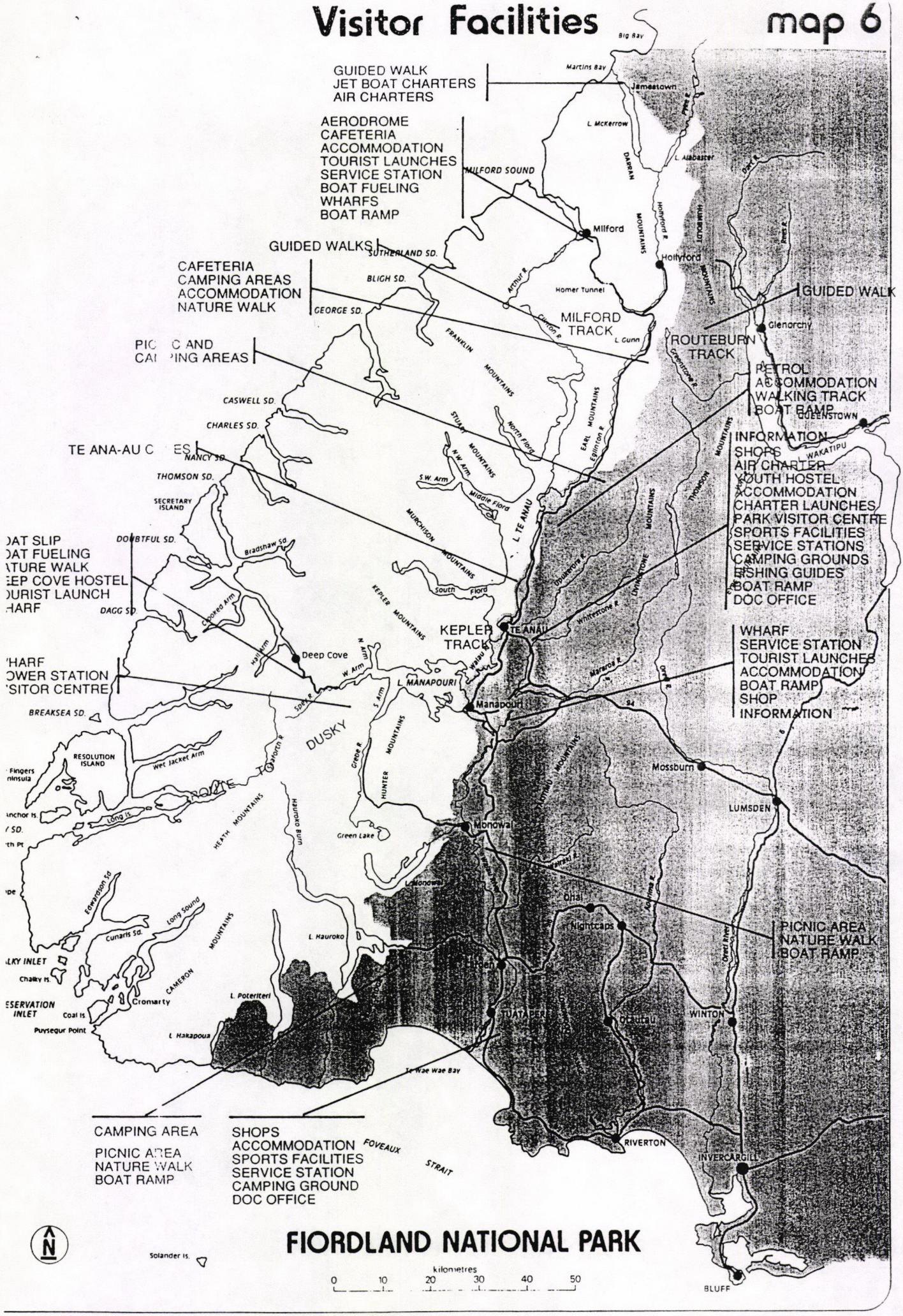
Access

map 5


BOAT SERVICE
PORT FACILITIES
LANDING AREAS (AIRCRAFT)
LANDING AREAS (FLOAT PLANES)
WILDERNESS AREA
SPECIAL AREA
Big Bay
Martins Bay
Jamestown
L. McKerrow
L. Alabaster
MILFORD SOUND
Milford
Hollyford
SUTHERLAND SD.
BLIGH SD.
GEORGE SD.
CASWELL SD.
CHARLES SD.
NANCY SD.
THOMSON SD.
SECRETARY ISLAND
DOUBTFUL SD.
DAGG SD.
BREAKSEA SD.
Homer Tunnel
Glenorchy
L. Gunn
QUEENSTOWN
L. WAKATIPU
L. TE ANAU
Deep Cove
L. MANAPOURI
Manapouri
TE ANAU
Mossburn
LUMSDEN
Monowai
Green Lake
L. Monowai
Obai
Nightcaps
Clifden
TUATAPERE
Otautau
WINTON
RIVERTON
INVERCARGILL
BLUFF
Te Wae Wae Bay
FOVEAUX STRAIT
RESOLUTION ISLAND
Five Fingers Peninsula
Anchor Is.
Long Is.
Wet Jacket Arm
CHALKY INLET
Chalky Is.
PRESERVATION INLET
Coal Is.
Puysegur Point
Cromarty
L. Hakapoua
L. Hauroko
L. Poteriteri
Edwardson Sd
Cunaris Sd
Long Sound
Solander Is.
FIORDLAND NATIONAL PARK
kilometres
0 10 20 30 40 50

Visitor Facilities

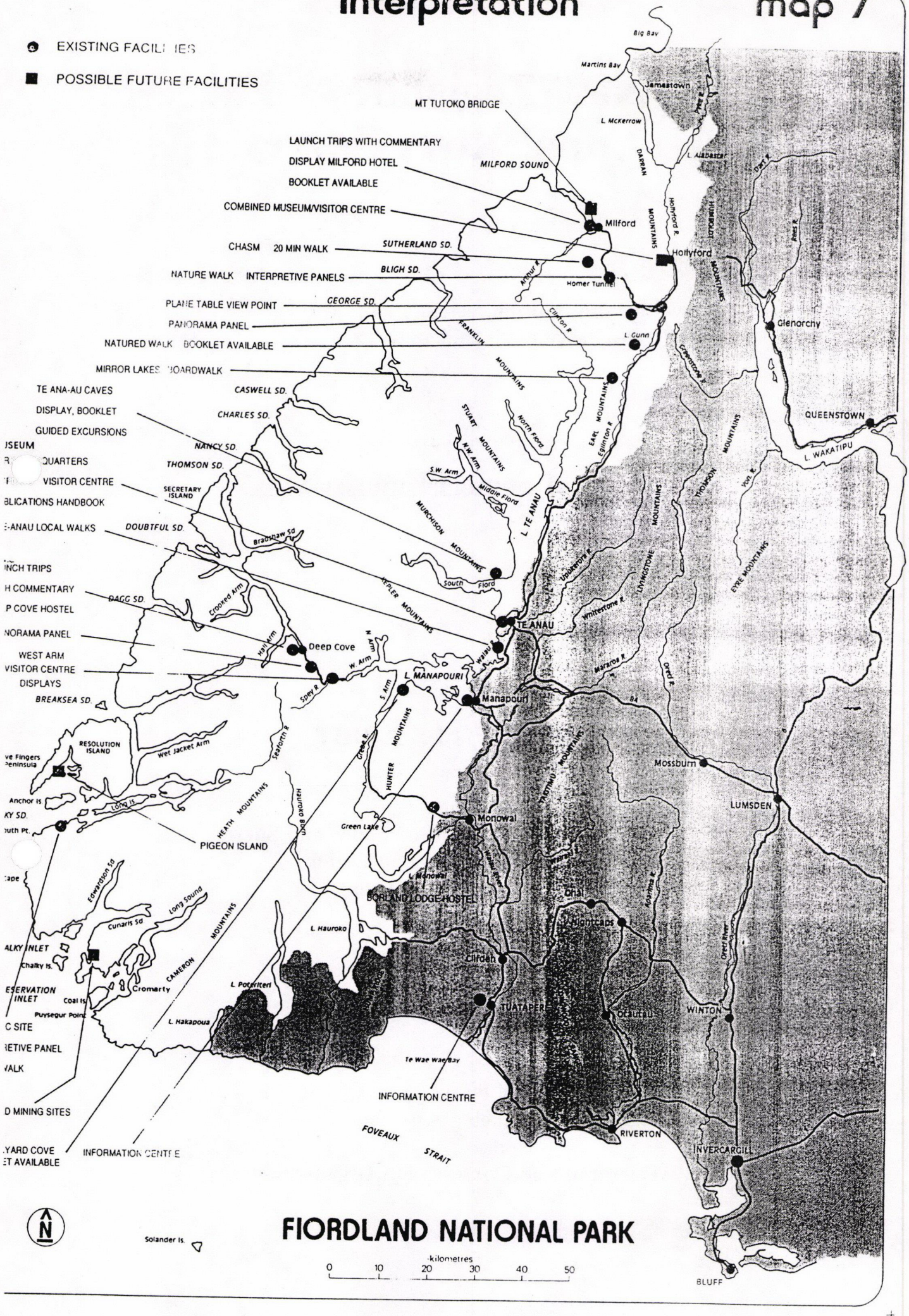
map 6



Interpretation

map 7

- EXISTING FACILITIES
- POSSIBLE FUTURE FACILITIES



FIORDLAND NATIONAL PARK

New Zealand Recreational River Survey

An investigation into the recreational potential
of New Zealand's inland waterways

PART III
Summaries of South Island rivers

by

G. D. and J. H. Egarr

with the assistance of
NZ Jet Boat Association, Department of Lands and Survey,
Ministry for Recreation and Sport, and
Commission for the Environment

Published for the
New Zealand Canoeing Association
by the
National Water and Soil Conservation Organisation

94.0 WAIAU RIVER 797000

The Waiau River is Southland's largest river in terms of water volume. It flows swiftly but smoothly from Lake Te Anau down to Lake Manapouri. This section is often jet boated and rafted by tourist companies as well as by private individuals — it is an easy but scenic trip. From Manapouri the river flows quietly over a wide shingle bed but is dammed just below the Mararoa. The water is turned back here to flow through the hydro at Deep Cove, Fiordland. This leaves the river very low down to the Monowai Lake outlet and the river is not used at all down to this point. The river then flows peacefully to the sea at Te Waewae Bay.
The survey considered the Waiau in five sections.

94.1 WAIAU RIVER — UPPER TRIBUTARIES

The principal river flowing into Lake Te Anau is the Eglinton River which flows beside the Te Anau-Milford Highway. Along with the Upukerora River, which flows into the lake immediately to the north of Te Anau township, the Eglinton is the only river with vehicle access at a point which provides a trip for canoeists, rafters and drift boaters. All the other rivers have difficult access and are small. On the western shore of Lake Te Anau, between Middle Fiord and South Fiord, is the area prohibited because of the presence of the Notornis. No entry is allowed except 500 metres up each stream from the lake shore. The lake itself is used to a great extent by power boats and some yachts. It would appear that the bush-covered hillsides have led to a greater recreational use of this lake than the more barren lakes such as Wakatipu, Hawea, Pukaki, Benmore and the other Waitaki hydro lakes.

94.1.1 EGLINTON RIVER 797520

Location: The Eglinton River has its origins near the Hollyford River. It then flows south-westwards through Lake Fergus and Lake Gunn, through beech forest and grassy river flats to finally flow into the northern end of Lake Te Anau.
River confluence location: NZMS1, S130/831518
Maps: NZMS18, Sheet 22 Wakatipu; NZMS1, Sheet S122 Hollyford; S130 Stuart; S131 Eglinton.
Length: 61km.
Average gradient: 1:150 6.7m/km.

RECREATIONAL USE:
Motor launches: Nil.
Jet boats: When flowing high it has been boated for around 35km over some interesting but not particularly difficult water. It is a popular fishing river and so jet boaters tend to leave it to the fishermen.
Drift boats: Has received little use, possibly because it can be shallow at normal flow. No particularly difficult rapids.
Rafts: Of sufficient size but seldom used.
Canoes/kayaks: Of sufficient size to be canoed from Lake Gunn with above normal flows only. Seldom a fast current and most of the rapids are shallow. Very scenic.
Pack floating, swimming: Some good swimming pools but not used greatly.

Scenic description: The Eglinton drops rather quickly from Lake Gunn through beech forest and grassy river glades, often with foxgloves adding a splash of colour that makes the area rather pretty. The river is normally shallow, flowing quietly over shingle with a number of long pools of crystal clear water. There are steep rocky stretches in the bush. Cascade Creek boosts the river's flow considerably. From the confluence with Smithy Creek the river flows quietly over fine shingle and stones with occasional logs and clumps of grass. The river remains like this, becoming wider, almost braided, down to a short, gorge-like section between Boyd and Dunton Creeks a few kilometres above the lake. The river then flows out over a wide shingle delta to the lake. For the most part the river flows through beech forest and grassy river flats and is very attractive.

Scenic value: Impressive.
Recreational value: Intermediate.

94.1.2 UPUKERORA RIVER 797500

Location: The Upukerora River flows south-west through the outskirts of Te Anau from the Livingstone Mountains.
River confluence location: NZMS1, S140/783227
Maps: NZMS18, Sheet 22 Wakatipu; NZMS1, Sheet S131 Eglinton; S140 Te Anau; S141 Mavora.
Length: 57km.
Average gradient: 1:133 7.5m/km.

Recreational use and scenic description: The Upukerora River is very small and often dry in late summer but has been jet boated a short distance when in a fresh. It flows over a shingle bed for its entire length in somewhat barren grassland and tussock. There is little recorded use of the river for boating although it is known to attain boatable size after heavy rain. There is access to the upper river via the road to Takaro Lodge where the beech forest and somewhat marshy land provide a scenic area. The river is not likely to be in high demand for recreation with the larger Eglinton and Waiau rivers so close.

Scenic value: Uninspiring.
Recreational value: Insignificant.

94.1.3 CLINTON RIVER 797600

Location: The Clinton flows south into the northern end of Lake Te Anau and the Milford Track follows it.
River mouth location: NZMS1, S122/915800.
Maps: NZMS18, Sheet 22 Wakatipu; NZMS1, Sheet S120 & S121 Bligh; S122 Hollyford.
Length: 26km.
Average gradient: 1:150 6.7m/km.

Recreational use and scenic description: The lower section of the Clinton is of boatable size. It is jet boated as far as the Neale Burn confluence and is canoeable and raftable for some distance further. However, canoeists and rafters will need to portage some distance up the Milford Track and will also have to paddle across the lake to the river mouth — this may explain why relatively few trips are made on the river. The river is much like the lower Hollyford and Eglinton which, with better access, are to be preferred.

Scenic value: Impressive.
Recreational value: Low

94.1.4 WORSLEY RIVER 797800
GLAISNOCK RIVER 797700

The Worsley and Glaisnock Rivers flow east onto Lake Te Anau's western shore. The Worsley River flows into the Worsley Arm and the Glaisnock into the North Fiord. The Worsley is sometimes of sufficient depth to jet boat but the Glaisnock, being smaller, is seldom boated. Both rivers are of sufficient size to canoe and raft but access is awkward and they are never used. Scenically they are much like the Clinton.

94.1.5 HANKINSON RIVER 797900

Location: The Hankinson River is the short channel between Lake Hankinson and Prospectors Bay in the North West Arm

of Lake Te Anau.
River mouth location: NZMS1, S130/621586.
Maps: NZMS18, Sheet 22 Wakatipu; NZMS1, Sheet S130 Stuart.
Length: 0.5km.
Average gradient: 1:96.5 10.3m/km.

Recreational use and scenic description: The Hankinson River is short and steep, very rocky and is one continuous rapid of white water. It is considered to be a most exciting and enjoyable jet boat and canoe trip even though it is so short. The river gives access to the lakes. Lake Thompson is some 61 metres higher in altitude, 2.5km upstream from Lake Hankinson, providing a very steep, fast and rough trip — probably too shallow for jet boaters. Access is a limiting factor in its use. The Wapiti River flows into Lake Thompson and is thought to be too small for boating. These lakes and rivers lie in thick forest, mostly of beech.
Scenic value: Impressive.
Recreational value: Intermediate.

94.2 WAIAU RIVER — TE ANAU TO MANAPOURI 797490 797450

Location: From Lake Te Anau the Waiau flows south to Lake Manapouri bordering Fiordland National Park on the right bank, with grassland on the left bank.
Section end location: NZMS1, S149/670101.
Maps: NZMS18, Sheet 24 Invercargill, NZMS1, Sheet S149 Manapouri.
Length: 20km.
Average gradient: Approximately 1:650 1.5m/km.

RECREATIONAL USE:
Motor launches: It is possible to use this section of the river with small, outboard-powered craft provided care is taken to lift the motor in areas of shallows. It is not used often by powered craft.
Jet boats: A very popular trip considered to be easy and suitable for learners and family outings. The river has some shallows that are easily avoided and no rapids. Scenically interesting.
Drift boats: A popular trip although without the thrill of white water.
Rafts: A commercial tourist company operates along this section of the river and it is a particularly popular trip.
Canoes/kayaks: Not used a great deal because of the lack of white water. However, it is a valued trip scenically.
Pack floating: Unused — probably because of lack of white water.
Swimming: Powerful and fast flowing water discourages swimmers. Few quiet pools that are easily accessible. The lake is preferred.

Scenic description: The outlet from Lake Te Anau is controlled and intending boaters must launch below the control works. From this point the river flows very swiftly but smoothly over a rocky bed between bush-lined (beech) banks. The left bank has high clay cliffs, often crumbling into the water. The right bank is lower. The river is clear and the bed is rocky but there is ample depth over the rocks so that white water and pressure waves do not develop. Eddies are common. From Horseshoe Bend down to Boulder Reach, small white top waves may develop in the wide bed. The river twists and turns through large loops.

Scenic value: Impressive.
Recreational value: High.

94.3 RIVERS OF LAKE MANAPOURI 797450

The only river of any significant size flowing into Lake Manapouri is the Grebe River.

94.3.1 GREBE RIVER 797452

Location: The Grebe River flows north into the South Arm of Lake Manapouri.
River confluence location: NZMS1, S149/476982.
Maps: NZMS18, Sheet 24 Invercargill; NZMS1, Sheet S149 Manapouri; S158 Monowai.
Length: 37km.
Average gradient: 1:290 3.4m/km.

Recreational use and scenic description: The Grebe River is accessible from the Monowai-Deep Cove road. However, the road is closed to the public although permission can be obtained from the Borland Saddle Tours Company.
The Grebe River is small and flows over shingle with steep rocky sections in places, through beech forest and open grassland with matagouri and other scrub.
The upper section, down to the Percy Stream confluence, is usually too small for boating, but with high flow it offers a quiet trip not unlike the Eglinton River. Below Percy Stream the gradient increases and the river flows over boulders with numerous sharp falls creating interesting white water enjoyed by canoeists and similar craft. In high water conditions this section of the river becomes continuous white water. The river is not jet boated.

Scenic value: Moderate.
Recreational value: Intermediate.

94.4 WAIAU RIVER — MANAPOURI TO MARAROA

Location: The Waiau River leaves the southern end of Lake Manapouri and flows south-east to junction with the Mararoa River. Immediately below the Mararoa junction lies a dam which diverts the Waiau water back to Lake Manapouri. The lake now drains through the Deep Cove Hydro-electric Scheme.
Section end location: NZMS1, S149/673012.
Maps: NZMS18, Sheet 24 Invercargill; NZMS1, Sheet S149 Manapouri.
Length: 10km.
Average gradient: Slight.

RECREATIONAL USE:
Motor launches: Most of the 10km to the dam is now negotiable by small craft. The former lake outlet is now used as a small marina for mooring launches used on the lake. The river is flat with a barely perceptible current.
Jet boats: Flat water navigable to the dam.
Drift boats, rafts, canoes/kayaks: Flat water scenically similar to the Waiau between Te Anau and Manapouri and not used greatly by these recreational groups because of the lack of current and rapids.
Pack floating: Nil.
Swimming: Limited use — the lake seems to be preferred.

Scenic description: The river flows from the lake in a deep, bush-lined channel, placid and tranquil. The bush on the left bank soon gives way to barren tussock grassland and the banks tend to be of crumbling clay and shingle. There are a number of shingle beaches especially lower in the section where the Mararoa flows in.

Scenic value: Picturesque.
Recreational value: Intermediate.

MARAROA RIVER 797420

The Mararoa River is one of the most heavily used recreational rivers in Southland although in summer it becomes too shallow.

It has its origins between Lakes Te Anau and Wakatipu in a valley dividing the Livingstone and Thompson Ranges. From this upper tussock valley the river forms the two Mavora Lakes then flows south through small rocky gorges and into wide alluvial plains before joining the Waiau below Lake Manapouri. The upper section near the Mavora Lakes is the most used. The survey considered the Mararoa in three sections.

94.4.1 UPPER MARAROA RIVER

Location: The Mararoa River has its origins in the Livingstone Mountains from where it flows south to junction with the small Windon Burn and forms the North and South Mavora Lakes.

Section end location: NZMS 1, S141/152340.
Maps: NZMS18, Sheet 22 Wakatipu; NZMS1, Sheet S131 Eglinton; S141 Mavora.
Length: Including the two lakes — 50km.
Average gradient: Slight.

Recreational use and scenic description: Above the lakes the Mararoa is a small, shallow river meandering via numerous separate channels through swampy tussock country and through numerous tarns. The river is a slow moving creek, running over shingle for most of its length.
The Windon Burn joins the river shortly before the Mararoa flows into the North Mavora Lake. The river is certainly too small for recreational use in this area. The lakes themselves are quite beautiful, quiet, peaceful and tranquil. Beech forest covers the hills down to the water's edge in the South Lake, with open tussock country around the North Lake. In places, especially in late summer, the beaches can be muddy. The river between the two lakes is quiet flowing through a tussock area. The South Lake is smaller and considerably more scenic. Power boats are prohibited on the lower lake.

Scenic value: Picturesque.
Recreational Value: Low.

94.4.2 MIDDLE MARAROA RIVER

Location: From the South Mavora Lake the river flows south alongside the Snowden Forest on the right bank and open tussock-covered river terraces on the left.
Section end location: NZMS1, S150/060170.
Maps: NZMS18, Sheet 22 Wakatipu; NZMS1, Sheet S141 Mavora; S150 Mossburn.
Length: 25km.
Average gradient: 1:125 8m/km.

RECREATIONAL USE:
Motor launches: Not possible to use the river below the South Mavora Lake.
Jet boats: Normally too shallow to go beyond the lake.
Drift boats: The first gorge may be a little too narrow and rough for all but the smallest craft. With above normal flows good water exists. One rapid may need to be portaged.
Rafts: Possible to raft from the lake at high flow. Exciting water for the first 5km or so.
Canoes/kayaks: Rapids of Grade 3+ can be generated in the first gorge. The Southland Canoe Club uses a section of the river below the small foot swing bridge as a slalom site. It is normally too small in summer for use, but with a good flow it is the only slalom course south of the Ahuriri River with Grade 3 water needed for slaloms of national standard and as such is a particularly valuable stretch of river.
Pack floating: Unused at the moment but does offer a good trip.
Swimming: Little used — most picnicking is centred on the eastern shore of the South Mavora Lake and swimming is more frequent there.

Scenic description: From the lake the current gradually increases but flows smoothly without rapids for some distance, then enters a gorge-like section with hard rock banks and sharp edged rock fragments in the bed. The rapids become progressively larger as the gradient increases, with three notable drops over boulders. The river banks are not high and portages are straightforward through the beech forest. In late summer the river can become too low for boating. The rapids ease and the river bank on the left opens out onto grassy tussock country with matagouri scrub. The river is shallow and of gravel down to a small swing bridge whereupon it squeezes through another short stretch of low, gorge-like banks. (This is the slalom canoeing site). The bed then widens again over fine shingle with some larger lumps of rock creating white water. The river gradually becomes wider and shallower with rapids less frequent.

Scenic value: Impressive.
Recreational value: High.

94.4.3 LOWER MARAROA RIVER

Location: From the point where the river leaves the Snowden Forest and the road, it flows out onto a wide grassy plain, south to the Waiau.

River confluence location: NZMS1, S149/746962.
Maps: NZMS18, Sheet 24 Invercargill; NZMS1, Sheet S149 Manapouri; S150 Mossburn.
Length: 45km.
Average gradient: 1:190 5.3m/km.

RECREATIONAL USE:
Motor launches: Too shallow. Not used at all.
Jet boats: Exciting few kilometres from the Waiau junction when the river is flowing high. Length will depend upon levels. The river is shallow and stony and some skill is required to pick the deepest channels. The water is swift and steep as it flows into the Waiau.
Drift boats, rafts: Not used as the river becomes very shallow and the rapids are little more than riffles over shoals. The upper section is preferred and this section is ignored.
Canoes/kayaks: Canoeable except in late summer when the river is very shallow. Rapids are easy riffles over shoals in the main part — suitable for novice use and not used often. The Oreti and Aparima rivers are similar and closer to population centres.
Pack floating: Too shallow.
Swimming: Some deep pools but the Oreti and Aparima, being similar and closer to towns, are much more heavily used.

Scenic description: From the point where the river leaves the road it flows out onto wide alluvial shingle flats and old river terraces now covered in tussock and grassland. The river is wide and shallow, braided in places and with a slow current. There are numerous shingle shoals. In some places, as beneath the State Highway 94 bridge, the current is squeezed up against low, crumbling, stony banks. Some broom, gorse and the occasional low stunted willow grow along the banks in the lower end of this river section. Matagouri is the most frequent river bank scrub. From the main road down to the Mararoa confluence the river tends to run in a single channel as the gradient increases. The landscape tends to be dry and barren. The Whitestone River is much smaller than the Mararoa and much too small for boating. It joins the Mararoa some distance below the S.H. 94 bridge.

Scenic value: Uninspiring.
Recreational value: Intermediate.

94.5 WAIAU RIVER — MARAROA TO MONOWAI 797000 797370

Location: The Waiau River, upon leaving the diversion dam below the Mararoa, flows south through scrub and tussock country to the Monowai confluence.
Section end location: NZMS1, S158/695759.
Maps: NZMS18, Sheet24 Invercargill; NZMS1, Sheet S149 Manapouri; S158 Monowai.
Length: 27km.
Average gradient: Slight.

Recreational use and scenic description: Below the diversion dam there seems to be a certain amount of seepage so that water lies in the old river bed even in late summer, with a perceptible flow in winter and spring. However, it is shallow and seldom deep enough for recreational use. The bed is stony with wide beaches of rocks with crumbling banks clothed in coarse tussock and matagouri scrub. A number of small creeks flow into the river along the left bank and these add to the flow sufficiently to create moving water by the time the Waiau reaches the Monowai junction. The tussock country with some beech forest is somewhat akin to the Upper Mararoa River which is to be preferred. This section of the river was used a lot until the dam was built. The main side creeks are Whare Creek and Redcliff Creek but neither is of sufficient size for boating, being steep and stony with normally only a trickle of water. At Monowai the river banks change dramatically from high, crumbling shingle to a narrow rocky gorge. There is insufficient flow to create rapids but there is a large quiet pool near the road bridge to Monowai which is used for splashing about and swimming in summer.

Scenic value: Uninspiring.
Recreational value: Insignificant.

94.6 WAIAU RIVER — MONOWAI TO CLIFDEN

Location: From the Monowai confluence the Waiau River flows south in a somewhat meandering pattern to Clifden.
Section end location: NZMS1, S167/795454
Maps: NZMS18, Sheet 24 Invercargill; NZMS1, Sheet S158 Monowai; S167 Tuatapere.
Length: 43km.
Average gradient: 1:575 1.7m/km.

RECREATIONAL USE:
Motor launches: Normally far too shallow.
Jet boats: Excellent water with high flow. The hydro works have left only marginal boating water for most of the year. Few rapids.
Drift boats, rafts: Good water although it tends to be shallow, especially in summer when it may be unnavigable. Few good rapids although the scenery tends to make up for it.
Canoes/kayaks: This is now the most frequently used section of the Waiau for canoeists. Considered as offering a good trip for the less experienced canoeists without demanding rapids.
Pack floating: Unused.
Swimming: Some good pools but not used to any great extent.

Scenic description: Below Blackmount the Waiau flows through the eastern extremity of the Dean Forest and on the left bank, Taylors Bush and Mangapiri Bush, which add greatly to the scenic attributes of the area. For the most part the river lies in tussock grassland that becomes very dry and barren in summer. Most of the river's use comes in winter or spring when water levels are at their maximum. The banks tend to be of crumbling shingle with narrow gravel beaches although there are areas of rock banks which are low and not large enough to be described as bluffs. Some outcrops of hard rock occur in the river bed creating some small rapids. Willows occur in the lower end of this river section. The river does not flow swiftly and is quiet and peaceful at Clifden.
From the Wairaki River confluence the river splits over shallow shingle islands.

Scenic value: Moderate.
Recreational value: High.

94.6.1 MONOWAI RIVER 797370

Location: The Monowai River drains Lake Monowai into the Waiau River near Blackmount. The lake has been raised to provide extra storage for hydro-electricity generation. The river is controlled by a dam at the lake outlet and has a powerhouse at the Waiau confluence.
River confluence location: NZMS1, S158/695759
Maps: NZMS18, Sheet 24 Invercargill; NZMS1, Sheet S158 Monowai.
Length: 10km.
Average gradient: 1:137 7.3m/km.

RECREATIONAL USE:
Motor launches: Nil.
Jet boats: Nil — too shallow. The dam at the lake outlet prevents the passage of boats and the lower end is blocked by the powerhouse and its canals. There is no satisfactory launching along the river which would probably be too short to offer a worthwhile trip by itself.
Drift boats, rafts: Too shallow for most of its length with overhanging trees creating awkward obstructions in a number of places.
Canoes/kayaks: Not used a great deal although of sufficient size when the dam is letting water pass. Rapids are of shallow shingle and are easy, provided that canoeists exit before reaching the beginning of the canals flowing down to the powerhouse.
Pack floating: Not used.
Swimming: At the lake end. Swimming is prohibited at the lower end.

Scenic description: The river leaves the lake outlet dam to flow over a shallow gravel bed between overhanging trees — mostly beech with some willows. For most of the river's length beech, manuka and matagouri grow along the river banks. Most of the river's gradient occurs in the lower end of the river where canoeing or boating is ill-advised because the canals take water into the powerhouse. The old river bed carries little water over the lower 2km to the Waiau.

Scenic value: Moderate.
Recreational value: Low.

94.6.2 WAIRAKI RIVER 797320

Location: The Wairaki River flows into the Waiau between Monowai and Clifden, draining the dry tussock country to the north.
River confluence location: NZMS1, S167/766568
Maps: NZMS18, Sheet 24 Invercargill; NZMS1, Sheet S158 Monowai; S159 Morley; S167 Tuatapere.
Length: 45km (includes Letham Burn).
Average gradient: 1:80 12.5m/km.

Recreational use and scenic description: The Wairaki River flows in a steep shingle and stony bed with only a small quantity of water trickling down it in channels around islands covered in scrub. The river passes through open grassland for most of its length. With rain the river can rise suddenly to become a torrent of water flowing swiftly but remaining shallow. It is not boated at all as far as is known.

Scenic value: Uninspiring.
Recreational value: Insignificant.

94.7 WAIAU RIVER — CLIFDEN TO TE WAEWAE BAY

Location: From the road bridge at Clifden the Waiau River flows slowly south to the sea at Te Waewae.
River mouth location: NZMS1, S175/716250
Maps: NZMS18, Sheet 24 Invercargill; NZMS1, Sheet S167 Tuatapere; S175 Orepuki.
Length: 29km.
Average gradient: 1:900 1.1m/km.

RECREATIONAL USE:
Motor launches: It is possible to use small craft with outboard motors over this length of the river provided the propeller is lifted when passing over shallows. The river is not used to any great extent by such craft.
Jet boats: Most jet boaters prefer the upper river between Manapouri and Te Anau. However, the bottom section is often boated to Clifden and beyond depending upon water levels. Considered easy boating to Clifden with the river shallowing out above that point.
Drift boats, rafts: Slow current becoming sluggish does not offer attractive water for these craft. Used, but not often.
Canoes/kayaks: Not used to any great extent because of the sluggish current and the lack of rapids. An easy trip.
Pack floating: Unused.
Swimming: Some quiet pools are used.

Scenic description: The Waiau River from Clifden runs wide and flat with a number of shallow shingle shoals, particularly in summer. At a number of points along this reach of river, beech trees overhang and there are numerous willows. Grassland with scattered scrub covers the country beyond the immediate river banks. There is generally a narrow shingle beach between river bank and water channel. The water is clear with a steady, sluggish current. Below the Tuatapere Bridge the river becomes braided into two or three channels in places and is shallow.

Scenic value: Moderate.
Recreational value: Intermediate.

94.7.1 ORAUEA RIVER 797170

Location: The Orauea River has its origins in the swampy land immediately to the south of Ohai between Nightcaps and Birchwood. It flows west for a short distance to join the slightly larger Ohai Stream and its tributary, the Morley Stream, and then flows south to junction with the Waiau a little upstream of Tuatapere.
River confluence location: NZMS1, S167/797364
Maps: NZMS18, Sheet 24 Invercargill; NZMS1, Sheet S167 Tuatapere; S168 Nightcaps.
Length: 72km (includes Ohai and Morley Streams)
Average gradient: Slight.

Recreational use and scenic description: This river is often of canoeable size from Ohai but is seldom used. It cannot be used by wide craft because it is choked with willows in many places. The river tends to be narrow and muddy, flowing between grassy banks with willows and log snags. Below Fendwick the willows stand back further from the river allowing easier navigation. The stream is quiet flowing and without rapids or white water. Below Pukemaori a few beech trees add interest but the predominant vista is of open, swampy, farmland. It is, in fact, little more than a farm creek and drain meandering through its rural setting.

Scenic value: Uninspiring.
Recreational value: Insignificant.

95.0 APARIMA (JACOBS) RIVER 789000

Location: The Aparima River rises in the swampy valleys of the Takitimu Mountains to the south of Mossburn. It then flows south over a shallow alluvial shingle bed to enter Foveaux Strait at Riverton through a large estuary. The river is also known as Jacobs River, although Aparima is the more common name, but Jacobs River Estuary is the usual name for the river mouth area.
River mouth location: NZMS1, S176/073067
Maps: NZMS18, Sheet 24 Invercargill; NZMS1, Sheet S150 Mossburn; S159 Morley; S168 Nightcaps; S176 Riverton.
Length: 145km (includes Waterloo Burn)
Average gradient: Slight.

RECREATIONAL USE:
Motor launches: Only used in the estuary and the tidal length of the river. A number of fishing craft are based in the estuary.
Jet boats: When high can be boated for the lower 32km and is considered to be tricky and exciting with numerous shallow rapids and snags. Most trips launch at Thornby and not at the estuary.
Drift boats, rafts: Generally little use is made of this river by such craft, due to the shallow water and lack of big rapids except when flooded, in which case rivers such as the Mataura offer better water. Not used to any great extent.
Canoes/kayaks: Not used to any great extent except by the canoeists who live locally and by some 'picnic' canoeists. Generally, this river is thought inferior, although similar to the Oreti, and the nearby Mataura and Waiau Rivers tend to be used in preference. Most canoeists use the upper Mararoa when there are high water levels.
Pack floating: Unused.
Swimming: Some pools are used, especially in the lower river area, usually associated with picnicking.

Scenic description: The river can flood very quickly and disasterously — then it becomes very swift and there is a danger of being swept into the riverside willows. This presents a real hazard and has been the cause of a number of near fatalities. Experienced boaters keep well away when this river is running high. The same applies to the Oreti. The Southland Catchment Board is currently investigating flood control on this river which may well affect (for the better) recreation in this area. In late summer there is little surface water in the river and large expanses of shingle are left exposed. Roads follow much of the river allowing easy access.
The river is seldom used above the Dunrobin Valley where the river is very shallow, even in spring. From this valley downstream the river flows over shallow shingle, often split into numerous channels around gorse and broom-covered islets. The river steadily increases in size but remains as a shallow channel meandering over a wide gravel bed. Small willows appear along the banks some 5km below Hamilton Burn confluence — flax clumps and gorse may also flank the river channel. Willows become a major problem for boaters below Wreys Bush and they obstruct any view beyond the immediate river bed.

Scenic value: Moderate.
Recreational value: Low.

95.1 TRIBUTARIES OF THE APARIMA

There are three main tributaries of the Aparima. They are the Hamilton Burn, the Otautau Stream and the Pourakino River. Hamilton Burn and a number of small creeks flow into the Aparima in the upper catchment area. These creeks are almost dry in late summer but rise quickly with rain. They flow between crumbling shingle banks covered in gorse and broom, with grassland flanking the river beyond the banks. There are

A SURVEY OF RECREATION ON THE WAIAU RIVER, SOUTHLAND 1982 - 1985

J. M. Riddell

May 1989

Published by the Southland Acclimatisation Society

7. Discussion

7.1. Recreation Survey.

Assuming the 1983/84 data to be the most representative dataset the data analysis established river usage patterns. Whitebaiting, angling and onlooking were the three dominant activities. For the survey period, users averaged about 54 people per day over the whole river. This varied between zones and months, with zone A having the greatest usage (32 people per day) and zone E the least (3 people per day). October recorded the greatest (26 people /day) and February the least (2 people / day) usage. River usage on weekend days and holidays was much greater than on week days, varying between 1.5 times (zone B) and 9.9 times (zone D). Adult users outnumbered juniors by 3:1, while men outnumbered women by 2:1.

Total usage of the whole river for 1983/84 survey period was calculated to be 9554 people. This figure was adjusted to take into account the likely turnover of users for each activity during the day. This gave a revised estimate of 19159 people for the survey period. As the survey period was wetter and cloudier than normal, with higher than average river flows, the revised estimate of total users is likely to be low given that weather and river conditions have some influence on the number of river users. The zonal analysis of activity showed that considerable variation in the pattern of usage occurred between zones and within zones depending on the month of the survey period. There are however some important aspects of the data that help explain the observed usage patterns.

Generally the number of people using the Waiau River for recreation was low, in comparison to the Oreti and Mataura Rivers for example (M.Sutton, pers comm.) As the basis of the data analysis was different to all previous studies, specific comparisons of mean users per day with other Southland and New Zealand rivers were not possible. The low usage can be primarily attributed to the remoteness of the river and in particular the distance from a major population centre. Those who use the river, appear to plan their trip for the whole day, weekend or longer, because of the distance. This concept was supported by the number of camps and caravans recorded on the river and the fact that adverse weather and river conditions did not always affect the number of river users, but the type of day (weekday or weekend/holiday) did. The reason people make the extra effort to journey to the Waiau in favour of closer more accessible rivers, relates to the appeal of the wilderness/scenery qualities the river has to offer. This stems from the remote location and in particular the native bush which flanks the western side of the river. The people who make the extra effort to go to the Waiau River tend to regard it highly in terms of it's wilderness qualities.

Whitebaiting was confined to zone A at the mouth of the river. Good numbers of whitebaiters were recorded and the Waiau River is considered to be a regionally important whitebait fishery. The main attraction of the fishery is the traditional amateur nature of the whitebaiting at the Waiau, in that there are no stands (as at the Mataura). This type of situation seems to suit the casual whitebaiter, as he/she is less constrained by rules and regulations. The number of whitebaiters using the Waiau is going to be highly dependent on the run in any given year. Given a good season large numbers would be expected and given a poor run few whitebaiters would be observed. For the three survey periods, the seasons were about average (M. Sutton, pers. com.). On occasions whitebaiters were noted angling at the same time.

The other two main activities (angling and onlooking) were found to be closely related, in that typically many anglers were accompanied by other people (family and friends) who engaged in onlooking. Although the number of onlookers outnumbered the number of anglers, the main purpose for the trip to the river was usually for angling, with other activities being a "by-product".

The distribution pattern of users along the river was found to hinge around vehicle access points. In other words people were usually only found where vehicle access to the river bank was possible. As a consequence the vehicle access points were the major angling and onlooking spots. In zone A activities were concentrated round the mouth of the river. Access is possible from both sides. In zone B users were usually at the Domain in Tuatapere township or on the river downstream from the Clifden bridge. The main sites in zone C were above the Clifden bridge, Motu Bush area and at the Wairaki River mouth. In zone D most activity centred around the old Monowai bridge and the Monowai Power Station. In zone E most activity took place below the Mararoa weir structure (predominantly angling), at Jericho Hill Road and at the mouth of Excelsior Creek. All access sites are shown in Figure 23.

Analysis of the occurrence of cars, caravans, boats and camps closely followed the distribution pattern of activities. Caravans and camps were most prevalent at the mouth of the Waiau, the occupants of which were mostly engaged in whitebaiting and angling. The large numbers of caravans and camps reinforces the notion that many people using the Waiau River resource go for time periods of more than a day, making a special effort to use the resource. Large numbers of caravans were found in zone B also and these were predominantly at the Tuatapere Domain where kitchen/toilet facilities are available. Camps outnumbered caravans in the other three zones.

Boats were not common on the river. Those observed in zone A were often being used in association with angling activities. Boats recorded in other zones were associated with occasional canoeing and rafting parties. It should be noted that the Waiau River is the only Southland river on which all forms of boating (including jet boating) are permitted, without restrictions on speed and location. The only regulation in operation applies in zone A were boaters are limited to 5 knots within 200 metres of the river bank.

Assuming the proportion of river users undertaking each recreational activity to be always equal in spite of the different number of total users, different years surveyed and different length of the survey period, it is possible to compare the Waiau River data to other studies. Table 23 compares the 1983/84 results with the Oreti (Unwin op.cit), Lower Clutha (Whiting op.cit), Ahuriri (Jellyman op.cit) and Rangitata (Davis op.cit)
Rivers.

Table 23. Percentage of Recreational Activities Undertaken on the Waiau, Oreti, Lower Clutha, Ahuriri, Rangitata and Rivers.

Activity	Waiau	Oreti	Lower Clutha	Ahuriri	Rangitata
Angling	25.0	5.6	34.3	41.6	66.9
Onlooking	29.3	50.6	29.5	14.9	14.0
Picnicking	6.9	17.0	15.0	11.4	4.1
Boating	2.3	8.5	5.8	5.0	3.9
Swimming	0.2	16.4	4.0	0	1.5
Walking	2.1	*	*	*	*
Whitebaiting	33.3	*	*	*	4.9
Camping	*	0	8.0	23.8	1.0
Other	0.8	1.9	3.4	3.3	8.6

N.B. * not used as category.

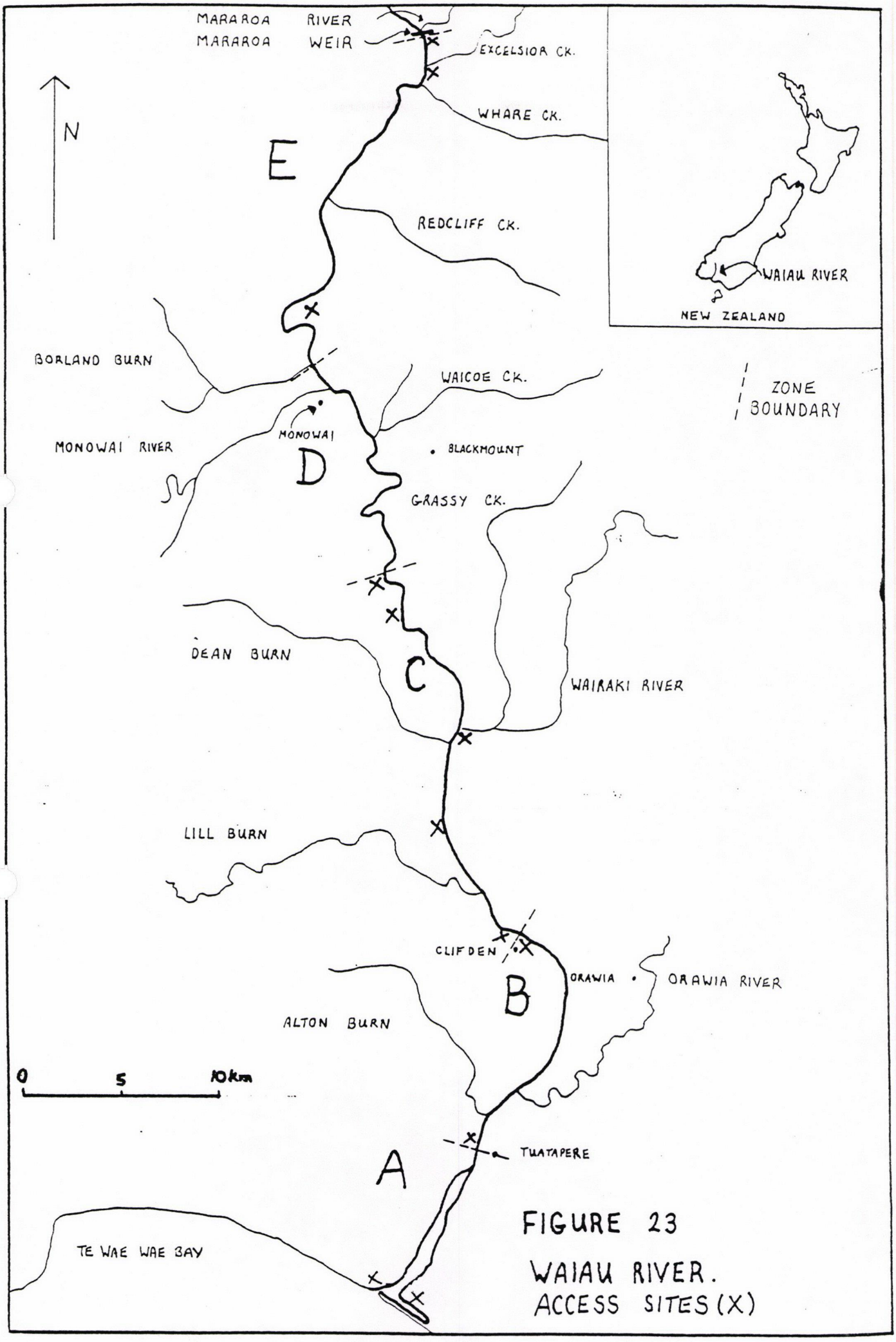


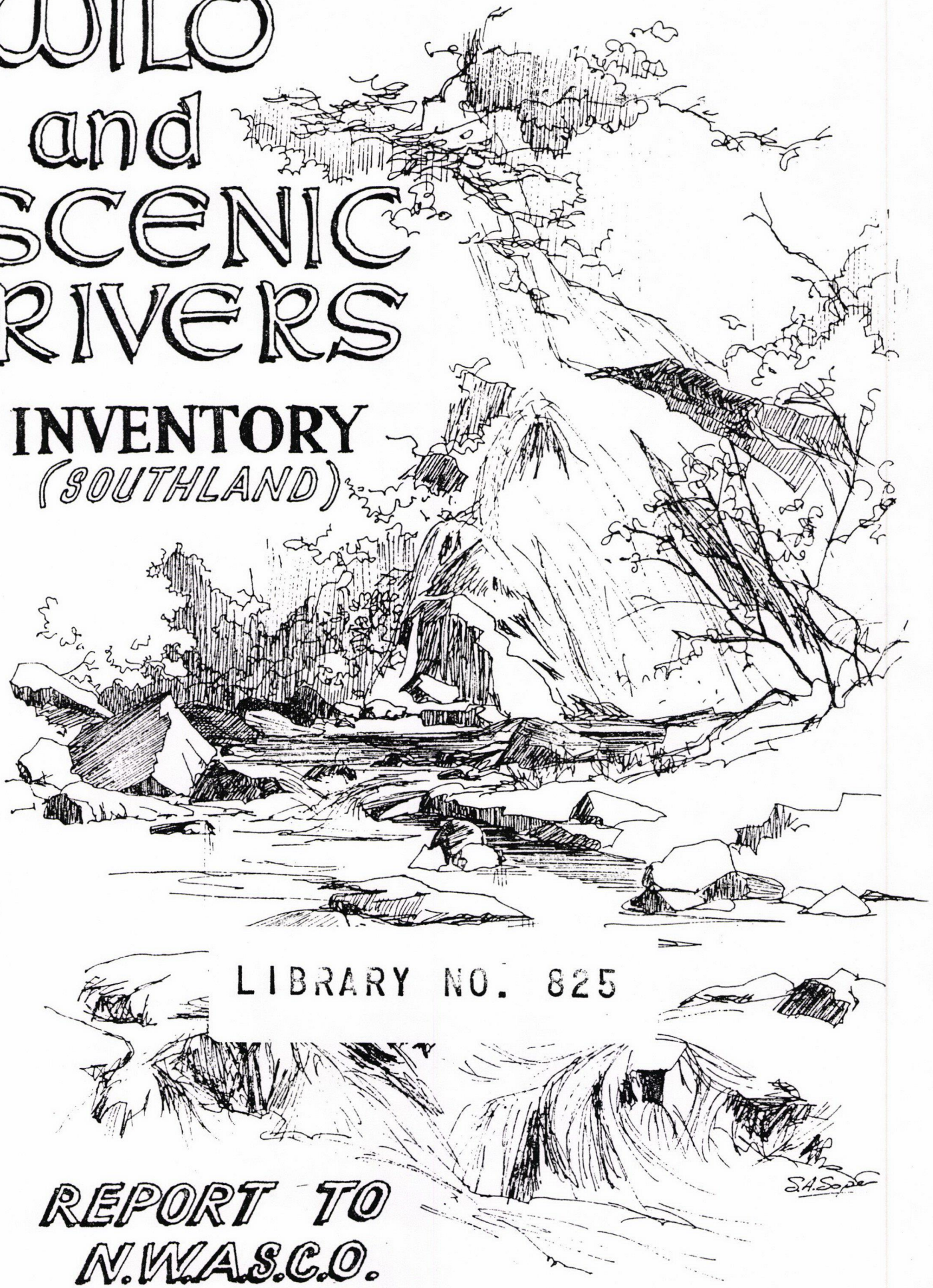
FIGURE 23

WAIAU RIVER.
ACCESS SITES (X)

SOUTHLAND CATCHMENT BOARD

WILD and SCENIC RIVERS

INVENTORY (SOUTHLAND)

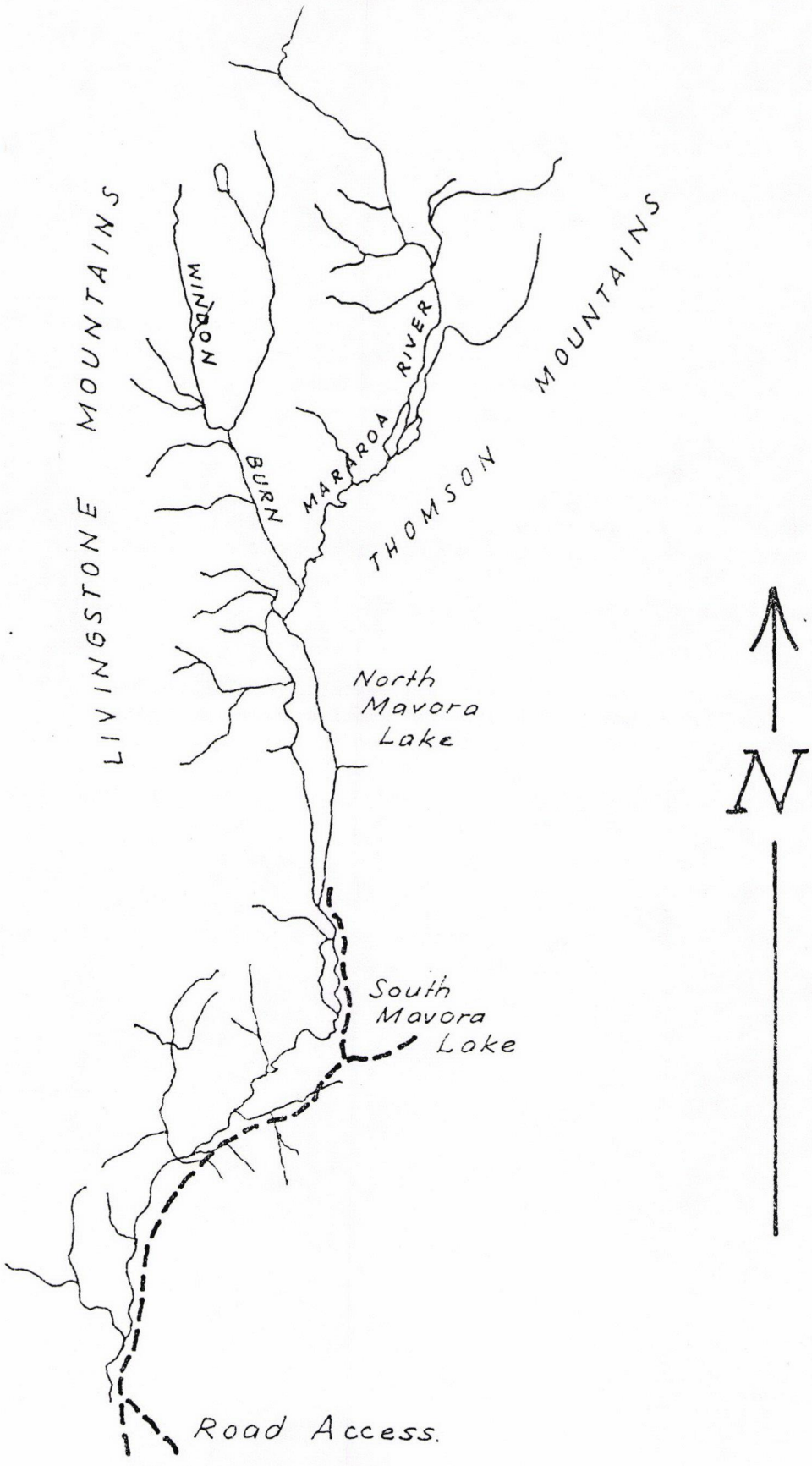


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REPORT TO N.W.A.S.C.O.

15TH MAY 1981

PREPARED BY W.J.TUCKEY M.Sc.



MARAROA RIVER AND TRIBUTARIES

UPSTREAM OF GRID REFERENCE N.Z.M.S. 150: 060 170

Scale: 1: 250,000.

3. UPPER MARAROA RIVER INCLUDING WINDON BURN

The Upper Mararoa River and the Windon Burn, from above GR S150 060 170, are of national significance because of their scenic and recreational attributes.

Above the Mavora Lakes the Mararoa River, including the Windon Burn, is essentially in its natural condition and has been recommended in "Mavora - a Study of Reconciliation of Interests in Wilderness" by O'Connor, Batchelor and Davison, 1979 as being left in this condition as Wilderness. This area has outstanding scenic attributes.

The Mavora Lakes and the section of river between them is of national significance both scenically and recreationally. This area is an excellent trout fishery, as is the whole of the nominated section of river, is used by educational groups as a out-door experience and over the summer months is extensively used by campers, anglers, trampers and one-day picnickers. The forested-ringed lake and views up the Mararoa Valley have a national reputation.

Below the lakes the Mararoa River is of national significance because of the excellent canoeing water available with white water and a well-utilised slalom course being present. This stretch also has scenic attributes.

Scenic area of national importance with its recreational qualities being of almost equal importance.

naturalness	5 (grading to 4 at the bottom of the nominated section)
water quality	5 (grading to 4 at the bottom of the nominated section)
setting	5 (grading to 4 at the bottom of the nominated section)
scenic features	5 (grading to 4 at the bottom of the nominated section)

Report to: National Water and Soil Conservation Authority

SUBMISSION ON THE DRAFT INVENTORY OF WILD AND SCENIC RIVERS OF NATIONAL IMPORTANCE

BY

L.D. TEIRNEY

M.J. UNWIN

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FISHERIES ENVIRONMENTAL REPORT NO. 28

N.Z. MINISTRY OF AGRICULTURE AND FISHERIES

CHRISTCHURCH

NOVEMBER
1982

tussock country to the west. Both rivers have very similar characteristics, and together are considered to constitute a nationally important wilderness river fishery.

Like the Sabine and D'Urville Rivers, the Greenstone and Caples could almost be regarded as prototype wilderness fisheries. Nearly 75% of the respondents rated the rivers as outstanding for both scenic beauty and solitude, with correspondingly low ratings being given for access. The valleys of both rivers are popular tramping routes, and this was reflected in the survey results - over 55% of the respondents noted tramping as an associated activity, with camping and shooting being almost as popular. In recent years, road access has become available to the mouth of the Greenstone, but this does not seem to have affected the character of either river to any significant extent.

Both the Greenstone and Caples Rivers are fine dry fly fisheries - well over 80% of the respondents reported using dry flies, although nymph fishing was also popular. Catch rates were good and both rivers produced large (although not trophy sized) trout. The rivers had a wide ranging appeal to anglers - despite the lack of data on Southern Lakes part-season licence holders, anglers were recorded from Nelson, Canterbury, Otago and Southland acclimatisation districts.

Both rivers are important spawning and rearing tributaries for brown and ainbow trout from Lake Wakatipu, particularly the Greenstone below its source in Lake McKellar (R.T. Hutchinson pers. comm.). In view of this, there is little value in identifying any particular reach of either river as being of more value than any other - angling takes place throughout both river systems. Consequently, the entire Greenstone/Caples river system, from their respective sources to Lake Wakatipu, is nominated for inclusion in the inventory.

4.2.11 Eglinton River

The Eglinton River flows generally southwards from its source in Lake Gunn, and discharges onto the eastern shores of Lake Te Anau. In many ways, the Eglinton is similar to the Greenstone, in that it lies in a beech forest and

tussock covered valley, and is a high quality dry fly fishery. However, the Eglinton is of particular value due to its proximity to the Te Anau-Milford highway, which is a major tourist route, following the Eglinton closely for much of its length. Consequently, the river is much more accessible than some of its more remote counterparts, and is therefore considered to be a nationally important scenic river fishery.

The Eglinton River was fished by anglers from throughout Otago and Southland, with anglers also being recorded from Canterbury. However, it is likely that the Eglinton attracts anglers from a far wider area than this - as with all Southern Lakes rivers, the survey data do not give an adequate assessment of usage of the Eglinton. The upper section of the Eglinton Valley lies within Fiordland National Park, and is a popular camping area with visitors from throughout New Zealand.

Angling usage of the Eglinton was distributed throughout the length of the river. Rainbow trout are the basis of the fishery, and were of good size - over half of the respondents indicated that fish in the 55-65 cm range were available. Due to its lake origin, the Eglinton River provides a stable spawning and rearing stream, and is considered to be one of the two most important spawning areas for brown and rainbow trout in Lake Te Anau (R.T. Hutchinson pers. comm.). The Eglinton headwaters are also notable as one of the few areas where landlocked Atlantic salmon are still recorded. Although it is nominated for inclusion in the inventory solely on the basis of its value to anglers, the Eglinton River (like other lake tributaries e.g. the Hunter and Greenstone Rivers), is also of value as an integral part of the Te Anau system.

4.2.12 Mataura River

The Mataura River forms the boundary between the Otago and Southland acclimatisation districts, and has for many years enjoyed an international reputation as an outstanding brown trout fishery. The survey results do not provide any information on usage of the Mataura River by overseas anglers, but they leave no doubt as to the value and quality of the Mataura fishery to New

4.3.11 Oreti River

The Oreti River was the second most heavily fished river in Southland (after the Mataura), receiving an estimated 35 000 visits annually from 2 900 anglers. Most of these were from Otago and Southland, but anglers from Canterbury, Nelson, Taranaki and Auckland were recorded. Moreover, the Oreti River fishery was sufficiently highly valued to justify at least a regionally important classification.

Due to the possibility that Southland anglers were conservative when evaluating their rivers, the Oreti River should be considered for inclusion in the inventory as a recreational river fishery. The upper Oreti River above Mossburn has significant value as a wilderness fishery, and produces trophy sized fish in excess of 60 cm, while large sea-run brown trout are caught near the river mouth (e.g. in September 1982, an 11.25 kg brown trout, over 92 cm long was caught in the tidal reach of the Oreti).

4.3.12 Mararoa River

The Mararoa River, which drains the Mavora Lakes and is one of the main tributaries of the Waiau River, supports a good quality brown trout fishery, particularly in its upper reaches. Like the Eglinton and Greenstone Rivers, the upper Mararoa River lies in a valley with beech forest and tussock cover, and this area was highly rated for scenic beauty and solitude. The Mararoa River as a whole is certainly a fishery of regional importance, but given the criteria adopted in this submission its status in a national context is unclear. Like the Maruia River, there is a need for more data on the Mararoa River fishery.

4.4 Summary of Nationally Important Angling Rivers

4.4.1 North Island rivers of national importance

River	Reach definition	Category
Tongariro River	Poutu intake (N112: 304840) to Lake Taupo (N102: 264070)	Recreational/Scenic
Tauranga-Taupo River	Source to Lake Taupo (N102: 380107)	Recreational

River	Reach definition	Category
Ahuriri River	Source to Lake Benmore (S117: 375745)	Scenic/Recreational
Clutha River	Lake Wanaka outlet (S115: 968162) to Kawarau confluence (S133: 030690)	Recreational
Hunter River	Source to Lake Hawea (S108: 645215)	Wilderness
Greenstone and Caples Rivers	Greenstone: Source to Lake Wakatipu (S122: 293812) Caples: Source to Greenstone River (S122: 260812)	Wilderness
Eglinton River	Lake Gunn (S122: 045853 to Lake Te Anau (S130: 833516)	Scenic
Mataura River	Source to sea	Recreational

4.4.3 Rivers which may be nationally important

River	*Reach definition	*Category
Tukituki River	Waipukura (N141: 932809) to the sea (N135: 359263)	Recreational
Mangatainoka River	Ruapae Falls (N153: 026960) to confluence with Manawatu River (N149: 364311)	Recreational
Wanganui River	Source to Taumaranui (N101: 766127)	Scenic/Recreational
Karamea	Taipo confluence (S18: 801158) to lower gorge (S12: 655230)	Wilderness
Travers	Source to Lake Rotoiti (S33: 196576)	Wilderness
Maruia	Maruia Springs (S46: 750966) to Warwick River confluence (S39: 640304)	Scenic
Grey	Upper: S46: 544929 to Waipuna (S45: 250005) Lower: Ikamatua (S45: 155078) to sea	Recreational/Scenic
Ahaura	Waikiti River confluence (S52: 346744) to Ahaura (S45: 032003)	Scenic
Opihi	Pleasant Point (S111: 684695) to sea	Recreational

River	*Reach definition	*Category
Taieri	River mouth at S172: 900490 Reach uncertain	Recreational
Pomahaka	River mouth at S171: 366366 Reach uncertain	Wilderness (upper)
Oreti	Source to Mossburn (S150: 228924)	Wilderness (upper)
	Mossburn to sea	Recreational (middle and lower)
Mararoa	Source at S141: 153340 Reach uncertain	Scenic

* Reach definition and category should be considered as provisional

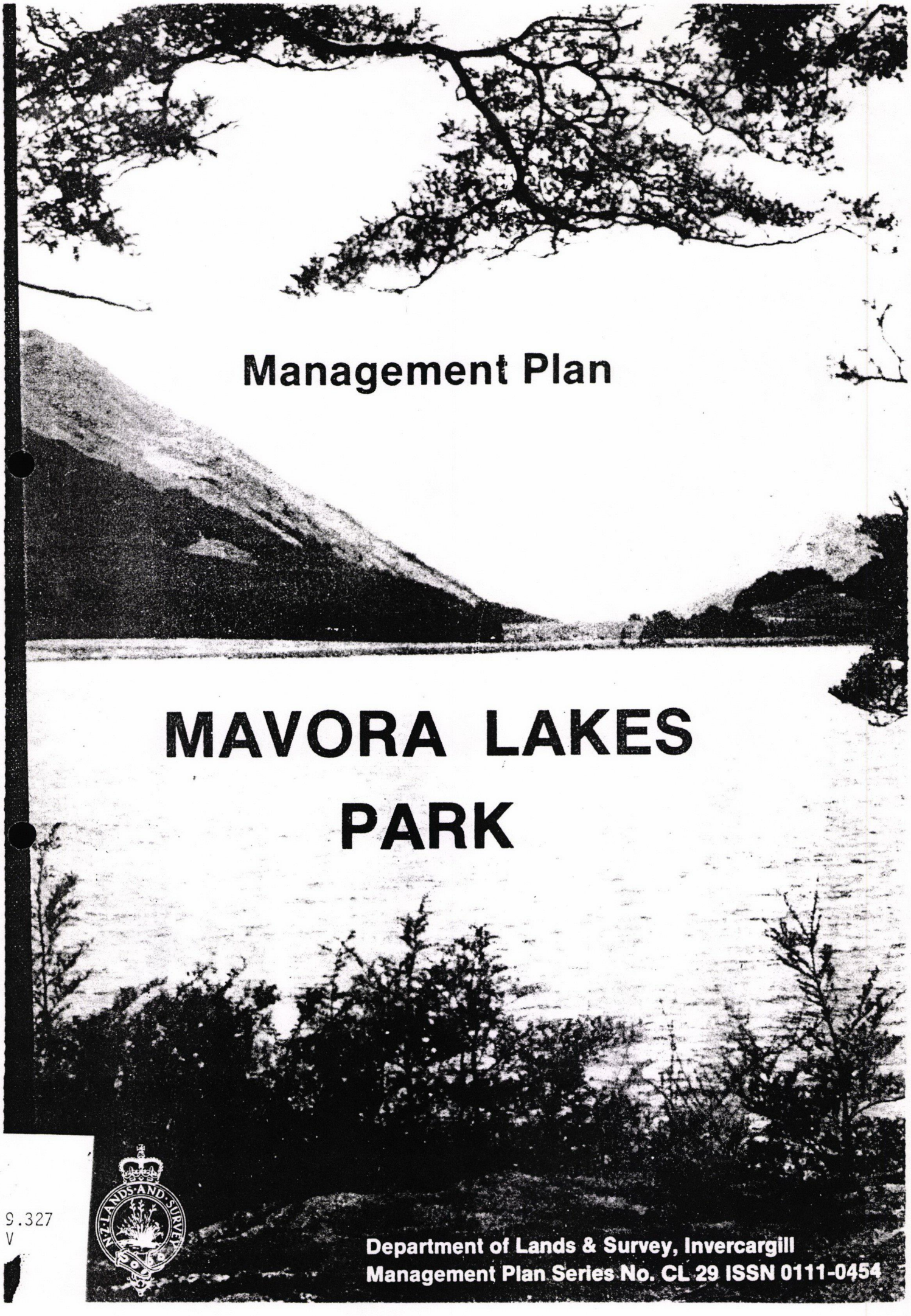
5. OTHER RIVER FISHERIES

The best known recreational river fisheries are based on brown and rainbow trout and quinnat salmon, and those of national importance have been identified and discussed in Sections 3 and 4 of this report. However, these three species comprise only a small part of the New Zealand freshwater fish fauna, which consists of a total of 27 indigenous and about 16 introduced species. Species in both categories vary widely in their value to recreational and commercial fisheries. M[illegible] are of no fisheries value at all, but some have substantial existing importance while others have potential value. Few of these fisheries have been the subject of any study, nor have national surveys of the values associated with them been carried out. Nevertheless in a broad ranging analysis of the fisheries values of New Zealand's rivers, and therefore of the values of the rivers themselves, discussion of these fisheries is warranted.

5.1 Types of Fishery

5.1.1 Lamprey (*Geotria australis*)

Lampreys were exploited by the Maoris, and although this practice has largely ceased, elaborate weirs to capture lampreys by the traditional method are still constructed on the Wanganui River (Todd 1979).



Management Plan

MAVORA LAKES PARK

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V

Department of Lands & Survey, Invercargill
Management Plan Series No. CL 29 ISSN 0111-0454

MAVORA LAKES PARK

MANAGEMENT PLAN

Published by:

Department of Lands & Survey
Invercargill
July 1985

Management Plan Series No. C.L.29
ISSN 0111—0454

1 INTRODUCTION

1.1 Background

Mavora Lakes Park is an area of approximately 35,000 hectares located some 42km north-east of Te Anau.

The area has been subject to pastoral grazing by sheep and cattle since the 1850's but very little land development has been carried out within the area. The effect of deer and sheep grazing and attendant burning has aggravated erosion. Extensive burning, the release of rabbits in 1860 and deer in 1900 eventually led to a decline in sheep numbers. In 1962, the area in the vicinity of West Burn was oversown from horseback. The remainder is predominantly natural.

Prior to 1966 the area was part of the Burwood Station pastoral lease. With the Crown purchase of the area in 1966 it became part of what is now known as Hikuraki Farm Settlement. At the time of the Crown's purchase it was intended that the area would be developed for settlement by landless farmers under the Land settlement scheme.

Approximately 2,350 hectares in the upper Mararoa River Valley was subsequently partitioned from the farm settlement and included in the adjoining Elfin Bay pastoral lease. The balance of the area was retained for short-term summer grazing.

Between 1966 and 1974 approximately 15,000 ewes were grazed in the region over February - March. In 1974 the ewes were taken out and up to 1100 cows were grazed over May-August, and 200 heifers over December - February. In 1982 the Upper Windon Burn area was excluded from grazing, and 600 cows were wintered on the remainder of the area.

The Department of Lands and Survey administers the area on a day to day basis on behalf of the Land Settlement Board and is responsible for its management.In August 1982 the Land Settlement Board formally approved in principle the establishment of a Park within this area, and in July 1985 confirmed the creation of the Mavora Lakes Park. The Park incorporates some 35,000 hectares, the majority of which originally formed part of the Mavora Farm Settlement. It also includes approximately 1860 hectares of former State forest, (i.e. the area is Snowdon State forest contained within the Mavora Lakes catchment area).

Since the improvement of access there has been a marked increase in recreational use of the area, both active and passive. This increase in popularity has meant that positive management decisions affecting this resource are necessary to maintain the semi-wilderness rural character of the area for the use, benefit and enjoyment of the public.

1.2 The Management Area

When considering Mavora Lakes Park management, it is necessary to study the whole of the Upper Mararoa and Windon Burn catchments

2.11 Landscape (11)

The Mavora Lakes, Windon Burn and Upper Mararoa River valleys form a well defined valley enclosed by the Livingstone and Thomson Mountains. The Mavora Lakes are glacial in origin.

Evidence of past glacial action can be seen in the U-shaped profile of the valley systems and the occurrence of such characteristic glacial landforms as ice shorn benches, hummocky moraine, truncated spurs, and cirques.

The original tussock and beech vegetation pattern of the area has been largely modified by burning, browsing wild animals and the early introduction of extensive grazing. While limited extensive cattle grazing continues as a land use today and provides an additional scenic dimension, the landscape of the valley system still remains essentially natural in character due to the low occurrence of man-made structures and elements, and the dominance of native vegetative cover.

The present visual quality of the Mavora area can, therefore, be seen as a product of natural as opposed to cultural landscape processes. Change in the character of the landscape can be expected to have a consequent effect on visual landscape values of the area. Hence it is important that future management of the Mavora area protects the visual landscape values and retains the existing natural landscape character.

The lower Mararoa Valley south of the study area is the main access corridor to the Mavora Lakes. Farm development has significantly modified the natural character of the valley's lower end. The remaining adjacent areas of undeveloped grassland provide a transition from 'developed farm' landscape to the 'unmodified' tussock and beech landscape of the valley's northern end. In the future development of these grasslands, it is important that a gradual transition from modified to natural landscapes be achieved. Development without regard to the natural patterns of the landscape and poor siting of farm and park structures and/or buildings can have a marked impact upon visual landscape values and the natural quality of the park entrance. Abrupt or arbitrary changes in the landscape need to be avoided and a gradual transition from one landscape to another be aimed for.

The sense of entry to the Mavora Lakes area is strongly defined by enclosing beech forest. The forest enclosed section of road offers excellent enframed views of South Mavora Lake and the outlet. The foreshore stands of beech also restrict the visibility of the road from the lake. To maintain the quality of view, it is important these stands of beech are not damaged or disturbed by road maintenance or upgrading. However, scope does exist for removal of selected damaged trees but this requires careful planning and consideration as to the impact both upon the view from the road and the lake.

Toilet and picnic facilities have been poorly sited in the narrow margin between the road and South Mavora Lake foreshore. The toilets need to be removed, or if required, relocated to a less prominent position on the eastern side of the road. Provision of

facilities along this section encourages camping and subsequent congestion of road access and restricts day usage and rest areas.

The provision of camping facilities needs to be confined to the area of open tussock grassland north of the South Mavora Lake. Recreational use of the Mavora area is largely concentrated along this section of open lake foreshore. Informal camping is predominantly carried out toward the northern end of this section. Development has been limited to the provision of a metalled loop road system, fireplaces, toilets and cold water supply. The provision of further facilities is likely to destroy the present natural and informal character of the camping site. Should a need be demonstrated for any further facilities, they should be sited along the forest edge and some distance back from the lake's foreshore.

Leaving unoccupied caravans on camping sites in foreshore areas is not only visually undesirable, but could also be seen as a claim to ownership of the immediate area. Similarly, permanent outdoor ovens and other camping associated structures are also undesirable.

A borrow pit is prominent at the northern end of the camping area and requires re-shaping and revegetating. The Mavora-Wakatipu Walkway commences at the southern edge of North Mavora Lake and follows the four-wheel drive track to the northern end of North Mavora Lake. Any upgrading of the track to a two-wheel drive standard and the associated carparking would have an obtrusive impact upon the natural character of the lake's northern end. From a visual viewpoint, upgrading of the vehicle access to the top end of North Mavora Lake is not promoted other than for management access purposes.

Trout fishing is a major recreational attraction of the Windon Burn and Upper Mararoa Valleys. The undeveloped tussock grassland setting greatly enhances the quality of the recreational experience and provides an important contrast to the 'developed farm' landscape setting of the lower reaches.

2.12 Access

Road access to the park is available from State Highway 94 (Mossburn - Te Anau) via the Centre Hill - Mavora Lakes Road or the Te Anau - Mavora Lakes Road.

From the end of the gravel access road at the south end of North Mavora Lake, a track negotiable by four-wheel drive vehicle traverses the eastern shore of this lake and continues up the Upper Mararoa Valley.

Access on foot is possible from the Eglinton Valley in the north-west, from the north via the Greenstone River and the east from the Von River.

Access on horseback is a possible option and in keeping with the spirit and atmosphere of the park. Some restrictions may need to be placed on the use of horses so as not to cause a nuisance to other recreational pursuits.

(3) TO ALLOW OFF-ROAD VEHICLES BEYOND THE SOUTHERN BUSH EDGE AT THE SOUTH END OF NORTH MAVORA LAKE BY PERMIT ONLY.

(4) TO ESTABLISH A SPEED RESTRICTION OF 30 KM PER HOUR ON ALL INTERNAL ROADS TO IMPROVE PUBLIC SAFETY AND MAINTAIN THE SERENITY OF THE PARK.

Implementation

(1) Undertake investigations to determine the suitability of sites where vehicles will be permitted.

(2) Where construction of roads is necessary appropriate landscape and engineering advice will be sought.

(3) Permits for vehicle access beyond the southern bush edge at the south end of North Mavora Lake will be issued by the Commissioner of Crown Lands, Invercargill.

(4) Vehicle access permits will be granted depending on suitability of ground and track conditions and compatability with other user groups.

(5) Refer to Section 6.14, Earthworks Policy.

6.16 Recreation

The Mavora Lakes Park and its environs at present offer an excellent environment for a wide range and diversity of recreational opportunities. The waters of Mavora Lakes are the focal point for many forms of outdoor recreation, such as picnicking, tramping, camping, fishing, swimming, horse-riding, boating, yachting, canoeing, birdwatching, photography and sightseeing.

The extent to which facilities will be provided for these uses will be determined by their impact on the immediate area. Visitors will be encouraged to explore and discover the park for themselves.

OBJECTIVES

(1) TO ALLOW PUBLIC RECREATIONAL USE WITHIN THE PARK TO THE EXTENT THAT IT IS COMPATIBLE WITH OTHER USES.

(2) TO PROVIDE ADEQUATE ACCESS, TRACKS, BRIDGES, BRIDLE-WAYS, PARKING, CAMPING AND PICNIC FACILITIES WITHIN THE PARK ONLY WHERE THEY ARE REQUIRED FOR REASONS OF PUBLIC SAFETY, HEALTH OR REASONABLE CONVENIENCE, OR WHERE THEY ARE REQUIRED TO PROTECT THE RESOURCE OR TO FACILITATE PARK MANAGEMENT AND INTERPRETATION.

(3) NO RECREATIONAL FACILITY SHALL BE INTRODUCED OR DEVELOPED SIMPLY AS A MEANS OF ATTRACTING VISITORS

WHO WOULD NOT OTHERWISE VISIT THE PARK. THE MAIN FUNCTION OF ANY RECREATIONAL FACILITY IS TO MEET A RANGE OF NEEDS AND DESIRES OF THOSE WHO COME TO THE PARK PRIMARILY TO ENJOY THE OUTDOORS AND THE NATURAL ENVIRONMENT.

(4) TO PROHIBIT THOSE RECREATIONAL ACTIVITIES WHICH ARE NOT IN HARMONY WITH PARK PURPOSES, OR CAUSE IMPAIRMENT OF SIGNIFICANT NATURAL OR SCENIC VALUES OR ATMOSPHERE OF THE REGION, OR LESSEN THE OPPORTUNITY FOR OTHERS TO ENJOY THE PARK.

Implementation

(1) Refer to Section 6.27, Provision of Facilities Policy.

(2) Refer to Section 7.0, Development Proposals.

(3) Any decision to provide facilities will have full regard to the desirability of protecting the natural features and character of the park and will only be permitted in areas which have an acceptable tolerance for public use.

6.17 Camping and Picnic Areas

In order to accommodate the range of camping styles, such as caravans, self-contained campers and tents, and day users within the park, there should be a variety of sites available within the main camping area with services limited to watertaps, toilets, tables, barbecues and some litter bins to facilitate the recreational experience.

The basic principle in the design and location of all camping and picnicking areas will be the provision of pleasant, unobstrusive, informal sites among native vegetation rather than the regimented rows of marked camping and picnicking sites. The development of these sites should be in such a manner that will permit camping and picnicking beside vehicles.

Because of the park's open space naturalness and site popularity it is not desirable for caravans and tents to be left unoccupied on a camping site for more than three days unless authorisation has been obtained.

OBJECTIVES

(1) TO PROVIDE A VARIETY OF CAMPING AND PICNICKING SITES IN PLEASANT SURROUNDINGS THAT REFLECT THE NATURAL CHARACTER OF THE AREA, IN LOCATIONS COMPATIBLE WITH OTHER USES AND CONSISTENT WITH OTHER RELEVANT POLICIES.

(2) TO PROHIBIT THE OCCUPATION OF CAMPING SITES BY UNOCCUPIED CARAVANS AND/OR ERECTED TENTS FOR

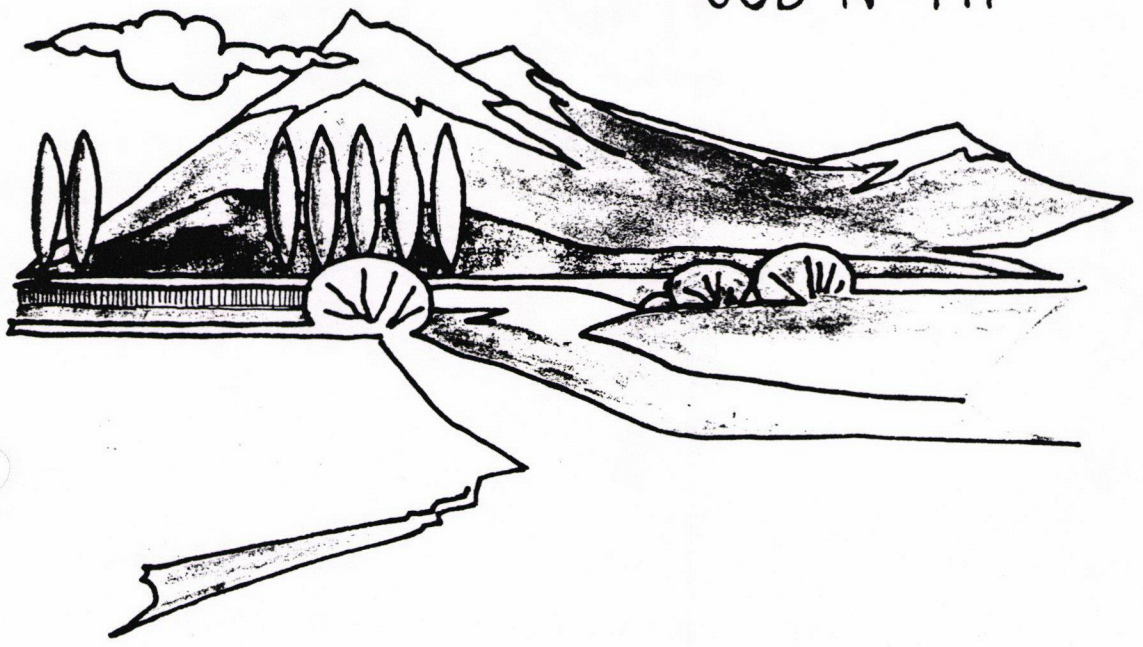
SOUTHERN REGION
N.Z. FOREST SERVICE
INTERPRETATION

SOUTHLAND · CATCHMENT · BOARD

CATCHMENT Nº 797421

whitestone river

JOB Nº 717



PROPOSED BERM MANAGEMENT PLAN

Prepared by S.N. Armstrong
M.N.Z.I.S.

NOVEMBER 1981

for approximately two days a week and is confined mainly to the winter months, as the river can run dry during the summer.

The third right on the Kakapo Swamp is for the Ramparts Community Water Supply to take 785 cubic metres per day. This right is for 10 years and as with the Homestead Community Water Supply expires on 4th September 1989.

Policy : The net effect of the two abstractions on the Whitestone is a maximum loss of 0.015 cumecs from the river. While this may appear neglible, the extremely low flows experienced in the lower reach during the summer would make the granting of further water rights in that area subject to extreme caution. Upstream of the State Highway 94 Bridge the low summer flows would be significant enough to allow any future applications for Water Rights to be treated on their merits, but with the realization that continued development and drainage of the country upstream could well have a detrimental effect on the low summer flows in the future.

4.4 Recreation

4.4.1 Fishing

The main recreational pursuit within the berm areas is fishing, though compared with the more popular fishing waters in the Southland district, angling pressure is very light. The resident trout population of the Whitestone consists of a relatively small number of large well conditioned fish, the presence of these trout depending to a large extent on the availability of suitable cover such as deep holes . Juvenile trout migrate downstream to the Mararoa River, and may return later as mature fish during the spawning season. Spawning surveys indicate that the lower 2.5 kilometres of the river, and the area from above the State Highway 94 bridge to Moat Creek are the main spawning localities.

This part of the river is within the Lands and Survey development area and with the increased runoff plus the addition of nutrients to the river as a result of increased farming activities the resultant increase in algal growth plus the movement of fine shingle may have a deleterious effect on bottom fauna numbers.

The draining of wet areas on the development blocks has resulted in the water retention affect of these areas being lost so that the Whitestone periodically runs dry in the summer months between State Highway 94 and the Kakapo Creek, this limits the best fishing to the early part of the season. The present bag limit of four fish per day would have little effect in reducing the catch because of light angling pressure and the difficulty of catching trout in this river. Access for anglers to the Whitestone is available by a fenced foot accessway through C.L.B. Sopers property on State Highway 94, and vehicle access at the bridges. There is legal access to the river by Section 58 strips through the properties of R.H. King, J.R. Mills, D.G. Fergie, G.C. Chapman and W.M. McHugh. (See Figures 8, 9 & 10. Appendix 1) Some of these strips are only partly formed at this stage, but access can usually be gained by asking permission of the farmer concerned.

Policy : To co-operate with the Southland Acclimatisation Society to maintain the fishery in good condition.

4.4.2 Picnicking

Picnicking is confined to three areas as shown on Aerial Photographs No. 1 and 5 and defined as areas A5, A6 and A8.

Access to these sites is reasonable, being not far off the main highways. Beyond these locations access is not suitable for the average

family car. Access by foot is permitted over the entire berm area.

Policy : Light amenity planting is planned for these three locations to provide shade and enhance the area.

4.4.3 Duckshooting

Duckshooting is a very minor use on the Whitestone due mainly to the lack of suitable ponds. Several unauthorised excavations have occurred and been planted out with flaxes and willows in an attempt to get ponds established.

Policy : Further excavations within the berm areas will not be permitted without the permission of the Southland Catchment Board.

New Zealand Tourism DEPARTMENT

Te Tari Tāpoi O Aotearoa

TOURISM FACTS

Topline data on the New Zealand tourism industry from Research Services, New Zealand Tourism Department.

JUNE 1991

Tourism is one of the world's largest and most successful industries. According to the Economist Intelligence Unit*, in 1989 worldwide revenue from international tourism was more than US$200 billion. The number of visitor arrivals at frontiers was 404 billion.

In the last decade, high growth rates in the total number of short term international visitor arrivals to New Zealand have contributed to the increasing significance of tourism in our country. Over the past ten years, international visitor numbers to New Zealand have increased at an average annual rate of around eight percent, pushing arrivals up to close to one million in 1990. The country which provides the highest number of visitors to New Zealand is Australia, with USA and Japan in second and third places respectively.

Domestic Tourism is also an important component of national tourism. In the year ended March 1990, New Zealanders made a total of 10.3 million trips within New Zealand, staying an average of four nights away from home.

Tourism contributes substantially to the nation's Gross Domestic Product. It is also our leading single earner of foreign exchange earnings. In terms of employment, during the year ended March 1990, tourism directly generated a total of 69,000 full-time equivalent (FTE) jobs in the economy.

Overall, the outlook for tourism in New Zealand is positive. According to recent forecasts, we can look forward to further increases in visitors to New Zealand, and consequently further benefits to our economy.

* *Far East and Pacific Travel in the 1990's: Forecasts and Analysis of Potential and Constraints*: Special Report,1990.

Tourism's Contribution to GDP ($ Million)

Years ended March

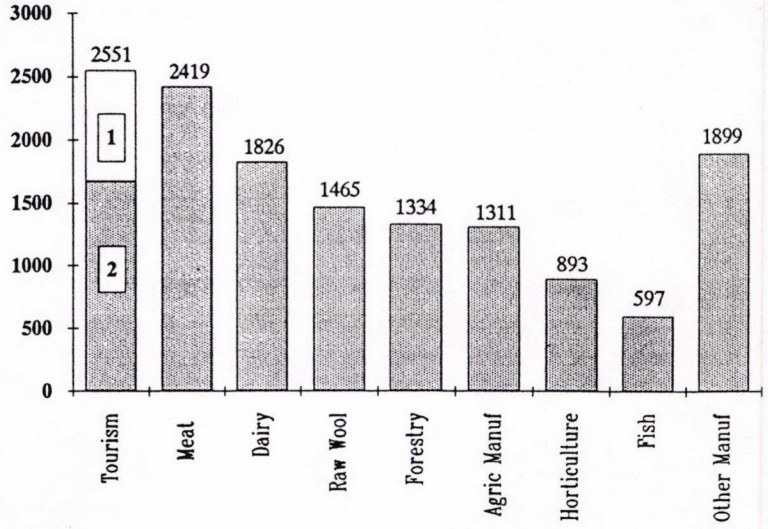
	1986/87	1987/88	1988/89
Domestic Tourism	1303	1907	2088
International Tourism	1067	1253	1259
Total Tourism In New Zealand	2370	3160	3347
Tourism as a Proportion of GDP	**4.5%**	**5.3%**	**5.2%**
Total GDP*	53152	59172	63805

* Provisional

Source: Dept of Statistics / (INFOS), Lim, E.E.S, The 1989 DeloitteTourism Scolarship: The Economic Impact of Tourism in New Zealand.

Foreign Exchange Earnings of Tourism Relative to Principal Export Sectors

$ million *Year ended March 1990*



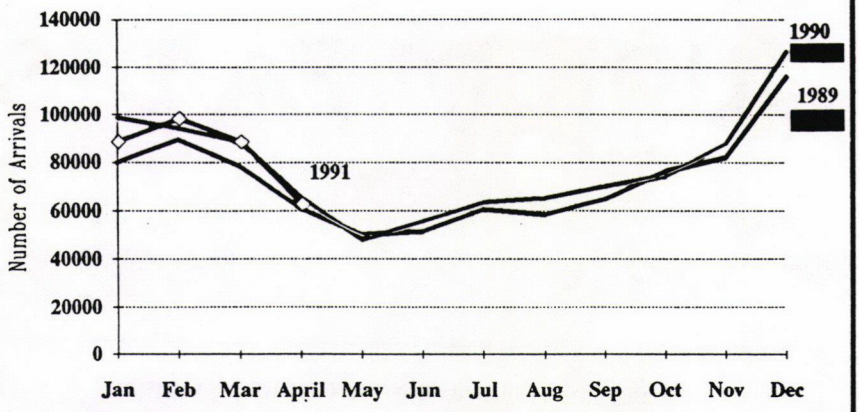
Source: Department of Statistics (INFOS)

1. Airfares: $879 Million (Air New Zealand; Unpublished data)
2. Expenditure within New Zealand: $1,672 million (NZTD International Visitors Survey 1989/90)

New Zealand Tourism Department • Box 95 • Wellington • Phone (04) 728 860 • Fax (04) 781 736

INTERNATIONAL INBOUND TOURISM

Overseas Visitor Arrivals by Month 1989-1991



Source: NZ Tourism Dept/Dept Statistics (INFOS)

Overseas Visitor Expenditure

Year ended March 1990

	Total Travel Expenditure (millions)	Mean Expenditure per person	Mean Expenditure per day
Australia	$446	$1,500	$100
USA	$254	$1,900	$130
Japan	$252	$2,600	$200
UK	$168	$2,300	$60
Canada	$60	$1,900	$80
W Germany	$67	$2,900	$90
Singapore	$35	$2,700	$130
Other	$390	$2,300	$70
Total*	$1,672	$2,000	$90

* May not be the sum of rows due to rounding.

Source: NZTD International Visitors Survey 1989/90.

Visitor Arrivals by Main Reason for Visit

Year ended March 1990

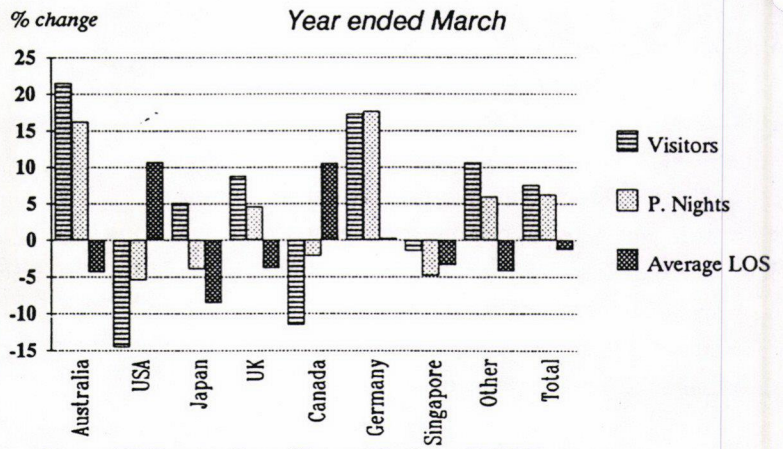
	Holiday	VFR*	Business	Other	Total
Australia	113000	113000	59000	42000	327000
USA	97000	14000	13000	14000	137000
Japan	84000	2000	7000	7000	100000
UK	29000	36000	7000	7000	79000
Canada	19000	6000	2000	5000	32000
Germany	19000	2000	2000	2000	25000
Singapore	11000	1000	1000	1000	15000
Other	91000	50000	19000	58000	218000
Total**	465000	225000	109000	135000	933000

* VFR : Visiting Friends / Relatives.

** May not be the sum of rows due to rounding.

Source: NZ Tourism Dept/Dept of Statistics (INFOS).

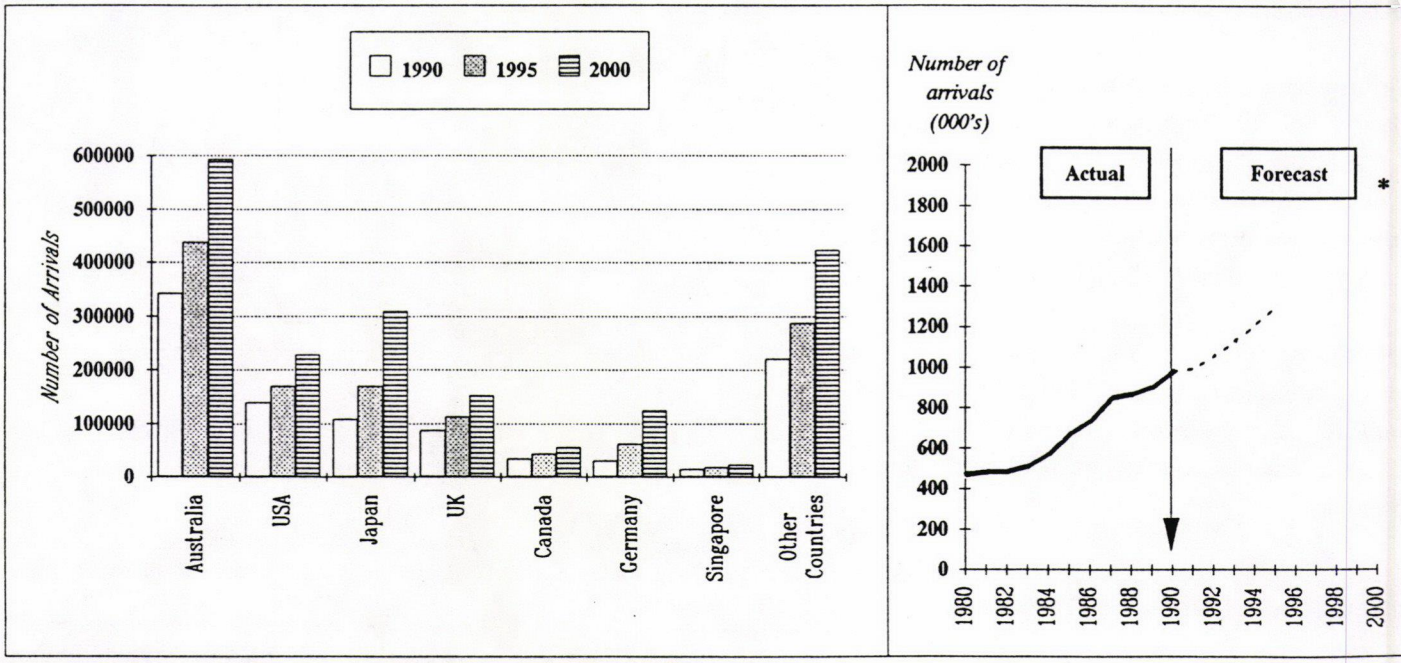
Change in Visitors, Person Nights and Average Length of Stay, 1989 to 1990



Source: NZ Tourism Dept / Dept of Statistics (INFOS)

Overseas Visitor Arrivals, Actual 1990 Compared to Forecast Visitor Arrivals, 1995 to 2000

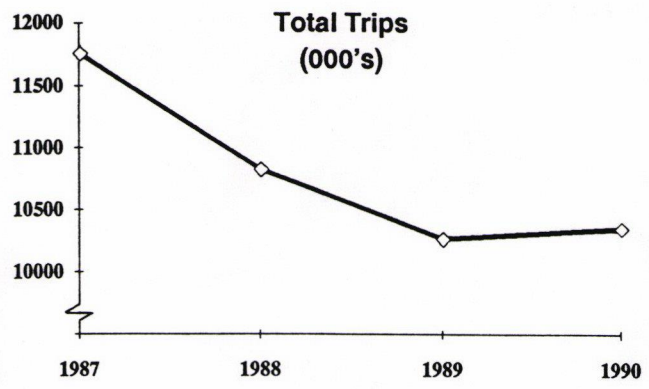
Years ended December



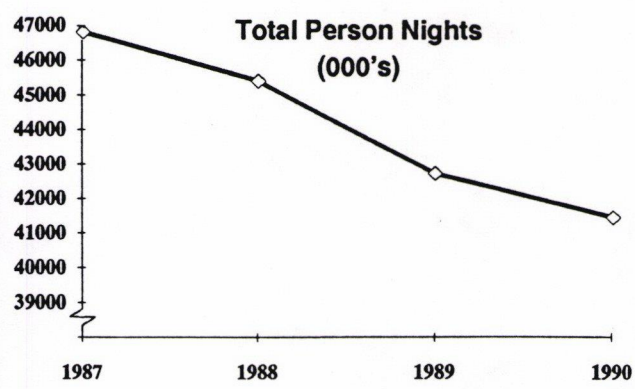
Source: NZ Tourism Dept, NZ International Visitor Arrival Forecasts 1991-1995, 2000: Interim Report (December year),June 1991/ Dept of Statistics (INFOS)

Domestic Travel in New Zealand

Years ended March



A trip consists of at least one night away from home.

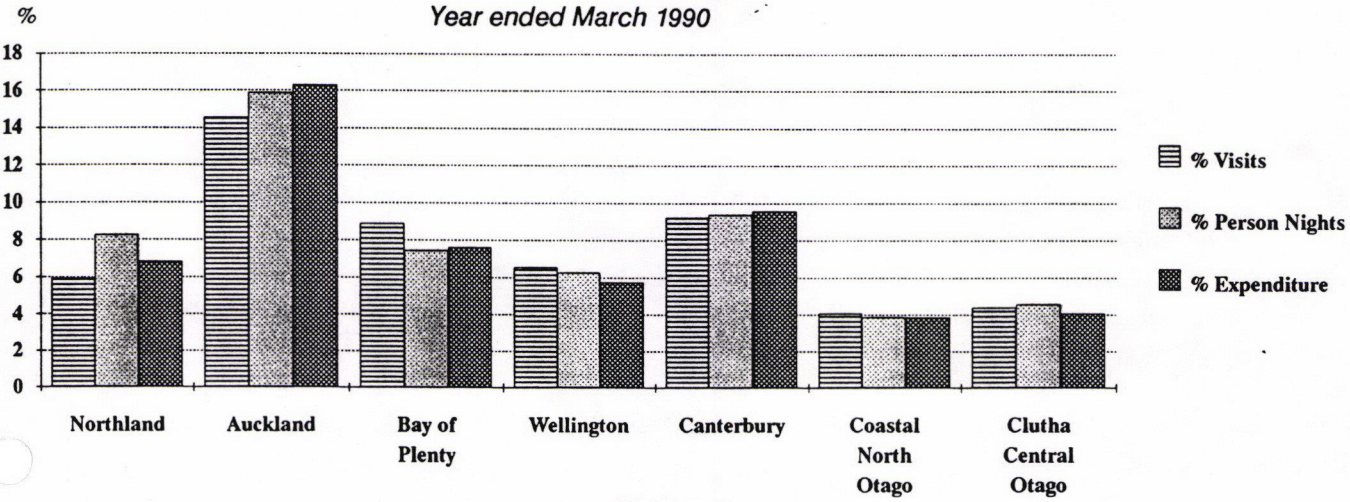


Person Nights count the number of nights spent away from home.

Source: NZTD New Zealand Domestic Travel Study 1986/87 - 1989/90.

Proportion of Visits, Person Nights and Expenditure for Domestic Travellers in Selected United Council Regions

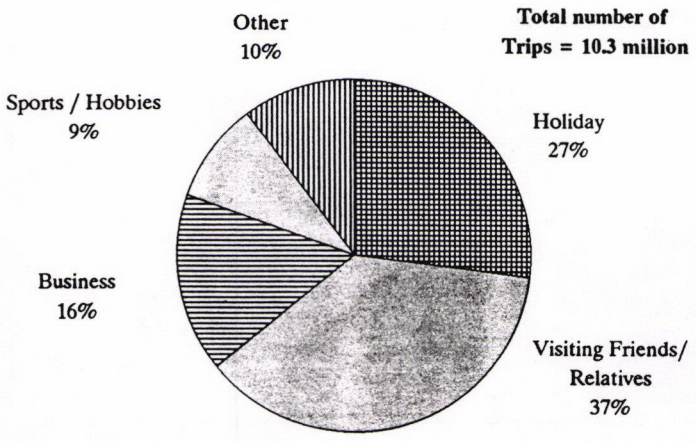
Year ended March 1990



Note: Expenditure figures are not directly comparable to Tourism Facts April 1990.
Source: NZTD New Zealand Domestic Travel Study 1989/90.

Domestic Trips by Reason for Visit

Year ended March 1990



Source: NZTD Domestic Travel Study 1989/90.

Domestic Visitor Expenditure

Year Ended March 1990

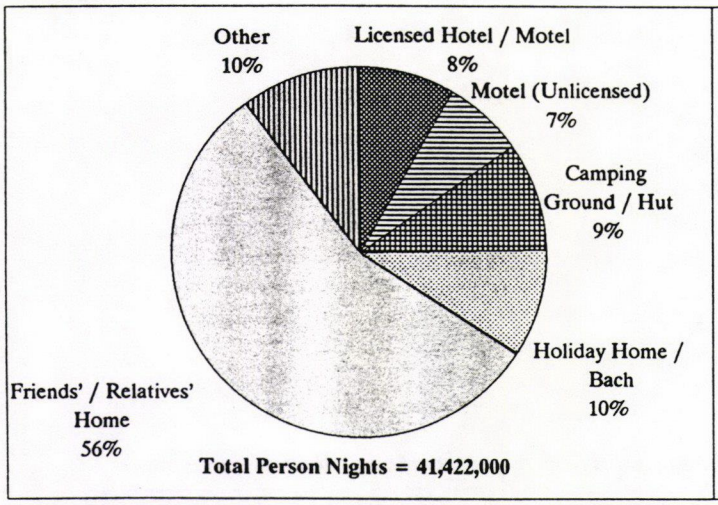
	Total Travel Expenditure (Million)	Mean Expenditure Per Trip	Mean Expenditure Per Day
Holiday	$973	$350	$60
VFR	$620	$160	$40
Business	$591	$350	$120
Sports	$185	$200	$80
Other	$211	$200	$50
Total	**$2,579**	**$250**	**$60**

Note: Figures are not directly comparable to Tourism Facts April 1990.
Source: NZTD Domestic Travel Study 1989/90.

Accommodation Usage by Domestic and International Visitors in New Zealand

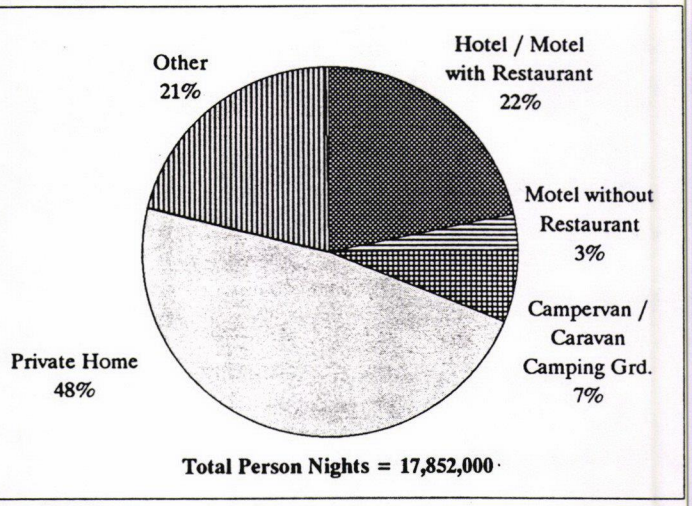
Year ended March 1990

Domestic



Total Person Nights = 41,422,000

International



Total Person Nights = 17,852,000

Source: NZTD: NZ Domestic Travel Study 1989/90, NZ International Visitors Survey 1989/90.

New Zealand Tourism Facts, June 1991 was produced by the Research Services Section of the New Zealand Tourism Department, Head Office, Wellington.

The following staff members are available to answer any further enquiries regarding the information presented in this publication:

Leonor Pantua	Marketing Researcher
Jane Crarer	Information Officer

However, other staff are also available to discuss any area of tourism research that you are interested in.

In addition to *Tourism Facts*, Research Services publish the following other free publications:

Tourism Research Newsletter
Monthly Visitor Arrival Statistics
NZTD Tourism Publication Catalogue

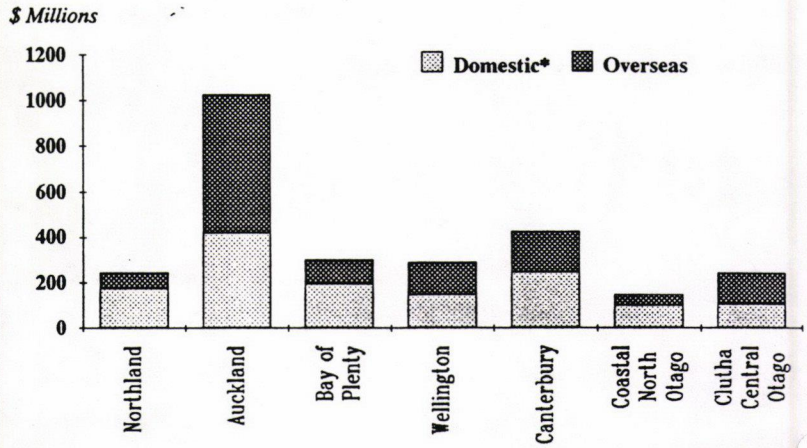
Please contact us if you are interested in receiving any of these publications on a regular basis.

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The New Zealand Tourism Department has five regional offices in New Zealand; Auckland, Rotorua, Wellington, Christchurch and Queenstown. Overseas offices are located in Sydney, Hong Kong, Tokyo, Los Angeles, Vancouver, Singapore, London and Frankfurt.

Overseas Visitor and Domestic Travellers Gross Expenditure in Selected United Council Regions

Year ended March 1990



* Domestic expenditure figures are not directly comparable to Tourism Facts April 1990, due to changes in the question regarding expenditure in the questionnaire.
Source: NZTD: International Visitors Survey and Domestic Travel Study1989/90.

Employment Created By Tourism

Estimated Full-Time Equivalent Jobs created, year ended March 1989

Direct	Indirect	Induced
69000	34000	47000

Total FTE Jobs
150,000

Domestic Business		Domestic Private		International Inbound	
Direct	18,000	Direct	25,000	Direct	26,000
Indirect	9,000	Indirect	12,000	Indirect	13,000
Induced	12,000	Induced	17,000	Induced	18,000

Source: Lim,E.E.S, The 1989 Deloitte Tourism Scholarship: The Economic Impact of Tourism in New Zealand.

NZTD REGIONAL RESEARCH SERIES
1991/1

New Zealand Regional Tourism Summary 1989/90

New Zealand Tourism
DEPARTMENT
Te Tari Täpoi O Aotearoa

INTRODUCTION

The Regional Tourism Summary 1989/90 comprises information from the New Zealand Domestic Travel Study 1989/90 and the New Zealand International Visitors Survey 1989/90.

The Domestic Travel Study has been conducted annually since 1983 by AGB McNair (NZ) Limited. 12,354 New Zealanders were surveyed in 1989/90, and of these 3,443 were interviewed as they had travelled in the four week period prior to being surveyed. The International Visitors Survey commenced in 1986. In 1989/90, a total of 5,427 overseas visitors were surveyed. For detailed information on the sampling methodology of the domestic and international surveys, see the respective general reports, (Domestic Travel Study 1989/90 General Report; International Visitors Survey 1989/90 General Report).

NZ Tourism Department also offers an ad-hoc enquiry service. This service enables NZTD to provide user defined tables from the domestic and international databases. The cost of this service depends on the complexity of tables.

Note: This report still follows the old United Council Regional boundaries (22 regions). Data based on the new Regional Councils (14 regions) is only available for IVS 1989/90. See the IVS General Report 1989/90.

DEFINITIONS

Trip (Domestic)

A trip is defined as a journey outside a person's home locality (i.e. the area in which they move from day to day) which involves a minimum of one night away from home. Day trips are specifically excluded. All trips must have been completed in the four weeks prior to interviewing. One domestic **trip** is essentially equivalent to one international **visitor.**

Visitor (International)

An international traveller to New Zealand who stayed for at least one night and for less than 12 months.

Region Visit

A region visit is defined as travel into the region which involved one or more nights stay within that area. Note that a traveller may stay at several different locations within a region but will only create one region visit if they enter the region once.

Person Nights

One person spending one night away from home generates one person night. A person away for three nights generates three person nights.

For example, a New Zealander may have made one trip spending two nights in Taupo and one night in Rotorua before returning home.

In this example, the information generated would be:

- one trip (same as one visitor);
- two region visits (one to the Tongariro region and one to the Bay of Plenty region);
- three person nights (two in Taupo, one in Rotorua).

Note: an asterisk (*) in the regional tables signifies a positive number less than 500.

Unweighted Base Number

The unweighted base number refers to the number of respondents interviewed (international) or the number of trips made by respondents interviewed (domestic).

Caution: Figures generated from United Council Regions with low unweighted base numbers are highly unreliable. These figures are published so as to maintain the policy of publishing indicative figures rather than censoring them, and to ensure that informed use can be made of them.

Unweighted Base Number of International Visitors to New Zealand by Country of Residence

Australia	1,945
USA	982
Japan	509
United Kingdom	563
Canada	252
West Germany	178
Singapore	95
Other Countries	903
Total International	**5,427**

Unweighted Base Number of Trips Made by Domestic Visitors by Place of Residence

Northland	251	*Wairarapa*	33
Auckland	871	*Horowhenua*	68
Thames Valley	59	*Wellington*	410
Waikato	332	*Nelson Bays*	116
Bay of Plenty	466	*Marlborough*	79
East Cape	84	*Canterbury*	441
Tongariro	67	*Aorangi*	106
Taranaki	142	*West Coast*	67
Wanganui	151	*Coastal, North Otago*	220
Manawatu	188	*Clutha, Central Otago*	90
Hawke's Bay	189	*Southland*	155
		Total Domestic	**2,800**

Mean Length of Stay

The number of person nights spent in a region divided by the number of region visits made to that region.

Caution: The mean length of stay is highly sensitive to unusual values/ outliers.
For example: 19 visitors from UK each stayed one night in a region while
1 visitor stayed 181 night in that region.
Then mean length of stay = 200 nights/ 20 visitors = 10 days
A mean length of stay of 10 days does not represent the typical length of stay of these UK visitors well. A similar effect can also distort the number of person nights spent in the region.

An analysis of the distribution of length of stay (including median length of stay), is possible. Please contact Research Services, NZTD if you are interested.

KEY INFORMATION

A total of 59.3 million person nights were spent by international and domestic visitors (aged 15 years and over) in New Zealand from April 1989 to March 1990. Of these, 41.4 million (70%) were spent by domestic visitors and 17.9 million (30%) by international visitors.

Auckland received 664,000 international visitors from April 1989 to March 1990. Auckland was the destination of 1.7 million trips made by domestic visitors in the same year.

Canterbury is second only to Auckland in terms of the number of international visitors (362,000), but with Bay of Plenty following closely behind with 328,000 international visitors to the region in 1989/90. Nearly 1.1 million trips were made by domestic visitors to Canterbury region, and a similar number of trips (1.0 million) were made to the Bay of Plenty region in 1989/90.

Auckland (metro) was the most frequently visited location for both international and domestic visitors in the year ended March 1990. Christchurch (metro), Wellington (metro), Rotorua, Dunedin and Queenstown were also among the most visited locations in New Zealand in 1989/90 (see page 40).

International and Domestic Visitor Summary Statistics

year ended March 1990 (000's)

UNITED COUNCIL REGION *(Destination)*	INTERNATIONAL			DOMESTIC		
	visitors to the region (000's)	*region visits (000's)*	*person nights (000's)*	*trips made to the region (000's)*	*region visits (000's)*	*person nights (000's)*
Northland	137	143	771	703	707	3423
Auckland	664	894	6712	1720	1735	6574
Thames Valley	48	51	247	542	548	1982
Waikato	98	110	555	683	695	2274
Bay of Plenty	328	351	1100	1048	1059	3094
East Cape	24	25	110	243	243	1008
Tongariro	123	131	316	521	531	1393
Taranaki	35	37	252	303	303	1018
Wanganui	45	47	162	339	358	884
Manawatu	38	43	282	444	453	1247
Hawkes Bay	65	73	399	471	477	1774
Wairarapa	11	11	56	128	130	429
Horowhenua	18	20	72	208	209	859
Wellington	236	272	1726	763	780	2596
Nelson Bays	86	93	493	305	311	1487
Marlborough	82	96	188	283	301	754
Canterbury	362	458	1579	1054	1099	3885
Aorangi	149	159	404	371	380	1199
West Coast	147	155	371	310	312	979
Coastal, North Otago	136	145	514	483	487	1604
Clutha, Central Otago	288	319	1114	511	523	1886
Southland	144	150	404	274	276	1072
Unspecified		9	24			
Total (New Zealand)	**848 (a)**	**3792**	**17853**	**10339 (b)**	**11914**	**41422**

Footnote:

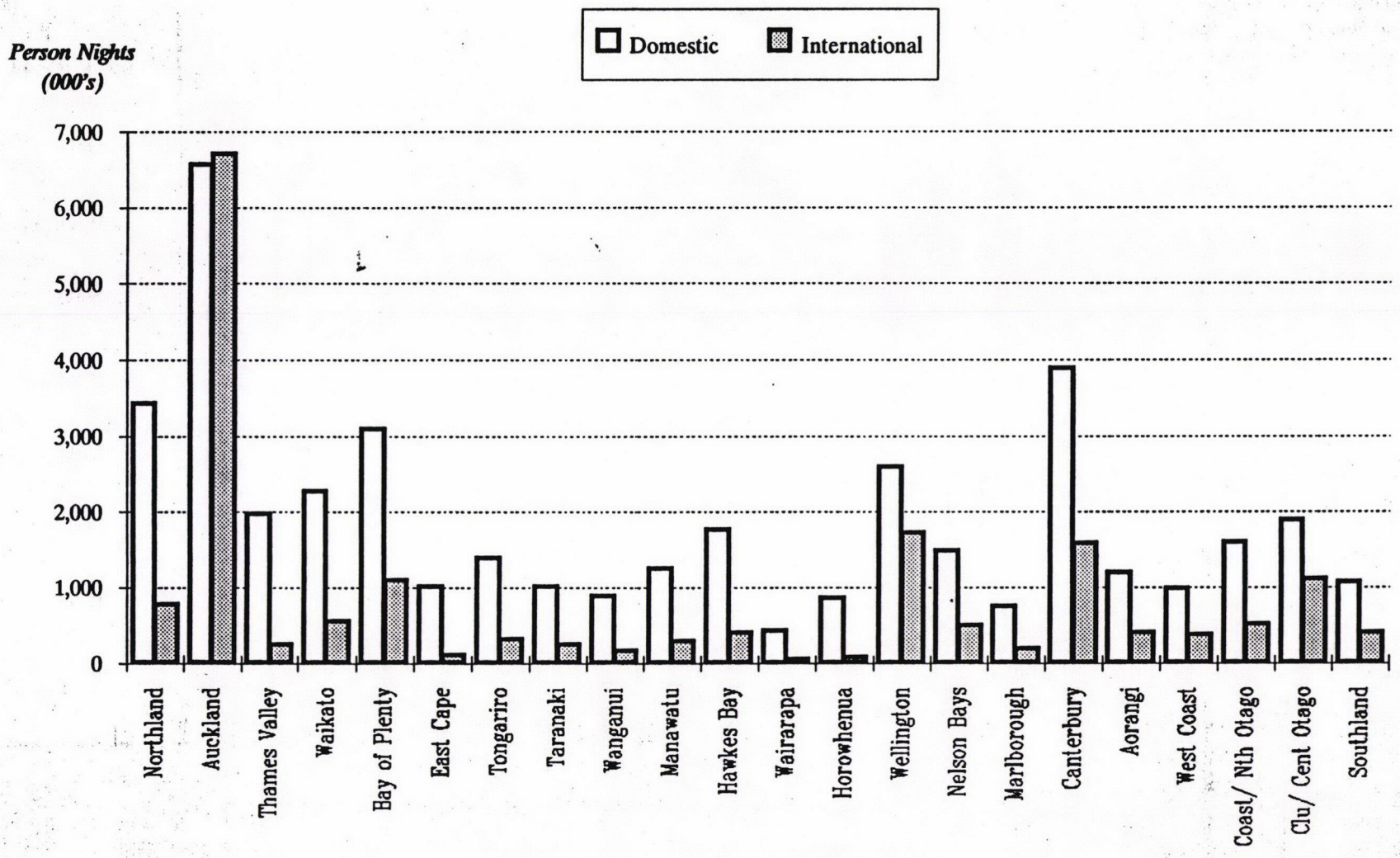
All international and domestic visitors included in the surveys are aged 15 years and over.

*International visitors often visit several different regions. Hence, the total number of visitors to New Zealand (**a**) is not equal to the sum of rows concerning visitors to the regions.*

*It is possible for a domestic visitor to make more than one trip. Hence, the total number of trips made within New Zealand (**b**) is not equal to the sum of rows concerning trips to the regions.*

Domestic and International Person Nights Spent in United Council Regions

year ended March 1990



VISITORS TO THE SOUTHLAND UNITED COUNCIL REGION

(15 years and over)

year ended March 1990

Country of Residence	Visitors (000's)	Visits (000's)	Person Nights (000's)	Mean Length of Stay (nights)	*Unweighted Base Number*
Australia	43	45	148	3	*274*
USA	29	30	74	3	*217*
Japan	12	12	19	2	*57*
United Kingdom	12	12	37	3	*87*
Canada	8	9	27	3	*67*
West Germany	8	9	19	2	*66*
Singapore	6	6	7	1	*43*
Other Countries	26	27	72	3	*134*
TOTAL INTERNATIONAL	**144**	**150**	**404**	**3**	*945*

Place of Residence	Trips (000's)	Visits (000's)	Person Nights (000's)	Mean Length of Stay (nights)	*Unweighted Base Number*
Auckland	17	17	27	2	*7*
Waikato	4	4	19	5	*2*
Bay of Plenty	5	5	32	7	*1*
Tongariro	2	2	14	6	*2*
Taranaki	1	1	7	6	*1*
Wanganui	5	5	99	21	*3*
Hawkes Bay	2	2	8	5	*1*
Wellington	13	13	50	4	*8*
Nelson Bays	1	1	7	6	*1*
Marlborough	1	1	1	1	*1*
Canterbury	63	65	364	6	*21*
Aorangi	10	10	28	3	*7*
West Coast	8	8	30	4	*2*
Coastal North Otago	62	62	187	3	*24*
Clutha Central Otago	23	23	47	2	*12*
Southland	56	56	152	3	*32*
TOTAL DOMESTIC	**274**	**276**	**1072**	**4**	*125*

REGION TOTAL	**418**	**426**	**1476**

TOURISM IN NEW ZEALAND



A STRATEGY FOR GROWTH

HIGHLIGHTS

The New Zealand Tourism Board's Strategic Plan highlights these key points.

- *The attainment of three million visitors a year to New Zealand by the year 2000 would treble our existing number.*
- *270,000 jobs would result from tourism by the year 2000 - nearly double the present level.*
- *$5,706 million in foreign exchange earnings is achievable from tourism by the year 2000.*

To succeed with these goals the New Zealand Tourism Board will:

- *Use "Brand New Zealand" to position New Zealand internationally.*
- *Work with tourism and non tourism companies in new partnerships.*
- *Put considerably more resources into our key origin markets, and encourage private sector tourist companies to do the same.*
- *Promote New Zealand primarily as a mono destination, while forming strategic alliances with Australia and other South Pacific countries where appropriate.*
- *Focus on increasing inbound tourism as its primary business purpose.*

Tourism earns New Zealand more than 17 million dollars a day. It generates 150,000 full time job equivalents and it is a growth industry internationally - tourism to and within the Asia Pacific region is growing particularly quickly.

New Zealand has done well - but it can do much better. It is possible for New Zealand to treble its annual arrivals, but it is by no means guaranteed. The New Zealand Tourism Board will provide a lead and enter into partnerships with all appropriate stakeholders to achieve that growth.





TOURISM TRENDS

Tourism is growing at a rapid rate worldwide. Changing work patterns, increased leisure time, cheaper air transport have all contributed to an explosion in the numbers of people travelling.

Tourism is the world's biggest industry. It employs 112 million people - one in every 15 workers worldwide. It generates $US 2.5 trillion a year and is set to keep growing.

The Asia Pacific region is showing growth well above the worldwide average (8.3% compared with 4.1%).

The specific global trends which New Zealand's marketing must address are:

- *Interest in the environment as a major theme.*
- *Free independent travel - a move away from package or group tours, requiring flexibility and a range of travel options.*
- *Short-break holidays.*
- *A worldwide increase in long-haul travel.*
- *The highly sophisticated marketing techniques used by competitor destinations.*
- *The demand for cultural experiences - visitors want interaction with local people and customs.*

Over the past ten years international arrivals to New Zealand have increased at an average annual rate of around eight percent. Visitor numbers climbed from 445,000 in 1980 to reach 967,000 in March 1991. The composition and demands of these tourists is changing.

New Zealand's share of the world's tourism market is, however, small. In 1989, 404 million tourists crossed frontiers. New Zealand's share of that market was 0.22%. That 0.22% of international tourists, however, had a major impact on our economy with a $3.3 billion contribution to our Gross Domestic Product.

New Zealand cannot take even that 0.22% market share for granted. Many countries are aware of the potential of tourism. Realistically we must improve our strategic planning, marketing and delivery if we are to increase our market share.

GROWTH IN VISITOR ARRIVALS, 1980 TO 1989

	Total growth: 1980 to 1989	Ave. Annual growth: 1980 to 1989
NEW ZEALAND [1]	94%	7.6%
WORLD [2]	42%	3.9%
AUSTRALIA [3]	130%	9.7%

Source: [1] *Department of Statistics (INFOS)*
[2] *WTO (Current Travel and Tourism Indicators, January 1990)*
[3] *PATA (Annual Report 1988)*

Some of our challenges as an industry are:

- *Insufficient resources: New Zealand has struggled to penetrate world markets with relatively meagre resources, often insufficient to make a real impact.*
- *Lack of co-ordination: the absence of a co-ordinated strategy between the Government and private sector and within the private sector has compounded the difficulty of inadequate resources.*
- *Distribution of the product: New Zealand operators are reliant on others, usually non New Zealanders, for sales and distribution. Awareness of the unique benefits of New Zealand is low, and many opportunities are lost.*
- *Low awareness/indistinct image: New Zealand rates low on awareness and our image is vague and indistinct - clean, green and boring. We have not developed a uniquely New Zealand brand image until recently.*

How will a country with only the population of a small European city reach the world?

There can be only one answer: New Zealand has to do it together, do it better and meet our customers demands.

OVERSEAS VISITOR EXPENDITURE

Year ended March 1990. New Zealand Dollars

	Total travel Expenditure (millions)	Mean Expenditure per person	Mean Expenditure per day
AUSTRALIA	$446	$1,500	$100
USA	$254	$1,900	$130
JAPAN	$252	$2,600	$200
UK	$168	$2,300	$60
CANADA	$60	$1,900	$80
W GERMANY	$67	$2,900	$90
SINGAPORE	$35	$2,700	$130
OTHER	$390	$2,300	$70
TOTAL*	**$1,672**	**$2,000**	**$90**

**May not be the sum of rows due to rounding.*
Source: NZTD International Visitors Survey 1989/90.

MAJOR ISSUES

In developing its Strategic Plan, the Tourism Board identified a number of major issues, some of which could be potential barriers to growth.

Investment

Overseas experience shows that increased growth in tourism is conditional on major capital investment. At present this is absent.

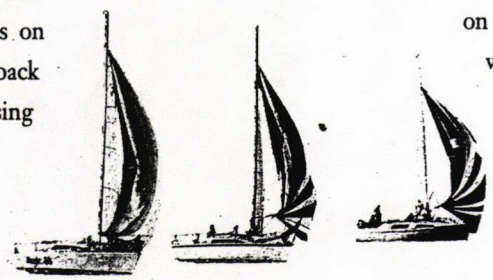
It has been estimated that to maintain its current rate of growth in tourism to the year 2000, New Zealand will need investment of more than $3 billion. This capital commitment will be a tremendous boost to the economy.

The New Zealand Tourism Board will promote local and foreign investment in the tourism industry by a vigorous investor relations programme. Aggressive marketing and higher growth in visitor arrivals are important supporting elements of the investment programme. The Board will also work to improve profitability in the industry, thus not only providing incentive for new developments, but allowing existing operators to maintain their quality and standards.

Picking Winners

The Board will support agencies which successfully deliver services or products that increase the numbers of visitors to New Zealand.

This is part of our overall marketing thrust as we are determined to spend our resources to best effect. The Board will concentrate its resources on proven winners and back potential winners using our best judgement.



The Board will ally itself onshore and offshore with selected agencies of proven quality and reliability.

The Environment

Tourism growth in New Zealand cannot be at the cost of our natural resources. One of our greatest assets in an increasingly green conscious world is our pristine environment.

The Board accepts the principles of sustainable management and environmentally sensitive development.

Government Relations

A large number of government agencies, both central and local, engage in activities which affect tourism, but they often have no mandate to consider tourism or develop their own tourism strategies.

The Tourism Board intends to be a vigorous promoter of tourism, and it wishes to ensure that the Government and its agencies have a comprehensive strategy for supporting tourism.

The Board and the Regions

New Zealand's dominant tourist route is Auckland, Rotorua, Christchurch, Queenstown/ Milford Sound. However, free independent travellers and others often spread to regions, such as the West Coast, Coromandel and Northland.

The Board accepts that visitors from some markets will prefer to concentrate on the main trunk. Longer stay visitors can be attracted to other regions.

THE KEY MARKETS

The New Zealand Tourism Board will concentrate primarily on the following markets: Australia, the United States of America, Japan and Germany. These are all markets with a relatively strong disposition to travel here already.

Australia - Quick Returns

Australia is our only short haul market. It has not been supported sufficiently.

The Board has allocated special funding to boost the number of visitors from this market immediately as this is our best "quick fix" market possibility.

Early success will be a challenge, as Australian perceptions of New Zealand need to be updated and made more positive. New Zealand must capitalise on the trend to shorter break holidays, particularly with an events drawcard.

The new strategy for this market will:

- *Develop product to meet the new demands of the market with an emphasis on family travel, short-break holidays, adventure, events and special interests.*
- *The geographic focus will be expanded and sales offices opened in Melbourne and Brisbane.*
- *A co-funded New Zealand information centre will be established by the Board and industry partners.*

USA - Good Potential

The number of American visitors to New Zealand has been declining. Some reasons for this are:

- *The lack of a distinct image in a highly competitive market.*
- *New Zealand is not seen as a destination in itself.*
- *This market is large, difficult and expensive to penetrate.*

The new strategy for this market will:

- *Focus on a broader geographic reach encompassing West Coast USA, East Coast USA, the Mid-West, Texas and Hawaii.*
- *Open new offices in Chicago, to target the incentive travel business and in New York to target the conference and convention market.*
- *Develop a preferred wholesaler and retailer agent network in conjunction with industry partners.*
- *Establish a New Zealand trade and consumer information centre, which will be the centre of a concerted tele-marketing and direct marketing push.*

Japan - Growing Fast

New Zealand has performed well in Japan with high growth rates being experienced in recent years.

Strong growth is expected to continue. An effective marketing campaign is in place, with solid industry participation. This will be expanded.

The Japanese market is being researched in a segmentation study which will reveal further opportunities for marketing effectiveness. Sister city, special events, and incentive travel are all areas of considerable potential. There is a growing interest in New Zealand by Japanese wholesalers.

An important aspect for Japanese is shopping opportunities for genuine, quality New Zealand goods. The range and quality must be improved.

A new office will be opened in Osaka to extend our marketing reach.

rmany - High Returns

many provides the highest foreign ge return per individual of any overseas . This market displays strong growth, ıual growth rates of over 20 percent per

Zealand has a distinctive and positive ı this market as an outdoors, environ- appealing destination. The targeted s will be widened to include:

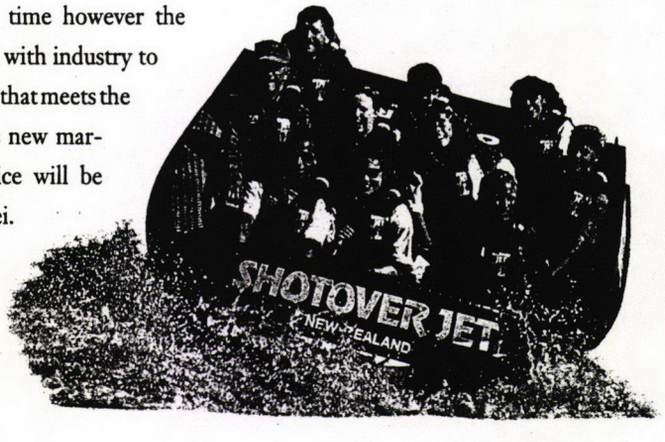
re Seekers - middle-aged, well-travelled with strong interests in local arts, history lture.

n adventurers - young, well-educated, ed adventurous people seeking different s, customs and activities.

oard will double the number of staff in t office in Frankfurt; these staff will kills to service the developing markets d France.

an: A New Market

rly days in the development of this highly lucrative, long-haul outbound is therefore essential that New Zeaishes itself in the market quickly and ıpetitive edge. An early promotional ill focus on lifting consumer ınd interest in New Zealand. same time however the work with industry to duct that meets the this new mar- office will be aipei.



Other Key Markets

The United Kingdom, Canada, Singapore, Hong Kong and Malaysia will continue to provide medium term growth potential. The Board will expand joint tourism efforts through ongoing awareness campaigns, new product initiatives and more effective distribution channels.

Asia is a fast growing market and staff resources will be increased in the Singapore base by 50 percent. The Hong Kong sales office will continue to push for additional business from this region.

An additional two staff will be put in place in the London office which will also cover the growing Scandinavian market.

New Emerging Markets - Medium Term Expansion

The Board will expand with industry its marketing push in new markets. In Europe resources will be increased over the next two years in Sweden and Italy, then later in France, Austria, the Netherlands, Norway and Denmark.

In Asia, South Korea and Thailand will also gain more attention in the medium term.

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McDonald, D.C. (David) The Margins of Fiordland Univ Otago MA Thesis 1972
historical with old photographs and maps of region, covers exploration and settlement (1852 -63), pastoral age (1863 -79), years of change (1880 - 1910) and origins of the tourist trade (ch. 4), extensive reference list.

Woods, J. (Jillian) Land Development and Settlement in the Te Anau Basin 1952 - 82 Univ Otago BA Hons Thesis 1982
includes Southland Catchment Board files, Southland Electric Supply Board files and Wallace County Council files, eg. 38/6/6, Wallace County Planning Team, Te Anau Development Conference - Planning for Tomorrow, a needs summary, 1969.

Other References

Moore, D. Bibliography for Fiordland National Park NP Authority of NZ, National Parks Series No 15, Wellington 1980
Extracts included for sections:
Description and travel
Discovery and Exploration
History
Lake Manapouri Hydro Development
Prehistory

Griffiths, G.J. Books of Southern NZ listed by Locality Dunedin Genealogical Soc. Conference, Dunedin 1989.
Extracts included.

There are many other references, especially for early exploration and history, available at public libraries, and the best collection is held at the Hocken Library, University of Otago, Dunedin. A full literature search was beyond the scope of this study, but should be done.

LIST OF PERIODICALS

Full Title	Abbreviations
Airline Review	
Alpine Garden Society Quarterly Review	
American Geographical Society. Bulletin	Am Geog Soc Bull
American Journal of Science	Am J Sci
Annual Report of the Dominion Laboratory	A Rep Dom Lab
Auckland Institute and Museums. Records	Ak Inst Mus Rec
Auckland Museum Conchology Section Bulletin	Ak Mus Con Sec Bull
Australia and New Zealand Association for the Advancement of Science	Aust NZ Assn Adv Sci
Australian Association for the Advancement of Science. Report	Austn Assn Adv Sci Rep
Australian Geographer	Aust Geogr
Auto Age	
Biological Conservation	
Board and Council	
Botanica Marina	
Bulletin of the Geographical Society of Italy	Bull Soc Geogr Ital
Bulletin of the International Council for Bird Preservation	
Bulletin of the Wellington Botanical Society	Bull Well Bot Soc
Canterbury Botanical Society Journal	Cant Bot Soc J
Canterbury Geographical Journal	Cant Geogr J
Canterbury Museum Record	Cant Mus Rec
Comment	
Contributions to Minerology and Petrology	
Discovery	
Dominion Museum Records	Dom Mus Rec
Deutsch Geographisch Rundschau	Dtsch Geogr Rdsch
Economic Bulletin. Canterbury Chamber of Commerce	Econ Bull Cant Chamber Comm

Economic Geology	Ec Geol
Emu	
Federated Mountain Clubs. Bulletin	FMC Bull
Forest and Bird	For + Bird
Geografiska Annaler	Geog Annlr
Geographical Journal (Royal Geographic Society)	Geog J
Geographical Magazine	Geog Mag
Geological Magazine	Geol Mag
Geological Society of America. Bulletin	Geol Soc Am Bull
Geological Society Quarterly Journal	Geol Soc Qrly J
	Ges Nat-u Heilk
Good Words	
History Review	Hist Rev
Ibis	
Index of Statements of New Zealand Ministers of the Crown	Index Statements NZ Minist Crown
Internationalen Vereinigung fur Theoretische und Angewandte Limnologie	Int Verein Theor Angew Limnol
Journal of Geology	J Geol
Journal of Geophysical Research	J Geophys Res
Journal of Glaciology	J Glaciol
Journal of Mammalogy	
Journal of the Royal Geographic Society of London	J R Geog Soc
Journal of the Royal Society of New Zealand	J R Soc NZ
Journal of Soil Science	J Soil Sci
Journal of Zoology	J Zoo
Journeys	
Landfall	
La Terre et La Vie	
Mammalia	
Massif	

Mauri Ora	
National Museum of New Zealand. Records	NMNZ Records
National Park News	Nat Pk News
Nature Conservation Council. Newsletter	Nat Conserv Counc Newsl
Nature Conservation Council. Information Leaflet	Nat Conserv Counc Inf Leafl
Newsletter of the New Zealand Limnology Society	Newsl NZ Limnol Soc
New Zealand Alpine Journal	NZ Alp J
New Zealand Archaeological Association Newsletter	NZ Arch Ass Newsletter
New Zealand Bird News	NZ Bird News
New Zealand Department of Scientific and Industrial Research. Bulletin	NZ DSIR Bulletin
New Zealand Ecological Society Proceedings	NZ Ecol Soc Proc
New Zealand Engineer	NZ Eng
New Zealand Entomologist	NZ Entomologist
New Zealand Environment	NZ Environ
New Zealand Fishing and Shooting Gazette	NZ Fishing and Shooting Gaz
New Zealand Forest Research Institute	NZ FRI
New Zealand Geographical Journal	NZ Geog J
New Zealand Geographer	NZ Geogr
New Zealand Geographical Record	NZ Geog Rec
New Zealand Geological Survey. Bulletin	NZ Geol Surv Bull
New Zealand Geological Survey. Report of Geological Exploration	NZ Geol Surv Report Geol Explor
New Zealand Grasslands Proceedings	NZ Grass Proc
New Zealand's Heritage	NZ's Heritage
New Zealand Institute. Transactions and Proceedings	NZ Inst T
New Zealand Journal of Botany	NZ J Bot
New Zealand Journal of Forestry	NZ J For
New Zealand Journal of Forestry Science	NZ J For Sci
New Zealand Journal of Geology and Geophysics	NZ J Geol G
New Zealand Journal of Marine and Freshwater Research	NZ J Mar Freshw Res

New Zealand Journal of Science	NZ J Sci
New Zealand Journal of Science and Technology	NZ J Sci Tech
New Zealand Journal of Zoology	NZ J Zoo
New Zealand Lapidary Journal	NZ Lapidary J
New Zealand Listener	NZ Listener
New Zealand Manufacturer	NZ Manufacturer
New Zealand Ministry of Works. Information Series	NZ Min Wks Inf Ser
New Zealand's Nature Heritage	NZ's Nature Heritage
New Zealand Oceanographic Institute. Record	NZOI Rec
New Zealand Outdoor	NZ Outdoor
New Zealand Parliament House of Representatives. Appendices to the Journals	NZ Parl House Rep A-J
New Zealand Parliamentary Debates	NZPD
New Zealand Plants and Gardens	
New Zealand Science Record	NZ Sci Rec
New Zealand Science Review	NZ Sci Rev
New Zealand Soil News	NZ Soil News
New Zealand Speleological Bulletin	NZ Spel Bull
New Zealand Surveyor	NZ Surv
Notornis	
Ornithological Congress Proceedings	
Otago Provincial Government Gazette	Otago Prov Gov Gaz
Otago Institute Proceedings	Otago Inst Proc
Poirieria	
Proceedings of the American Philosophical Society	Proc Am Phil Soc
Proceedings of the Linnean Society, New South Wales	Proc Linn Soc NSW
Proceedings of the New Zealand Water Conference	Proc NZ Water Conf
Proceedings of the 5th Pacific Scientific Congress	Proc 5th Pacif Sci Congr
Proceedings of the Royal Society of New South Wales	PRS NSW
Records of the Survey in New Zealand	Rec Surv NZ

Research Paper, New Zealand Institute of Economic Research	Res Pap NZ Inst Econ Res
Road Transport Contract	
Records and Proceedings of 12th Pacific Science Congress	Rec Proc 12th Pacif Sci Congr
Report of the Geophysics Division of the DSIR	Rep Geophy Div DSIR
Royal Geographical Society. Journal	RGSJ
Royal Geographical Society. Proceedings	RGS PROC
Royal Society of New Zealand Journal	R Soc NZ J
Salmon Trout Magazine	Salmon Trout Mag
Science Record	Sci Rec
Science Review	Sci Rev
Scottish Geographical Magazine	Scot Geogr Mag
Sedimentology	
Soil and Water	
Student Engineer	
Tauranga Historical Society Journal	Tauranga Hist Soc J
Transactions (and Proceedings) of the New Zealand Institute	Trans (Proc) NZ Inst
Transactions (and Proceedings) of the Royal Society of New Zealand	Trans (Proc) R Soc NZ
Transactions of the Royal Society of New Zealand. Geology	Trans R Soc NZ Geol
Transactions of the Victorian Institute of London	Trans Vict Inst Lond
Tuatara	
Tussock Grasslands and Mountain Lands Institute. Review	Tuss Grass Rev
Victorian Institute of London. Journal	Vict Inst Lond J
Victorian Review	Victorian Rev
Weekly News	
Wellington Botanical Society. Bulletin	Well Bot Soc Bull
Wildlife: A Review	
Zoological Society of London. Proceedings	Zoo Soc Lond Proc
Zoological Society Proceedings	Zoo Soc Proc
Zoological Society Transactions	Zoo Soc Trans

ABBREVIATIONS

AU	Auckland University
Bot Div Lincoln	Botany Division, Lincoln
comp.	compiled
DHO	Dunedin, Hocken Library
Dn	Dunedin
DP	Dunedin Public Library
ed.	editor
ed. (preceded by number)	edition number
FNP (TeA)	Fiordland National Park (Te Anau)
FNPB	Fiordland National Park Board (Library)
IA	Department of Internal Affairs, Wellington
Inv L and S	Invercargill District Office, Department of Lands and Survey
l	leaves
L and S	Department of Lands and Survey
n.d.	no date
n.p.	no publisher
NPA	National Parks Authority
NZDA	New Zealand Deerstalkers' Association
NZLA	New Zealand Library Association
RSNZ	Royal Society of New Zealand
trans.	translated
v	volume
VF TeANP	Vertical file, Te Anau, Fiordland National Park
WFO	Forest Service Library, Wellington
WLS (VF)	Department of Lands and Survey, Wellington, vertical file
WTU	Alexander Turnbull Library, Wellington
WU	Victoria University of Wellington Library
*	not seen by bibliographer

Unidentified locations, e.g., 12/4/14 etc. are files from Inv L and S.

DESCRIPTION AND TRAVEL

206. ADAMS, C.W. 1892: The great Sutherland Waterfall of New Zealand with notes by the way. Hobart, The Mercury. [E]
Abstract of a lecture delivered before the Australasian Association for the Advancement of Science at Hobart, Tasmania, on 11 January 1892 by C.W. Adams, Chief Surveyor of Otago.

207. ANDERSON, J.A. 1965: Conservation and research. *NZ Wildlife 11*: 34-39. [E]

208. ANDERSON, J.A. 1965: Once in a lifetime. *NZ Wildlife 11*: 12-16. [E]

209. ANDERSON, J.A. 1965: So you know all about it. *NZ Wildlife 12*: 28-34. [E]

210. ANDERSON, W. 1964: New Years Day 1963. *NZ Wildlife 6*: 26-30. [E]

211. ANDERSON, W. 1971: Milford trails. Wellington, Reed. 181p. illus. maps. [B447]
An account of exploration, settlement, development, facilities, and celebrities of the Milford-Te Anau area.

212. ANON. 1885: The sounds, lakes, and rivers of New Zealand. From photographs and sketches. Wellington, Government Printer. 33p. [D176]
Hocken says "6 pages of short descriptions of 34 very poor plates".

213. ANON. 1900: Wilmot Pass. Dunedin, *Otago Daily Times*, 12 July 1900. [E]

214. ANON. 1908: Description of Takahe Valley. Dunedin, *Otago Daily Times*, 28 July 1908. [E]

215. ANON. 1976: Fiordland. Christchurch, Bascands. 32p. illus. maps. (A Microtone Colour Book.)
Acknowledges the assistance of the National Parks Authority. Describes park and fauna, including the takahe and the Fiordland crested penguin.

216. BAMFORD, J. 1970: Deer, snow, and rain in the Irene. *NZ Wildlife 33*: 26-37. [E]

217. BANWELL, D.B. 1963: The Lugar Burn. *NZ Wildlife 3*: 5-8. [E]

218. BANWELL, D.B. 1963: Overland to Charles S.D. *NZ Wildlife 4*: 5-12. [E]

219. BANWELL, D.B. 1963: Ye banks and braes of Bonnie Doon. *NZ Wildlife 5*: 33-37. [E]

220. BANWELL, D.B. 1967: Cow Valley. *NZ Wildlife 18*: 26-30. [E]

221. BANWELL, D.B. 1967: The Valley of the Lakes — Lake Hankinson and tributaries of the Lower Wapiti River. *NZ Wildlife 20/21*: 40-47. [E]

222. BANWELL, D.B. 1968: The Majestic Worsley. *NZ Wildlife 23*: 10-16. [E]

223. BAUGHAN, B.E. 1926: The finest walk in the world. 4th ed. Auckland, Whitcombe and Tombs. 66p. illus. map.
Descriptive of the landscape. Very little on the accommodation. First published in *The Spectator*: this had had a second edition in 1909.

224. BEADLE, P. 1971: Manapouri. Wellington, Reed. 32p. illus.
A collection of drawings and paintings with descriptive text.

225. BEADLE, P. 1973: Fiordland. Wellington, Reed. 32p. illus.
A collection of drawings and paintings with descriptive text.

226. BEATTIE, J.H. 1912: European place names in Southern New Zealand. Essay read before Gore Literary Debating Society, 6 May 1912. [E]

227. BEATTIE, J.H. 1944: Maori place names of Otago. 94p. Dunedin, *Otago Daily Times*. [E]

228. BEATTIE, J.H. 1948: Otago place names as bestowed by the pakeha and jotted down by Herries Beattie. Dunedin, *Otago Daily Times*. [E]

229. BEATTIE, J.H. 1949: I visit Manapouri. Dunedin, *Otago Daily Times*. 12p. illus.
Account of a visit to Manapouri in 1948, with some papers on Maori tradition and quotations from Sir Walter Scott.

230. BEATTIE, J.H. 1949: I visit Te Anau. Dunedin, *Otago Daily Times*. 16p. illus.
Account of a visit in 1948 including a descent into the big cave (the glow worm cave not then being open to the public). Sections on Maori tradition and the poetry of Sir Walter Scott.

231. BEATTIE, J.H. 1950: Far famed Fiordland — historic and descriptive; European explorers, white whalers, seamen and surveyors, travellers and tourists, and pakeha place names. Dunedin, *Otago Daily Times*. 141p. illus. [E]

232. BEATTIE, J.H. 1955: The attractions of Te Anau. Dunedin, *Otago Daily Times*. 16p. illus. [H21]
An account of Te Anau's natural attractions, especially the caves, of which there are several photographs.

233. BEATTIE, J.H. 1955: Doubtful Sound. Dunedin, *Otago Daily Times*. 16p. illus.
Description of the sound, with sections on the Wilmot track of that period and as it had been in 1925.

234. BEATTIE, J.H. 1955: Majestic Manapouri. Dunedin, *Otago Daily Times*. 16p. illus. [B448, H22]
History of discovery and place names in the Manapouri area, early visitors, developments, Maori associations, and the archaeology of area are mentioned.

235. BUCKINGHAM, R. 1975: Mountain journey, six weeks in Fiordland. *NZ Alp J 28*: 38-39. map.
Brief account of incidents on traverse from Aan River to Milford Sound.

236. BUCKINGHAM, R. [1975?]: 1975 transfiord expedition. 164p. (Copy of typescript report.)
Observations of topography, birds, vegetation, deer, and other matters of interest seen on traverse from Aan River to Milford Sound, 14 January to 25 February 1975.
Location: TeANP.

237. BURROWS, L. 1974: Te Anau Anchorage. McIndoe, Dunedin. 149p. [H31]
An account of the author's experience as a launch operator on Lake Te Anau.

238. BURTON, A.H. 1889: Wintering on Lake Te Anau and Manapouri. A Photographer's Diary. Dunedin, *Otago Daily Times*. 16p. [H32]
Descriptive narrative with a list of 120 photographic views.

239. CARRICK, R.D. 1907: New Zealand National Park; visit of inspection In *Otago Daily Times*, 1 June 1907.

240. CHAPMAN, B.T. 1977: Parks, people and preservation; an analysis of recreational pressures in the Milford area, Fiordland. Thesis for B.A. Hons. (Geog.), University of Otago. 110p. illus. maps. (Unpublished report.)
Provides history, analysis of contemporary use, and capacity estimates.
Location: WLS.

241. [CHRISTIE, J.H.?]; Rayward, G. 1941: 3rd ascent Mitre Peak. *NZ Alp J 28*: 29. [E]

242. CHRISTIE, J.H. (n.d.): From Lake Hauroko to Lake Manapouri, an exploration trip through the fiord country. (Typescript.) 15p.
Reports a visit in 1932. Along the Roa Stream moose footprints were seen.
Location: FNP 9/1.

243. COLE, F.M. [1875]: A holiday excursion to New Zealand, including visits to Milford Sound and the Para Para mines. Federated Mountain Club for private circulation. [E]

244. COWAN, J. 1926: Travel in New Zealand . . . Vol. II. The South Island. Auckland, Whitcombe and Tombs. xii. 178p. illus. maps.
Describes many Fiordland localities with pictures, notes on history, and meanings of Maori names.

245. CUMBERLAND, K.R. 1953: Geographic regions of New Zealand. The Fiordland-Stewart Island region. (*Post-Primary School Bull 7* (1).) 32p. [H45]
A general review of history, landscape, vegetation, and tourism in Fiordland.

246. CUMBERLAND, K.R.; Whitelaw, J.S. 1970: New Zealand. London, Longman. 194p. illus. maps. (The World's Landscapes, 5.) [B451]
Traces history; gives brief geological history; mentions (only) sighting of rare bird; and describes accessability to tourists. (pp. 57-60.)

247. DICKENS, I.E. 1938: Out of the mountains. Dunedin, Reed. 64p. illus.
Account of travel from Lumsden to Milford, in a lyrical style.

248. [DOLLIMORE, E.S.] [1957?]: Some observations on Sutherland Sound. Wellington, Department of Lands and Survey. 5p. (Unpublished report.)
A description of history, vegetation, birdlife, and other aspects, collected for a possible handbook on the national park, and containing traditional errors as to the isolation of the Sound.
Location: FNP 35.

249. DORIZAC, P.K. 1959: Report on Sutherland Sound. FNPB. 3p. (Unpublished report.)
Describes a visit to the sound in April 1959. Comments on topography, mammals, birds, and vegetation. Concludes that terrain does not present effective barrier to spread of deer in the Sound.
Location: FNP 35.

250. DORIZAC, P.K. 1959: Untitled newsletter item on Sutherland Sound. FNPB. 5p. (Typescript of article.)
Outlines history of Sutherland Sound exploration and describes visit of April 1959: Discusses the journey rather than what they found.
Location: FNP 35.

251. DORIZAC, P.K. [1962?]: Report on Southern Fiordland, October-November 1962. 31p. (Copy of report.)
Describes 256 km journey along southern coast to Puysegur Point, and over the tops to Manapouri. Provides lists of plants and birds observed at each stage.
Location: FNP 10, FNP 28. (Also WFO.)

252. DOUGLAS, A.F. [1953?]: Report on Fiordland trip; 30 March to 29 April 1953. 4p. (Copy of typescript report.)
Notes topography around Lake Poteriteri, Lake Macarthur, and Lake Mitre, with comments on deer, vegetation, and birds.
Location: 13/1/10/1.

253. DUFF, R. *et al.* 1950: Notornis Valley. *NZ Geog Rec 9*: 5-6.

254. FAIRCLOUGH, P.W. 1903: Overland to Milford Sound. Dunedin, NZ Department of Tourist and Health Resorts. 47p.
A tourist's guide, with accounts of scenery, wildlife, and mysteries of the area.

255. FENWICK, G. 1897: Manapouri and Te Anau to Milford Sound: A few notes for holiday seekers. Dunedin, *Otago Daily Times*. [E]

256. FENWICK, G. 1911: Lake Wakatipu to Lake Te Anau, via the Eglinton Valley and Birley's Pass, a splendid holiday walk. Dunedin, *Otago Daily Times*. [E]

257. FIORDLAND NATIONAL PARK BOARD: Annual Report. Invercargill. FNPB 1969-
From the 1968-69 year there are annual reports of some 40 pages, including scientific and maintenance work, facilities, plans for the coming year and accounts.

258. FIORDLAND NATIONAL PARK BOARD. 1962: Homer Walks. Illustrated by Nancy Adams. (Te Anau) FNPB. 15p. illus.
Descriptive text, with pictures of plants and animals.

259. FIORDLAND NATIONAL PARK BOARD: Te Namu, Te Anau. FNPB (No. 1 – Jan 1977-) (quarterly).
Provides brief notice of current scientific projects, with other news from the park.

260. FLEMING, W.T.A. 1954: [Visit to Cow Valley]. 2p. (Typescript copy of a letter to Department of Internal Affairs, Te Anau.)
Reports feral cattle, deer, and birdlife.
Location: 13/1/10.

261. GARRATT, K.J. *et al.* 1975: Milford planning report 1975. Wellington, Department of Lands and Survey for NPA. 24p. illus. maps.
Examines use of Milford facilities, considers planning objectives and makes recommendations.
Location: Invercargill, L and S.

262. GARRATT, K.J. 1976: Assessment of options for access routes between Queenstown and Milford Sound. Wellington, Department of Lands and Survey. 37p. illus. maps.
Considers impact of a road over the Greenstone Track or up the Caples Valley which would enter Fiordland National Park at Lake Howden. Other options examined do not affect the park.

263. G.F.B. 1909: A southern cruise: incidents on land and sea. New Plymouth, *Taranaki Herald*. [E]

264. GIVEN, D.R. 1970: Suggested place names, Fiordland National Park. 2p. (Unpublished report.) Botany Division, Lincoln. [G]

265. GOODALL, G.M. 1964: Fiord and lake panorama, New Zealand. Whitcombe and Tombs. illus. [E]

266. GORE HIGH SCHOOL, SCIENCE DEPARTMENT. [1973]: Deep Cove in Doubtful Sound, field investigation bulletin. Invercargill. 47p. illus. maps.
Guide to the area with pictures of plants and animals to be seen, and rules for pupils.

267. HALL, J. 1878: Notes of a trip to the West Coast Sounds of New Zealand on board the S.S. *Hawea* in December 1877. *Timaru Herald*.

268. HALL-JONES, G. 1967: Fiordland, South Island. South Island Publicity Association. illus. [E]

269. HALL-JONES, G. 1973: Handbook to the Fiordland National Park. 3d ed. Fiordland National Park Board. [A187/13]

270. HALL-JONES, G. (ed.) 1973: Moir's Guide Book (Southern Section) (4th ed.). Christchurch, Whitcombe and Tombs. 153p. [H60]
A handbook to tramping tracks in the Fiordland National Park, including those around Lakes Manapouri and Te Anau.

271. HAMILTON, A. 1896: Notes from Murihiku. *NZ Inst T 29*: 169-178. [E]

272. HARVEY, B. 1968: Fiordland. *NZ Wildlife 23*: 26-28. [E]

273. HATWELL, N. 1967: Fiordland. Auckland, Collins. [E]
Scenic glories of New Zealand.

274. HAY, J. 1904: Southland – scenic and other reserves. *NZ Parl House Rep A-J C-1*: 78-80.
Reports on the proposed Sounds National Park, to include 1 million hectares and suggests a new track to Lake Hauroko.

275. HELM, A.S. 1964: Fiordland place names. Wellington. (Typescript.) 119p.
A list of some 1800 names with locations (not grid references). Some Maori names interpreted, some English names explained.

276. HILL, C.F. 1970*: Report on visit to South Island lakes. Unpublished report, NZ Electricity Department, Wellington. [H200]
Includes Lakes Te Anau and Manapouri.

277. HINGSTON, J. 1883: The New Zealand Sounds: A visit to Caswell Gorge and Milford Sounds (West Coast). *Victorian Rev 8*: 622-638. [D2500]

278. HINGSTON, J. 1883: Seeing the Sounds. Notes on a visit to the West Coast Sounds of New Zealand in the Union Steamship Co's *Tarawera*. Dunedin, USS Co. 42p. [E]

279. HITCHINGS, T.R. [1953]: [Visit to Grebe River] 4p. (Handwritten letter to Commissioner of Crown Lands, Invercargill.)
Reports numerous mice at camps on the Grebe.
Location: 13/1/10.

280. HITCHINGS, T.R. 1958: Canterbury Museum Fiordland Expedition, 1958. *NZ Alp J 17* (45): 278-282. map.
The expedition explored between Nancy and Thompson Sounds. Observed kakapo sign and did mapping work.

281. HODGKINS, W.J. 1896: The first ascent of Mt. Tutoko (3023 metres). *NZ Alp J 2* (9): 172-180.
Reports ascent in April 1895.

282. [HOOD, W.A.] 1958: [1958 trip to Sutherland Sound, Lake Grave and the Dark River.] Blenheim. 10p. (Typescript report.)
In diary form, describes visit to the area from the sea, in March-April 1958. Lists birds seen. Describes camping under great difficulties from rain and lack of food.
Location: FNP 35.

283. HOOD, W.A. 1965: The National Parks Act. *NZ Wildlife 11*: 31-34. [E]

284. HOUGHTON, P. 1974: Hidden water. Auckland, Hodder and Stoughton. 152p. maps.
A personal account of modern simple life at Martins Bay, with descriptions of the northern areas of the park.

285. HOWARD, G.A. 1969: The heart of Fiordland. 2d ed. Christchurch, Whitcombe and Tombs. 211p. illus. maps. [H69]
Superficial survey including a brief history of the area, early visitor use, and changes in use caused by park development.

286. JACOBS, H. 1970: Some problems in Fiordland National Park. *Massif '70*: 55-58. [B438]
Chief ranger briefly describes administrative problems in Fiordland National Park.

287. JASMAD GROUP LTD. 1976: Milford Sound redevelopment study. Auckland. JASMAD [44] p. illus. maps.
A report for the Tourist Hotel Corporation on development of hotel facilities at Milford in harmony with the environment.

288. JEFFERY, D.G. *et al.* [1972?] : Milford Sound environmental planning report. Milford Sound Planning Team for NPA. 44p. illus. maps.
Examines use of Milford facilities, considers what developments might harmonise with the environment and makes recommendations.

289. JENNINGS, D.R. 1962: A visit to Lake Hauroko. 2p. (Report to FNPB.)
Describes walk from the end of the road at that time to the lake and back. Brief reference to birds.
Location: FNP 41.

290. JENNINGS, D.R. 1974: Track making in Fiordland. (Typescript.) 189p. illus. maps.
An account of the Grave Talbot Track over the Homer Saddle. The author worked on the track in the early 1920s.

291. KNOX, R. (editor-in-chief.) 1974-76: New Zealand's nature heritage. Hongkong, Hamlyns. 2947p. illus. maps. [C87]
Many articles refer to Fiordland in addition to those separately listed here. Indexed by subject and author, variable in subject approach.

292. KRONECKER, F. [n.d.] : Streifzuge durch fjorde und alpenseen sudlichen Neu-seeland. Deutsch Australischen Post. [E]

293. KUSCHEL, G. (ed.) 1975: Biogeography and ecology in New Zealand. The Hague, Dr W. Junk. 689p. (Monographiae biologicae.) [C9]
Scattered references only to Fiordland, by authorities on their subjects.

294. LAKE Wakatipu to Lake Te Anau via the Eglinton Valley and Birley's Pass: A splendid holiday walk. 1911. (Dunedin), *Otago Daily Times* and Witness Newspapers Co. 32p. [B453]
Historical account of a trip to Eglinton Valley area (Fiordland National Park).

295. LARGE, J.T. 1894: From Lake Anau to the Sutherland Falls and Milford Sound. *NZ Alp J 1* [6] : 350-365.
A tourist's account of a trip "a year or two back".

296. LOCKERBIE, L. [1951] : Otago Museum reconnaissance expedition to Sutherland Sound, 28 April-8 May 1951. (Extracts from official report.) 26p. illus. (Copy of typescript report.)
Reports on geology, vegetation, birds, and archaeology.
Location: VF, TeANP.

297. LOCKERBIE, L. 1952: Reconnaissance of Sutherland Sound. *NZ Geog Rec 14*: 5-6.
Reports visit and summarises new additions to knowledge of the sound.

298. LOCKLEY, R.M. 1969: Expedition to the Fiordland wilderness. *Geog Mag 40* (2): 1452-1459. illus. map.
Describes conditions in Murchison Mountains. Includes colour pictures of plants and animals.

299. LUCAS, P.H.C. 1965: Fiordland National Park. *Auto age* Mar-Apr. 1965. (Our National Parks — 9) [A188/11]

300. LUCAS, P.H.C. 1965: Fiordland National Park. Part 2. *Auto age* May-June 1965. [A188/12]

301. LYES, P.J. 1951: Report on Charles Sound May 1951. Department of Internal Affairs. (Unpublished report.) [E]

302. MACDONALD, D.C. [n.d.] : The margins of Fiordland. (Unpublished thesis, DHO.)

303. McGILL, I.N. *et al.* 1971: Fiordland trip Easter April 3rd to 12th, 1971. 6p. (Copy of typescript.)
Reports capture of takahe above Lake Irene. Notes deer and birds seen.
Location: FNP 49/1. (TeA)

304. McGRAW, D. 1964: Highroad to Milford. *NZ Wildlife 9*: 30-34. [E]

305. MACGREGOR, I.D. 1969: Professional Guiding at Te Anau. *NZ Spel Bull 4* (70): 277-278. [E]

306. McHUTCHESON, W. 1892: Camp-life in Fiordland, New Zealand, a tale of the Sutherland Falls. Wellington, Government Printer. ix, 134p. Fold-out maps.
Describes a visit over the Milford Track, with many anecdotes. Described by Hocken as "A poor description, with a thread of poor story".

307. McKENZIE, A.J. [1890]: Diary of a trip to Milford Sound made with the writer's stepfather, Donald Sutherland, May 8 1890-July 20 1890. (Not to be used until 1980.) [E]

308. MACKENZIE, T. 1906: New Zealand lakes and fiords. Government Printer. [E]

309. McLINTOCK, A.H. (ed.) 1959: A descriptive atlas of New Zealand. Wellington, Government Printer. 109p. [H105]
Gives brief mention of Lakes Manapouri and Te Anau.

310. MATHESON, D. 1960: Beautiful Manapouri. *For + Bird 137*: 11-12. [H122]
Description of the scenic beauties of Lake Manapouri. Contains quotations from various writers and speakers. Makes a plea for the saving of the lake.

311. MOIR, G.M. 1973: Moir's Guide book . . . Southern section. (Hall-Jones, G. ed.) 4th ed. Reprinted with supplement. Dunedin, NZ Alpine Club. 172p. illus. maps.
Describes tracks and offers advice to trampers, with historical notes.

312. MORETON, S.H. 1880: Milford Sound district descriptive. (Manuscript.) [E]
"Explorations in the Cleddau Valley and Milford Sound."
Location: WTU.

313. MORETON, S.H. 1888: Milford Sound and the scenery of the West Coast. Invercargill, H. and J. Feldwick. [E]

314. MORETON, S.H. 1888: Milford Sound (and) the scenery of the west coast of the Middle Island of New Zealand. Invercargill, H. and J. Feldwick. [E]

315. MORTON, E.K. 1950: Fun in Fiordland. Auckland, Jenkins. 32p. illus.
Describes a trip to Milford and offers advice and information to visitors.

316. MORTON, E.K. [1950?]: A tramper in Fiordland. Auckland, Phoenix. 38p. illus.
Includes reminiscences of the Milford Track, the Hollyford, and Wilmot Pass, also a tribute to Donald Sutherland.

317. MORTON, H.B. 1877: From Auckland to Preservation Sound. Auckland, Wilson and Horton. [E]
(Reprint from the *New Zealand Herald*.)

318. MUIRHEAD, J.H. 1944: Geographic regions of New Zealand. (Unpublished thesis for M.A. in geography.) [F]

319. MURRELL, L.A. 1928: The Fiordland National Park. *NZ Fishing and Shooting Gazette 1* (12): 6. [E]

320. MYLNE, J. 1888: The West Coast sounds. *In* Cassell's Picturesque Australasia. (E.E. Morris, ed.) London, Cassell. v.2. [E]

321. NAIRN, D. 1962: A visit to Luxmore. *NZ Spel Bull 3* (41): 23-24. [E]

322. NEVILL, S.T. [1878] : Notebook (1876-1878). (Manuscript DHO.) [E]
Includes notes on the sounds and Stewart Island, and an account of a vice-regal visit to the sounds in the *Lady Blanche*.

323. NEW ZEALAND DEPARTMENT OF LANDS AND SURVEY. 1890: John Beer's Mt. Luxmore run. [E]

324. NEW ZEALAND DEPARTMENT OF LANDS AND SURVEY. 1899: Launching of *Tawera* 22 Feb 1899. [E]

325. NEW ZEALAND DEPARTMENT OF LANDS AND SURVEY. 1904: Map of Fiord County and parts of Lake and Wallace Counties, New Zealand. Wellington, Lands and Survey. DHO. [E]

326. NEW ZEALAND DEPARTMENT OF LANDS AND SURVEY. 1906: Purchase of Te Anau Hotel by Tourist Department 1906. [E]

327. NEW ZEALAND DEPARTMENT OF LANDS AND SURVEY. 1922: Map of Fiord County and parts of Lake and Wallace Counties, New Zealand. Wellington, Government Printer. [E]

328. NEW ZEALAND DEPARTMENT OF LANDS AND SURVEY. 1931: [Dunedin]. 1:1 000 000 Wellington. NZ Department of Lands and Survey. (New Zealand, NZMS 138; sheet S.L. 59.)

329. NEW ZEALAND DEPARTMENT OF LANDS AND SURVEY. 1934: [Fiords]. 1:1 000 000 Wellington. NZ Department of Lands and Survey. (New Zealand, NZMS 138; sheet S.L. 58.)

330. NEW ZEALAND DEPARTMENT OF LANDS AND SURVEY. [1955]: Draft transcript of records of Richard Henry's service as curator of Resolution and adjacent islands from 1894-1904 — includes four letters concerning the Department records. [E]
Location: WLS.

331. NEW ZEALAND DEPARTMENT OF LANDS AND SURVEY. 1962: Bligh. (1st ed.) Wellington, NZ Department of Lands and Survey. (NZ Cadastral Map 1:63 360, NZMS 177; sheets S120 and S121.)

332. NEW ZEALAND DEPARTMENT OF LANDS AND SURVEY. 1962: Stuart. (1st ed.) Wellington, NZ Department of Lands and Survey. (NZ Cadastral Map 1:63 360, NZMS 177; sheet S130.) [H239]

333. NEW ZEALAND DEPARTMENT OF LANDS AND SURVEY. 1962: Te Anau. (1st ed.) Wellington, NZ Department of Lands and Survey. (NZ Cadastral Map 1:63 360, NZMS 177; sheet S140.) [H239]

334. NEW ZEALAND DEPARTMENT OF LANDS AND SURVEY. 1963: [West Coast Sounds]. (6th ed.) Wellington, NZ Department of Lands and Survey. (NZ Territorial Series 1:253 440 NZMS 10; sheet 27.)

335. NEW ZEALAND DEPARTMENT OF LANDS AND SURVEY. 1965: Milford. (1st ed.) Wellington, NZ Department of Lands and Survey. (NZ Cadastral Map 1:63 360, NZMS 177; sheet S112.)

336. NEW ZEALAND DEPARTMENT OF LANDS AND SURVEY. 1965: Tutoko. (1st ed.) Wellington, NZ Department of Lands and Survey.(NZ Cadastral Map 1:63 360, NZMS 177; sheet S113.)

337. NEW ZEALAND DEPARTMENT OF LANDS AND SURVEY. 1966: [Fiordland National Park]. (5th ed.) Wellington, NZ Department of Lands and Survey. (NZ Territorial Series 1:253 440, NZMS 10; sheet 30.) [H239]

338. NEW ZEALAND DEPARTMENT OF LANDS AND SURVEY. 1966: National Parks of New Zealand booklet. Wellington, Department of Lands and Survey. [E]

339. NEW ZEALAND DEPARTMENT OF LANDS AND SURVEY. 1966: National Parks, Reserves and Domains. Wellington, Department of Lands and Survey.

340. NEW ZEALAND DEPARTMENT OF LANDS AND SURVEY. 1966: [Part Fiord and Wallace]. (5th ed.) Wellington, Department of Lands and Survey. (NZ Territorial Series 1:253 440, NZMS 10A; sheet 33.)

341. NEW ZEALAND DEPARTMENT OF LANDS AND SURVEY. 1968: Fiordland National Park. (4th ed.) Wellington, Department of Lands and Survey. (NZMS 122, 1:300 000.) [H239]

342. NEW ZEALAND DEPARTMENT OF LANDS AND SURVEY. 1968: New Zealand [South Island]. 1:1 000 000. (5th ed.) Wellington, Department of Lands and Survey. (New Zealand, NZMS 83.) Topographical map.

343. NEW ZEALAND DEPARTMENT OF LANDS AND SURVEY. 1968: Preservation and Hakapoua. (1st ed.) Wellington, Department of Lands and Survey. (NZ Cadastral Map 1:63 360, NZMS 177; sheets S173 and S174.)

344. NEW ZEALAND DEPARTMENT OF LANDS AND SURVEY. [1969?]: Dunedin. Wellington, Department of Lands and Survey. (NZ Topographical Series 1:500 000,NZMS 19; sheet 6.) [H239]

345. NEW ZEALAND DEPARTMENT OF LANDS AND SURVEY. [1969?]: Invercargill. Wellington, Department of Lands and Survey. (NZ Topographical Series 1:500 000, NZMS 19; sheet 7.) [H239]

346. NEW ZEALAND DEPARTMENT OF LANDS AND SURVEY. 1969: Manapouri. (2d ed.) Wellington, Department of Lands and Survey. (NZ Cadastral Map 1:63 360, NZMS 177; sheet S149.) [H239]

347. NEW ZEALAND DEPARTMENT OF LANDS AND SURVEY. 1970: Eglinton. (2d ed.) Wellington, Department of Lands and Survey. (NZ Cadastral Map 1:63 360, NZMS 177; sheet S131.) [H239]

348. NEW ZEALAND DEPARTMENT OF LANDS AND SURVEY. 1970: Hollyford. (2d ed.) Wellington, Department of Lands and Survey. (NZ Cadastral Map 1:63 360, NZMS 177; sheet S122.)

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Includes Fiordland islands, Secretary, Resolution, Breaksea, Chalky, Coal, and Codfish.

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393. NEW ZEALAND DEPARTMENT OF TOURIST AND HEALTH RESORTS. 1924: Map – Te Anau to Milford Sound. Wellington, NZ Department of Tourist and Health Resorts. [E]

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397. NEW ZEALAND NATIONAL AIRWAYS CORPORATION. 1965: New Zealand's national parks. *Airline Review 5*. (33.) [E]

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Contains summary of submissions received on the report of D.G. Jeffery's team, comments by the team, and resolutions of National Parks Authority.

400. O'CONNOR, K.F. 1972: Planning for recreation among other uses of mountain land and water resources. *Tuss Grass Rev 24*: 26-41. [H146]

Includes a section on the Waiau catchment which includes Lakes Manapouri and Te Anau.

401. OTAGO EXPANSION LEAGUE. 1925: Milford Track, New Zealand. "The Finest Walk in the World." Dunedin. 20p. illus. [E]

402. PARK, J. 1884: The ascent of Mount Franklin. *Trans NZ Inst 17*: 350-356. [A189/14]

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404. PAULIN, R. 1889: The wild West Coast of New Zealand. A summer cruise in the *Rosa*. London, Thorburn. viii, 121p.

Hocken says "Good account of Stewart Island and the sounds".

405. PETRIE, A.R. 1976: Milford Sound – conflicts in useage. *In* NZILA Conference 1976. Emergence Papers. Christchurch. NZILA (NZ Institute of Landscape Architects). (Lacks imagination.) [3] p.

Suggests that by 1975, with 112 000 visitors, Milford was reaching saturation. Discusses impact of landscape, including mud flats, not expected by many visitors.

406. PHILIPSON, W.R. 1960: Flight into Fiordland. *Alpine Garden Society Quarterly Bulletin 28*: 124-139. illus. map.

Author was botanist to a Canterbury Museum expedition to Lake Te Anau, looking for takahe. Describes vegetation.

407. REED, A.H.; Reed, A.W. 1950: Farthest west afoot and afloat. Wellington, Reed. 192p. [A190/6]

408. REED, A.H. 1954: The four corners of New Zealand – crossing of the Murrell Pass by A.H. Reed. Wellington, Reed. [E]

409. REED, A.H. 1965: The Milford Track. Wellington, Reed. 48p. illus.
Account of the author's walk over the track in 1964 at the age of 88, with a history of the route.

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411. REISCHEK, A. 1930: Yesterdays in Maoriland. London, Jonathan Cape. [E]

412. RICHARDS, J.H. (1955): Milford Sound, New Zealand. Wellington, Reed. 48p. illus.
History and description of the sound, illustrated to show geological processes as well as history and present attractions. Descriptions also of the track and road.

413. RICHMOND, J.C. 1887: Opening of the South-western lakes and sounds. *NZ Parl House Rep AJ* (1887, session I) H-20. [H154]
Reports on a visit (with J. Gully) to look at scenery and consider tourist potential.

414. ROSS, M. 1889: The West Coast sounds of New Zealand. Dunedin, J. Wilkie and Co. [E]

415. ROSS, M. 1895: Through "Fiordland". Melbourne, J.W. Packer. [E]

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417. SCANDRETT, W.B. 1883: Southland and its resources, being a paper read by Mr W.B. Scandrett, at a meeting of the Southland Institute, September 18th, 1883, together with comments by readers. 11p. [E]

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Guide to visitors, from the road approaches on, (including Wakatipu and the Greenstone), explaining accommodation and difficulty of tracks.

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423. SPENCE, F.D. 1955: A geographical study of the tourist industry in New Zealand. Auckland, Auckland University College. (Unpublished thesis for M.Sc. in Geography, AU.) [F]

424. STANTON, B.R. *et al*. 1976: Fiordland National Park. *In* New Zealand's Nature Heritage. Hongkong, Hamblyns. pp 2797-2804. [C105]
A range of subjects dealt with by well-informed writers.

425. STEWART, L.R. 1963: Low level pass from Breaksea Island to Daggs and Doubtful Sounds. Letter to FNPB. 3p.
Describes traverse of pass in October 1963 and suggests that the board encourage tourist use of the route, so that visitors over the Wilmot Pass could reach the Dusky Sound area.
Location: FNP 31.

426. SUTHERLAND, D. 1907: Article on Sutherland Falls. *Lyttleton Times* 8 May 1907. [E]

427. SUTHERLAND, K.R. [1955]: Report, Resolution Island and Wet Jacket Arm, January 1955. 3p. (Typescript copy of report.)
Principally a search for kakapo, (none found), but comments on birds seen, stoats, and deer.
Location: 13/1/9.

428. SUTHERLAND, K.R. [1957]: Report from Dusky Sound — January 10th to February 7th, 1957. 2p. (Typescript copy of report.)
Reports on stoats on Resolution Island and elsewhere, birds, and deer.
Location: 13/1/10.

429. SUTHERLAND, K.R. 1958: Report on Dusky Sound region, Fiordland National Park, January 16th to February 5th, 1958. 2p. (Copy of unpublished report.)
Reports on birds and stoats, also on deer. Considers that 25 to 45 moose are on the peninsula between Wet Jacket Arm and Dusky Sound.
Location: FNP 31.

430. SUTHERLAND, K.R. 1959: Report on Dusky Sound region, Fiordland National Park, 5 January 1959 to 26 January 1959. 3p. (Copy of an unpublished report.)
Notes birds seen, seals, deer, and moose. Reports having found a dead moose in 1958 in the Seaforth Valley. Notes evidence of ancient Maori inhabitants.
Location: FNP 31.

431. SUTHERLAND, K.R. 1960: Report on Dusky Sound, January-February 1960. 2p. (Unpublished report.)
Comments on bird life, Maori hut sites, deer, and seals.
Location: FNP 31.

432. SUTHERLAND, K.R. 1961: Report on the south and north western parts of Dusky Sound, March 6 to March 29, 1961. Hinakura. 2p. (Copy of an unpublished report to the Commissioner of Crown Lands.)
Describes birds, seals, and the remains of the wreck *Endeavour*.
Location: FNP 31.

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Provides history of the route, a route guide, and useful information.

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Provides history of the route, a route guide, and useful information.

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Notes plants and birds at Disappointment Cove, Resolution Island, as well as on the small islands, discusses diet of rats caught on Breaksea Island, notes a new skink. (See also report by Kim Morrison 1975 and by P.N. Johnson 1975.)
Location: FNP 28.

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442. WALL, A. 1929: Lake and Fiordland – head of Wakatipu to head of Te Anau, the Milford Track, Lake Manapouri and Doubtful Sound; Lake Monowai and Mt. Cleughearn, The Hump. Christchurch, *Lyttleton Times*. [E]

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Exploration of the Murchison Range – general description.

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Copy of the report published by Dunedin *Evening Standard*, 16 June 1883.

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DISCOVERY AND EXPLORATION

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Travelled up Routeburn into Hollyford. Named Harris Saddle, Hollyford Valley, Puke River, Lake McKerrow. [E]

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Using Grave's diaries and notes, an account of explorations 1897 to 1910.

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Discusses latitude differences between satellite readings and NZ Datum 1949, and compares Fiordland and Wellington Harbour results.

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Describes exploration of the Freeman Burn at Christmas 1898, waterfalls and lakes, and more recent explorations.
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473. GIFFORD, A.C. 1900: Explorations in the Te Anau district. *Trans Proc NZ Inst 32*: 425-426. [H54]
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(This is also reproduced in J.W. Beattie, 1947: The Pioneers Explore Otago.)

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476. HALL, W.Y.H. 1899: [Country West of Lake Te Anau.] 10p. (Hand written letter to Chief Surveyor, Invercargill.)
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Location: 13/1/12.

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Accounts of exploration in Preservation Inlet area.

480. HAY, J. 1883: Report of exploration in the county of Fiord. *NZ Parl House Rep A-J C-2*: 44-45. map. [D2029]
Reports work in Southern Fiordland and resources of timber observed. Notes that kakapo seems plentiful, and rabbits have reached the south and east side of Lake Hauroko. Comments briefly on geology.

481. HECTOR, J. 1863-4: Journals. [E]

482. HECTOR, J. 1863: Map of Martin's Bay. [E]
Named Sara and May Hills and Mount Tutoko.

483. HECTOR, J. 1864: Expedition to the West Coast of Otago, NZ, with an account of the discovery of a low pass from Martin's Bay to Lake Wakatipu. *RGSJ 34*: 96-111. [A187/19, D2101]

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487. McCONOCHIE, N. 1954: Report on trip to Lake Monk. 2p. (Typescript report.)
Reports a visit in February 1954, flown in by J. Monk. Comments on deer, vegetation condition, and limited bird populations.

488. McKAY, A. 1883: Exploration of the Hollyford Valley, west coast of Otago. *NZ J Sci 1*: 536-538.
In a letter to the editor, draws attention to Hector's explorations of 1863 and other work preceding Wilmot.

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Report of exploration by the Spey and Seaforth Rivers towards Dusky Sound. Suggests a large park be established. Comments on wildlife, including rabbits in the headwaters of the South Spey.

490. MACKENZIE, T. 1896: Exploration between Dusky Sound and Lake Manapouri. *NZ Parl House Rep A-J C-1*: 112-114. maps. [A188/17, D3310]

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Reviews his explorations since 1888, especially the discovery of Pillans and MacKenzie Passes in 1894.

492. MACKENZIE, T. 1896: West Coast Exploration. Dunedin, *Otago Daily Times*. [E]

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Discusses water level range of Lakes Manapouri and Te Anau, their tributaries, Lake Monowai, vegetation, and weather in the 1862-63 summer.

494. McKERROW, J. 1866: Map of province of Otago. Otago Survey Lithographic Press. [E]

495. McKERROW, J. [n.d.]: Diaries and other papers dealing with his exploratory work in the lakes district of Otago 1861-63. [E]

496. McKINNON, Q. [1887?]: Map of his route to Caswell Sound (1887). [E]

497. McKINNON, Q. [1888?]: Discovery of McKinnon Pass: notes left by Q. McKinnon and T. MacKenzie on a tree during exploration as information to the party in Arthur Valley 1888. [E]

498. MACPHERSON, D. 1913: Report on exploration trip, direct route, Lake Wakatipu to Milford Sound. *NZ Parl House Rep A-J C-1A* Appendix 4: 28-30. [B445, D3350]
An account of the first exploration of an alternative route from Wakatipu to Milford, via Hollyford, Lake Marion, then Homer, Experance, and Cleddau Rivers.

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Describes Hollyford and Homer Saddle.
Location: 13/1/12.

500. MACPHERSON, D. 1918: Report on exploration, South Fiord (Lake Te Anau) to Gaer Arm, Doubtful Sound. *NZ Parl House Rep A-J C-1A*: 9-10. illus. map. [D3351, H107]
Comments on scenery and natural features. Named the MacPherson Pass.

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Reports on terrain. Says Lake Boomerang had trees standing below water surface.
Location: 13/1/12.

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Includes several early charts of Fiordland, by Cook and his officers, by Malaspina, Bunker, and Edwardson, as well as a map of the South Island drawn by a Maori about 1841, which also shows the Fiordland coast.

504. MANTELL, W.B.D. [n.d.] : Sketch map of the Southern Lakes. [E]

505. MARSHALL, R. 1908: Vicinity of Lake Te Anau and Milford Sound, New Zealand. *Geog J 32*: 353-363. illus. map. [D3449]
Describes 1906 explorations along the Clinton, Arthur, and Joe's Rivers.

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510. NZ SURVEY. 1890: Sketch showing country between Milford and George Sounds and Te Anau Lake. [E]

511. [ORCHISTON, J.] 1896: Explorations in south west Otago. *NZ Alp J 1* (9): 180-185.
Reports a survey for a telegraph line from Puysegur Point to Orepuki in February 1896. Comments on birds observed and on the tree species.

512. PARK, J. 1887: On the district between the Dart River and Big Bay. *NZ Geol Surv Report Geol Explor 1886-1887*: 121-141. [A189/15]

513. PARKINSON, S. 1773: Journal of a voyage to the south seas in His Majesty's ship the *Endeavour*. London xxiii, 212p.

514. PAULIN, R. 1883: A trip to Lake Mauroto. *NZ J Sci 1*: 119-127.
Mentions vegetation between Clifden and the lake; notes lack of birds (they had no dogs and saw no kiwis or kakapo). One of the plants mentioned is *Celmisia ramulosa*.

515. PRESTON, T.W. 1924: Report of exploration of Tutoko, Cleddau and Hollyford Valleys with a view of finding a return track from Milford Sound to Lake Wakatipu. 4p. (Typescript report.)
Describes the Grave-Talbot track. Considers the Homer Tunnel possibility the only one fit for tourists.
Location: 13/1/12.

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Includes notes on cartography, geology, and hydro-electric potential of Lake Shirley.
Location: 13/1/12.

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518. REARDON, R.D. 1962: Lake Shirley survey. (M.S. 1p.) [E]

519. REISCHEK, A. 1887: Recent explorations north of Chalky Sound, West Coast of Otago. (Abstract.) *NZ Inst T 20*: 441. map. [A190/8, D4416]
Reports naming of Lakes Hector, Thomas, Fraser, Macarthur, and Rimmer. Includes a list of birds collected.

520. ROBINSON, N. [1889?]: Letter and photograph of first party to walk Milford Track after MacKinnon. Dr J. Don and party, 1889. [E]

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(A second edition appeared in London the following year and another in Edinburgh in 1789.)
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Describes discovery of Darran Pass and discusses earlier explorations for a pass through the range.

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Location: DHO.

528. STOKES, J.L. [n.d.]: Map of the Fiordland Coast. [E]

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530. SUTHERLAND, D. 1882: Chart of Sutherland Sound. Drawn by D. Sutherland. Col. Chart 92 x 64 cm. [E]

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This is the Transit River. He also discovered and named Lake Ursula, and found what is now McKenzie Falls.

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Location: WLS VF.

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Contains diaries of C.J. Nairn Giddies, 1st, 2nd, 3rd; Mantell's diary, 1851-52.

801. BEGG, A.C. *et al*. 1963: [Placing of Cook Plaque in Pickersgill Harbour.] (letter to FNPB.) 2p.
Describes visit to Dusky Sound in March 1963, the stumps of Cook's trees seen and the fixing of the plaque.
Location: FNP 31.

802. BEGG, A.C.; Begg, N.C. 1970: James Cook and New Zealand. Wellington, Government Printer, c1969. 171p. illus. maps. refs (23). [B425]
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History of the creation of Resolution Island (Fiordland National Park) as a "reserve for native birds and flora".

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History; also contemporary comment, with list of plants and birds seen in December, 1969.

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820. GLEN, F.G. [1964?] : The journal of the Rev. Frank Grenfell Glen concerning the first established Christian pastoral work in southern Fiordland. 35p. (Copy No. 33 of a duplicated typescript.)
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832. HERRON, D.G. 1948: James McKerrow; surveyor, explorer, civil servant with special reference to exploration 1861-63. Otago University thesis. [E, F]

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834. HOWARD, B. 1940: Rakiura. [E]
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835. INGRAM, C.W.N.; Wheatley, P.D. 1961: New Zealand ship wrecks, 1795-1960. (3d ed.) Wellington, Reed. viii, 408p.

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837. KEOWN, P.A. 1969: Migration in western Southland, 1960-1966. Christchurch, University of Canterbury. (Unpublished thesis for M.A. in geography.) CU. [F]

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A history of Fiordland constructed round the author's visit to Milford in 1954 at the end of the Royal Visit.

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Printed transcript of very short entries with an introduction.

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Detailed information is provided.

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Description of discovery of an overland route to Milford Sound.

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862. PUYSEGUR Point Lighthouse: Journals, to 1942. (held at DHO).

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865. ROBERTS, W.H.S. 1913: Place names and early history of Otago and Southland. Invercargill, Southland Times. 136p.

866. ROSS, J.O'C. 1969: This stern coast. The story of charting of the New Zealand coast. Wellington.

867. THE SETTLEMENTS that failed. 1971-3: *NZ's Heritage 3*: 1177-1181. illus. [B457]
History of settlements attempted at Jamestown (on Lake McKerrow), and Martin's Bay.

868. SHARP, P.A. 1969: A historical geography of the changing attitudes to the use and abuse of land by deer. Dunedin, University of Otago. (Unpublished thesis for M.A. in geography.) [F]
Location: DU.

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874. WATT, J.O.P. 1971: Preservation Inlet. Invercargill, *Southland Times*. 131p. illus. maps.
A history based largely on the files of the *Southland Times* and *Southland News*.

LAKE MANAPOURI HYDRO DEVELOPMENT

875. ANON. 1949: Lake Manapouri concessions. *Board and Council 27* (699): 15.
Notes that New Zealand Sounds Hydro-electric Concessions Ltd. will ask for more money from the Government to reimburse them. The company had started investigations in 1926.

876. ANON. 1960a: Facts about the Manapouri-Te Anau agreement. *For + Bird 135*: 5-6. [H5]
Outlines the rights of Comalco and conflict with the 1952 National Parks Act.

877. ANON. 1960b: Manapouri-Te Anau, two sides to every question. *For + Bird 137*: 3-4. [H6]
A brief discussion of the arguments for and against the proposed submerging of Manapouri and Te Anau.

878. ANON. 1960c: The Manapouri petition. *For + Bird 138*: 3. [H7]
Report on submissions to Parliament asking for Lakes Te Anau and Manapouri to be saved from despoliation and seeking amendment to the National Parks Act in order that New Zealand's national parks be afforded greater security.

879. ANON. 1962: Lake "more beautiful" if raised. Southland A.A. *Christchurch Press*, 26 October: 12. [H8]
Outlines contents of letter from Automobile Association (Southland) to Automobile Association (Canterbury). Claims that lake level used to be 30 m higher than it is today, so that proposed scheme would merely take it to nearer the original depth.

880. ANON. 1963b: Comalco investigation. Unpublished report by Chairman, Freshwater Fisheries Advisory Council, Fisheries Research Division, Wellington. [H181]

881. ANON. 1968: Manapouri tests man's ability. *NZ Eng 23* (i): 29-33. illus. maps.
Outlines the Manapouri power station project and transmission to Tiwai Point.

882. ANON. 1969a: Guidance on Manapouri (editorial), *Christchurch Press*, 20 November: 16. [H9]
Welcomes Prime Minister's suggestion of an independent tribunal, in the light of continuing arguments about the future of Lake Manapouri.

883. ANON. 1969: Lake Manapouri power. *FMC Bulletin 33*: 608. (June 1969.)
Discusses recent developments in the Manapouri debate.

884. ANON. 1969: Manapouri. *FMC Bulletin 34*: 1-6. (Oct 1969.) [H44]
Outlines the issues. Urges readers to speak out against raising the lake.

885. ANON. 1969: Manapouri power project. Final developments. Mararoa Dam. Report on lakeshore treatment, July 1969. 26p. (Copy of typescript report.)
Discusses studies made into effect of raising Lake Manapouri 8.2 m and proposals for repairing the damage.

886. ANON. 1969b: The tragedy of Manapouri and Te Anau. *For + Bird 172*: 4-5. [H10]
A plea for keeping present lake levels.

887. ANON. 1970c: Effect of raising Lake Manapouri on scientific values. (Unpublished report.) Chemistry Division, DSIR, Wellington. [H186]
Location: 120/4/14.

888. ANON. 1971c: Manapouri: costs and benefits (editorial). *Christchurch Press*, 26 November: 8. [H13]
Comments on report of NZ Institute of Economic Research on the Manapouri scheme.

889. ANON. 1970: Manapouri power scheme — history involving National Parks Authority. 13p. (Copy of typescript report.).
Summary of National Parks Authority involvements from 1956 to 1970.
Location: VF TeANP.

890. ANON. 1970: More on Manapouri – and construction. *FMC Bulletin 35*: 6-8. (April 1970.)
Keeps readers informed of developments since October 1969.

891. ANON. 1971a: The Manapouri report (editorial). *Christchurch Press*, 10 June: 10. [H11]
Comments on the recommendations of the Parliamentary Select Committee on Lake Manapouri, which favour "those who oppose the raising of the lake to produce electric power".

892. ANON. 1971b: Manapouri compromise (editorial). *Christchurch Press*, 23 September: 14. [H12]
Considers that "the only economically feasible outcome might be still to raise the lake".

893. ANON. 1972: Lake conditions not as serious as expected. *Soil and Water 9* (1 and 2): 8. [H15]
Considers shoreline changes at low lake levels must be accepted when weighed against the economic benefits to the nation.

894. ANON. 1972c*: Lake Te Anau. Government response to field report on shoreline of Lake Te Anau by . . . Botany Department, University of Otago. *NZ Environ 2* (2): 14-15. [H16]
This report by the Botany Department is referenced under Baylis, *et al.* (1970).

895. ANON. 1972a: Te Anau lake levels: Manapouri lake levels. Mararoa Dam. *Nat Conser Counc Newsl 1*: 9-10. [H14]
Reports on problems over lake level controls on Te Anau and Manapouri and particularly slumping of Manapouri shoreline during low levels. The Government decision to build a wide-based dam at Mararoa to control Lake Manapouri at natural levels is reported. This structure allows for the lake level to be raised 12 m.

896. ANON. 1973: Manapouri Power Scheme. *Nat Conser Counc Newsl 4*: 3-4. [H17]
Reports the Government decision of February 1973 to build a narrow-based dam to control the level of Lake Manapouri within its natural range, and the decision not to dredge the lower Waiau River to increase storage capacity.

897. ANON. 1974: 20B – Electric Power. In *New Zealand Official Yearbook 1974*. p.549. [H18]
Describes the history of the development of the Manapouri power scheme, the present power output, and operational controls on the levels of Lake Manapouri and Te Anau.

898. BROOKS, S.E. 1970: Manapouri power project: tailrace tunnel construction. *NZ Eng 25* (5): 120-124. illus.
Describes designs and construction. Shows sketch section through mountains.

899. BURRELL, R. 1972: Manapouri and Co En Co. *FMC Bulletin 41*: 1-3. (Feb 1972.)
Outlines Government decisions and the formation of Co En Co in response.

900. COMMISSION OF INQUIRY INTO THE PROPOSAL TO RAISE THE LEVEL OF LAKE MANAPOURI FOR THE PURPOSE OF GENERATING ELECTRICITY. 1970: Report. Wellington, Government Printer. 66p. [B439]
The report of the three commissioners based on 68 written submissions and 1800 closely typed pages of evidence. The terms of reference of the Commission are presented and a five point summary of the principal findings. The written submissions are held in the General Assembly Library.

901. FARRELL, B.H. 1960: The geography of power resources in New Zealand. Auckland. University of Auckland. (Unpublished thesis for Ph.D. in geography.) [F]
Location: AU.

902. FIORDLAND NATIONAL PARK BOARD. 1970: Supplementary submission of Fiordland National Park Board to Commission of Inquiry . . . 16p. (Typescript.) Inv L and S.
Elaborates the views of the board contained in the joint NPA-FNPB submission on the Manapouri proposals.

903. FLEMMING, C.A. 1971: The proposal to raise the level of Lake Manapouri for the purpose of generating electricity; a case-history in environmental resource management. *Rec Proc 12th Pacif Sci Congr 1971* (1): 344-345. [H49]

Outlines the history of the development of the power scheme.

904. GIBBS, H.P. 1930: Report. Manapouri-Deep Cove Hydro Electric Power Project. Wellington, L.T. Watkins. 30p. [H53]

Outlines an early proposal to develop the hydro-electric power potential of Lake Manapouri for nitrate production to make fertilisers and explosives.

905. GRAY, H.R. 1961: Sale of Lake Manapouri. *Landfall 15*: 386-391. [H56]

A detailed article written from the conservationist viewpoint outlining the proposals to date and questioning the political morality and ultimate economic benefit to the country.

906. GUARDIANS OF LAKES MANAPOURI AND TE ANAU. 1974-: Annual reports to the Minister for the Environment. (Unpublished reports.) Guardians of Lakes Manapouri and Te Anau, Dunedin. [H199]

The four annual reports (1974, '75, '76, '77) trace the endeavours of the guardians to instigate scientific studies as a basis on which to recommend operational controls for the two lakes.

907. GUARDIANS OF LAKES MANAPOURI AND TE ANAU, 1977: Operating guidelines for the levels of Lakes Manapouri and Te Anau. Dunedin. 4p. [H58]

Three operating ranges are defined for the two lakes. A main range and a high and low range in which restrictions on the period of duration are built in to preserve the shoreline in a natural state.

908. [HANAN, J.R.] 1949: Lake hydro schemes — possibilities of Te Anau and Manapouri. *Board and Council 27* (703): 13-14.

At a Rotary lunch in Invercargill, Mr Hanan, M.P. noted the interest of Canadian aluminium makers in the lakes and was cautiously favourable.

909. HARPER, C.T.; McGill, I. 1960: Lake Manapouri: notes on the proposed power scheme. *Sci Rec Dunedin 10*: 45-48. [A187/16, H65]

A report on the geology of the area near the proposed power station at West Arm and the tail-race outlet at Deep Cove.

910. HENDERSON, F.M. 1960: Alternative proposed to Manapouri plan. *Christchurch Press*, 6 August: 10. map. [H68]

Article by a senior lecturer in engineering at the University of Canterbury. Outlines alternative scheme requiring only seasonal storage and using existing lake levels. Claims this scheme would produce almost the same amount of power at a similar cost. Map given.

911. HENDERSON, F.M. 1961: Massive works will be needed for aluminium smelter hydro project. *NZ Manufacturer 13* (4): 141-144. [H68]

Attacks the proposed 30-m lake raising on Manapouri from both aesthetic and engineering viewpoints.

912. HOWELL, J.A.; Swain, R.L.; Wilkins, A.L. 1972: Report to the Otago University Students' Association regarding the proposal to raise the levels of Lakes Manapouri and Te Anau for the purpose of generating electricity. 34p. (Copy of a typscript report.)

Provides questions and official replies and authors' comments on some aspects of the agreement and project.

Location: VF TeANP.

913. HUNT, A.L. [1926] : An Empire Enterprise. NZ Sounds Hydro-electric Concessions Ltd. Wellington, L.T. Watkins. 32p. [H70]

Outlines the company's concession and licences to build a power station at Manapouri to generate electricity for nitrate production to make fertilisers and explosives.

914. HUNT, A.L. 1947: Lake Manapouri power. *Board and Council 25* (648): 14-15.
The company, New Zealand Sound Hydro-electric Concessions Ltd., petitions for a renewal of its licence. Amongst their ideas was a limestone marble industry on Doubtful Sound.

915. LITTLEWOOD, G.E. 1972: Resource development by Comalco in New Zealand and Australia. *Proc NZ Ecol Soc 19*: 13-15. [H90]
The development of the Manapouri power project for the Australian bauxite resources at Weipa, Queensland, is placed in historical perspective. The need to flood Manapouri is seen as necessary as embodied in the original agreement.

916. LOCKE, E. 1960: View from the lakes. *Comment 1* (4): 26-29.
Explanation of hydro-electric schemes on Lake Manapouri and disapproval of the work.

917. LUSH, A. 1960: The rape of Manapouri: need to amend Development Bill. *Christchurch Press*, 6 September: 12. [H92]
Endorses F.M. Henderson's (1960) alternative proposal. Outlines concern for scenic preservation and considers possible earthquake risks of the proposed project.

918. LUSH, A. [n.d.]*: Case against Manapouri power for Comalco. (Unpublished report.) Internal Affairs Library, Wellington. [H210]

919. LUSK, P. 1975: Comalco, Manapouri, and the Bluff smelter. *NZ Environ 4* (3): 18-24. [H93]
A comprehensive article outlining the history of the Manapouri Power Project and the smelter. Effects of low lake levels on shoreline stability are described. Also in *Canta 1974* (9): the magazine of the Canterbury University Students Association.

920. McCANN, E. 1970: The Manapouri-Comalco deal. *Econ Bull Cant Chamber Comm 536*. 4p. [H94]
Carries out a cost benefit analysis on the economics of the power scheme and concludes the benefit to New Zealand would be maximised if the electricity were sold to national electrical consumers rather than at a cut rate to Comalco. Uses this as a basis to justify renegotiation of the contract with Comalco.

921. MACKENZIE, N.M. 1971: The Manapouri controversy, a personal comment. *Road Transport Contract 19* (2): 28-31. [H98]
Argues for the raising of the lake on economic grounds, the costs from alternative power sources being excessive and the scenic beauty not being diminished.

922. MARK, A.F. 1976: Lakes Manapouri and Te Anau. *NZ's Nature Heritage 7*: 2877-2884. [C61, H114]
Discusses forest zones on western shores and the hydro-electric proposals up to the appointment of Guardians, of which he was made first chairman.

923. MENTIPLAY, C.R. 1971: Comment from the Capital: Manapouri problems seen: but no real answer given. *Christchurch Press*, 6 June: 16. [H123]
The *Press's* parliamentary reporter comments on the Parliamentary Select Committee's report on six Manapouri petitions.

924. NATURE CONSERVATION COUNCIL. 1963: Annual Report. *NZ Parl House Rep A-J H-30*. [H129]
Founded in 1962, the council has been very active in the Manapouri controversy. Its findings and recommendations, summarised in the annual reports, contain many reasoned comments.

925. NATURE CONSERVATION COUNCIL. 1968: Lake Manapouri Power Scheme. *Nat Conserv Counc Inf Leafl 1*. 4p. [H130]
A brief history of the power project is given followed by a statement of the council's attitude to the proposed manipulation of lake levels.

926. NATURE CONSERVATION COUNCIL. 1968b: Lake Manapouri Power Scheme. *Nat Conserv Counc Inf Leafl 2*: 4p. [H131]

The council's reasons for opposing the raising of the level of Lake Manapouri and building of a control structure on Lake Te Anau are put forward.

927. NATURE CONSERVATION COUNCIL. 1970: Manapouri-Te Anau Power Scheme. *Nat Conserv Counc Inf Leafl 6*: 8p. [H132]

Sets out the council's opinions on the Commission of Inquiry Report into the raising of the lake.

928. NELSON, R.C. 1963: Manapouri power project. *For + Bird 156*: 8-9. [H133]

Describes the results of a discussion between the president of the society and Ministry of Works' officers on shoreline clearing, construction, and plans for lake level manipulation.

929. NELSON, R.C. 1969: Manapouri is threatened with fate of Canadian lake used for power generation. *For + Bird 156*: 9. [H134]

The level of Lake Buttle in Canada was raised in 1955. A comparison is drawn between the depressive effects on the shoreline and the possible effects of flooding Lake Manapouri.

930. NELSON, R.C. 1970a: Meeting is convinced that raising the levels of Manapouri and Te Anau is a dreadful mistake. *For + Bird 175*: 15. [H135]

Brief report of meeting in Invercargill which had been called to hear reasons for the raising of Lakes Manapouri and Te Anau.

931. NELSON, R.C. 1970b: A ten year struggle to save Lake Manapouri. *For + Bird 176*: 10-11. [H136]

An article expressing disappointment at the Government's stand on the issue and restating the society's opposition to the raising of the lake.

932. NELSON, R.C. 1971: Government should decide now not to raise levels of Lake Manapouri. *For + Bird 181*: 3-4. [H137]

Urges Government to make decision that the levels of Lake Manapouri will not be raised at any time.

933. NELSON, R.C. 1974: Raising level of Manapouri would not have helped power shortage today. *For + Bird 192*: 7-10. [H138]

Traces the history of the proposed power scheme and the opposition to it. Claims that the raising of the lake levels would not have affected today's power shortage.

934. NELSON, R.C. 1975: The politics of Manapouri. *For + Bird 198*: 11-12. [H139]

Looks back at events which led up to the "Save Manapouri Campaign", and the Royal Forest and Bird Protection Society's presentation of New Zealand's biggest petition to Parliament.

935. NEW ZEALAND CABINET. 1970: Report of the Cabinet Commitee on Lake Manapouri. Wellington, Government Printer. 78p. [H140]

The emphasis of this report is on the estimated costs of shoreline clearing and the feasibility of alternative schemes.

936. NEW ZEALAND ELECTRICITY DEPARTMENT. 1967a: Manapouri-Te Anau hydro-electric development. Wellington, Government Printer. 67p. [H141]

The official White Paper presented to explain the purpose of the project and survey its planning and development.

937. NEW ZEALAND ELECTRICITY DEPARTMENT. 1967b: Power from Manapouri. Wellington, Government Printer. 33p. [H142]

An illustrated booklet covering the development of the project since its inception, and incorporating scenic, geological, and historical information.

938. NEW ZEALAND ELECTRICITY DEPARTMENT. 1973: Manapouri Power Station. Wellington, Government Printer. 7p. [H143]

An informative publication with headings: history, the project, the powerhouse, the lakes, and transmission.

939. NEW ZEALAND MANAPOURI HIGHER OFFICIALS COMMITTEE. 1970: Report to Cabinet Committee on Manapouri re matters relating to Lake Te Anau and the Upper Waiau River. (Held at the General Assembly Library.) [H110]

940. NEW ZEALAND MINISTRY OF WORKS. 1963: Manapouri Power Project, contract documents for construction of the tail race tunnel, contract No. 4545-100. Wellington, Ministry of Works. [160] p. plans. maps.

Besides the contract document; exhibits for specifications, contract drawings, rates, construction programme, and contractor's field organisation, finance, construction establishment, and additional information submitted with the tender are included.

941. NEW ZEALAND MINISTRY OF WORKS. 1965-68: Manapouri Power. *NZ Min Wks Inf Ser 6*. 4p. [H126]

An informative leaflet outlining the history of Lake Manapouri and facts and figures on the construction, powerhouse, and generating capacity.

942. NEW ZEALAND MINISTRY OF WORKS. 1965-68: Manapouri Progress. *NZ Min Wks Inf Ser 20*: 4p. [H127]

An illustrated leaflet dealing mostly with the powerhouse construction.

943. NEW ZEALAND MINISTRY OF WORKS, 1966*: Progress report. Manapouri Power Project — Bechtel Pacific Corporation Ltd. (Unpublished report.) Ministry of Works. [H224]

Location: 621/312134.

944. NEW ZEALAND NATIONAL PARKS AUTHORITY. 1970: Manapouri power scheme history involving National Parks Authority. N.P.A. 1970.

945. NEW ZEALAND PARKS AUTHORITY and Fiordland National Park Board. 1970: Submission to Commission of Inquiry into the proposal to raise the level of Lake Manapouri for the purpose of generating electricity. Wellington, National Parks Authority of New Zealand. 30l. [B434]

Official submission including details of scenery preservation and lakeshore treatment.

946. NEW ZEALAND SCENERY PRESERVATION SOCIETY. 1960: For the sake of 5% of maximum power . . . Raising lake levels could destroy natural beauty of South Island areas. Is it worth it? Reprint from *Christchurch Star*, 3.10.60 by NZ Scenery Preservation Society. [A189/11]

947. NEW ZEALAND SCENERY PRESERVATION SOCIETY. 1962: Reply to A.A. on Lake Manapouri level. *Christchurch Press*, 27 October: 13. [H144]

Outlines joint statement made by President (Dr P.S. Cook) and Professor H.R. Gray, a member of the committee. Protests strongly against (Southland) A.A.'s claims.

948. NEW ZEALAND SCENERY PRESERVATION SOCIETY. 1969*: Manapouri, is it for sale? Statement of the costs of preservation and related matters. (Unpublished report.) Internal Affairs Library, Wellington. 7p. [A189/12, H227]

Includes a section on conflicting statements on costs of construction and clearing given over the years.

949. NEW ZEALAND SCENERY PRESERVATION SOCIETY. 1970a: Commentary on the report of the Cabinet Committee on Lake Manapouri. (Unpublished report.) Internal Affairs Library, Wellington. 7p. [H228]

Criticises the findings of this committee because it relies solely on information supplied by Government departments.

950. NEW ZEALAND SCENERY PRESERVATION SOCIETY. 1970b*: Save Manapouri Campaign — Facts and fallacies about the proposal to raise the level of Lake Manapouri for power purposes. (Unpublished report.) Internal Affairs Library, Wellington. [H229]

A factual appraisal of the situation to date suggesting the Comalco agreement should be renegotiated.

951. NEW ZEALAND SCENERY PRESERVATION SOCIETY. 1973: Annual Report 1973. *Annual Reports NZ Scenery Preservation Society 13*. 21p. [H145]
Front cover illustrates Lake Manapouri in 1972 after the Electricity Department had lowered the lake level, causing slumping of the beaches. Further comment "Save Manapouri" and "Manapouri -Te Anau Report" appear on pp. 12-13.

952. NEW ZEALAND STATUTES. MANAPOURI-TE ANAU DEVELOPMENT ACT. 1960: Statutes N.Z. 1: 87-92. [H111]
The first Manapouri-Te Anau Act authorising the agreement between Comalco and the Government.

953. NEW ZEALAND STATUTES. MANAPOURI-TE ANAU DEVELOPMENT ACT. 1963: Statutes N.Z. 1: 244-274. [H112]
The Act authorised the renegotiation of the Government's agreement with Comalco whereby the Government undertook to construct the scheme in return for an option on power produced.

954. POOLE, W.A.; McDonald, T.K.; Rowe, J.W. 1971: The Manapouri-Bluff Aluminium Development, an economic appraisal. Wellington, New Zealand Institute of Economic Research. 201p. maps.
Describes history of the negotiations, and development options for this industry and for Fiordland.

955. POWELL, C.L.; Mark, A.F. 1972: Lake levels. *NZ Environ 2* (3): 28-29. [H152]
Two letters expressing concern at the proposed flooding of Lakes Manapouri and Te Anau. Photographic evidence from Lakes Monowai and Hawea is presented as evidence of probable effects on the shoreline vegetation.

956. RAE, D. 1977*: A benefit-cost analysis of further development of the Manapouri/Te Anau hydro-electric scheme. *Res Pap NZ Inst Econ Res 23*. 132p. [H153]
Outlines the conflict between further development of the power scheme and preservation or conservation of the environment. Contains bibliography.

957. SABOURIN, D.J. 1966: Pipes and peaks: the story of a Fiordland factory. *NZ Eng 21* (11): 485-490. illus.
Discusses the welding factory at Deep Cove and the effects of isolation and climate on the staff.

958. SALMON, J.T. 1973: Nature conservation. pp. 393-410. In Williams, G.R. (ed.) *The Natural History of New Zealand*. Wellington, A.H. & A.W. Reed. 434p. [H155]
In a discussion of conservation organisations, the Lake Manapouri controversy is cited as an example.

959. SHAND, T.P. 1966: Level of Lake Manapouri. *Index Statements NZ Minist Crown 15*: 8-10. [H156]
The official statement by the Minister of Electricity announcing that the maximum lake level would not exceed 11 m, instead of the proposed 24 m, and explaining the engineering and conservation reasons behind the decision.

960. SHAND, T.P. 1970: Manapouri-Te Anau Hydro-electric Development. *NZ Parl House Rep A-J D-7*. 7p.
Reviews history and implications of the agreement.

961. SLEE, J.F. 1974*: Labour policy on Manapouri 1959-1974. (Unpublished M.A. thesis.) University of Canterbury, Christchurch. [H234]

962. SOUTHLAND SAVE MANAPOURI CAMPAIGN. 1970: Save Manapouri, Invercargill. 5p. [H157]
An emotional publicity pamphlet accusing the Government of deliberately concealing the facts of the Manapouri project. A parallel is drawn with Lake Monowai.

963. STENHOUSE, L.J. 1964: The Manapouri Power Scheme. *NZ Geogr 20* (1): 91-92. [A190/16, H158]
Outlines the proposed power scheme and early opposition to the proposal to raise Lake Te Anau by 6 m. The recent Government decision not to flood Lake Te Anau is reported.

964. TAYLOR, R.H.; Whitaker, A.H. 1968: A reconnaissance of areas to be flooded by the Manapouri Power Project. 9p. map. (Unpublished report of DSIR, Animal Ecology Division.)
Concentrating on the proposal to raise the lake 8.2 m, the study examines effects on island and shore areas, bird life, and other aspects.
Location: WLS (VF).

965. THOMSON, G.L. 1966: Construction methods employed in Manapouri tailrace tunnel. *Student Engineer 19*: 107-132. illus.
Describes methods and progress. Little on external effects of spoil and water disposal.

966. WILLIAMS, R.J. 1974: The surveyor's role in construction — the Manapouri-Doubtful Sound hydro electric power development project. *NZ Surv 27*: 629-635. [H173]

PREHISTORY

1025. ANON. 1952*: Sandal found in *Notornis* valley. *Poly Soc J 61*: 93-112. [H4]

1026. ANON. 1970: Mention of burial caves on Manapouri. *Tomo Times 11* (2): 1. 2 Feb 1970. [E]

1027. BATHGATE, M.A. 1969: The Maori occupancy of Murihiku, 1000-1900 AD: a geographic study of change. Dunedin, University of Otago. (Unpublished thesis for M.A. in geography.) [F]
Location: DU, WTU.

1028. BEATTIE, J.H. 1915-20: Traditions and legends collected from the natives of Murihiku. 12 parts. Thomas Avery. [E]
Extracted from *Poly Soc J 24* (3), *29* (3): 1915-1920.

1029. BEATTIE, [J.] H. 1916: Traditions and legends collected from the natives of Murihiku. Part IV. *Poly Soc J 25*: 53-65.
Includes accounts of fights at Preservation Inlet and Te Anau.

1030. BEATTIE, [J.] H. 1916: Traditions and legends collected from the natives of Murihiku. Part V. *Poly Soc J 25*: 89-98.
Includes a section "The Fiord Natives" discussing Maoris of Bligh Sound, Dusky Sound, and Milford Sound.

1031. BEATTIE, J.H. 1920: Nature lore of the Southern Maori. Wellington, Government Printer. Reprinted from *Trans R Soc NZ*. [E]

1032. BEATTIE, [J.] H. 1920: The Southern Maori and greenstone. *NZ Inst T 52*: 45-52.
Includes Fiordland material.

1033. BEATTIE, [J.] H. 1921: A mystery of Fiordland: a vanished Maori tribe. *NZ J Sci Tech 4* (2): 86-90. [A185/20]
Reviews reports of Maoris in Fiordland. Concludes they are likely to have been various parties of refugees.

1034. BEATTIE, J.H. 1941: Moriori – The Moriori of South Island. Dunedin, Otago Daily Times. 74p. [E]

1035. BEATTIE, J.H. 1945: Maori lore of lake, alp and fiord: folk lore, fairy tales, traditions and place-names of the scenic wonderland of the South Island. Dunedin, Otago Daily Times. 150p. illus. [E]
Includes localities north of Canterbury.

1036. BEATTIE, J.H. 1949: The Maoris and Fiordland. Dunedin, Otago Daily Times. 104p. illus.
Includes Maori traditions, interpretation of place names, archaeological reports, and reports from early visitors.

1037. BEATTIE, J.H. 1954: Our southernmost Maoris. Dunedin, Otago Daily Times. 160p.

1038. COUTTS, P.J.F. 1969: Archaeology in Fiordland, New Zealand. *NZ Arch Ass Newsletter 12* (3): 117-123. diag. map. [B416]
Brief description of results of excavations carried out in Dusky Sound and Chalky Inlet – Oct 1968 to Jan 1969.

1039. COUTTS, P.J.F. 1969: A field survey of some traditional Maori sites in the Te Anau region. *NZ Arch Ass Newsletter 12* (4): 224-228. [H37]
Outlines the results of a brief survey of traditional Maori sites located in the Te Anau-Manapouri regions during October 1968.

1040. COUTTS, P.J.F. 1969: The Maori of Dusky Sound — a review of the historical sources. *Poly Soc J 78* (2): 178-211. map. refs.
Discusses historical texts. Examines food resources, including lists of birds published by explorers, Maori places names, and archaeological remains.

1041. COUTTS, P.J.F. 1970: Archaeological reconnaissance around Lake Manapouri. *NZ Arch Ass Newsletter 13* (4): 178-190. map. refs (11). [B417, H41]
Describes archaeological evidence collected mainly in the region of Lake Manapouri but also round Lake Te Anau. Brief note also on methods used.

1042. COUTTS, P.J.F. 1971: Archaeological studies at Martin's Bay. *Poly Soc J 80* (2): 170-203. illus. maps. refs (61). [B418]
Short history of the area, attempts to date pre-European occupation — the results of an expedition.

1043. COUTTS, P.J.F. 1971: Greenstone: the prehistoric exploitation of bowenite from Anita Bay, Milford Sound. *Poly Soc J 80* (1): 42-73. illus. maps. refs (57). [B419]
Describes previous archaeological surveys and the discovery of evidence of occupation (artefacts).

1044. COUTTS, P.J.F. 1972: The emergence of the Foveaux Strait Maori from prehistory: a study of culture contact. Dunedin, University of Otago. (Unpublished thesis for Ph.D. in anthropology.) [F]
Location: DU.

1045. COUTTS, P.J.F. 1974: Shell artefacts from archaeological sites in southern New Zealand. *NZ Arch Ass Newsletter 17* (4): 186-205. illus.
Describes shells from Fiordland sites, used for tools in prehistoric times.

1046. COUTTS, P.J.F. 1977: Archaeological studies in Dusky and Breaksea Sounds, southwestern Fiordland, New Zealand: a summary. *Poly Soc J 86* (1): 37-71. illus. maps. refs.
Examines Maori use of the area in prehistoric and early historical times, from archaeological remains and historical documents.

1047. COWAN, J. 1905: The last of the Ngati-Mamoe. *Poly Soc J 14*: 193. [A186/15]

1048. COWAN, J. 1906: Maori place names; with special reference to the great lakes and mountains of the South Island. *Trans Proc NZ Inst 38*: 113-120. [H42]
Discusses the Maori legends behind the naming of Lakes Manapouri and Te Anau, and mentions Te-wai-o-Pani (Lake Orbell).

1049. DUFF, R. 1952: Recent Maori occupation of *Notornis* valley, Te Anau. *Poly Soc J 61*: 90-119. illus. [H43]
Quotes K. Miers and R.A. Falla on 1949 discovery of archaeological remains, and reports on the February 1950 expedition to examine them.

1050. GREGG, D.R. 1968: Dusky Sound expedition, March 1966. Christchurch, Canterbury Museum. 2p. (Unpublished report.)
Brief report of an expedition to examine prehistoric remains. The author brought back 77 kg of rock specimens.
Location: FNP 31.

1051. GROUBE, L.M. 1964: Settlement pattern in prehistoric New Zealand. Auckland, University of Auckland. (Unpublished thesis for M.A. in anthropology.) [F]
Location: AU, DU, WTU, WU.

1052. HENRY, R. 1898: Moa farmers. *NZ Inst T 31*: 673-677.
Discusses archaeological remains, and the possibility that moas were herded.

1053. HENRY, R. 1898: Old huts at Dusky Sound. *NZ Inst T 31*: 677-680.
Reports old huts near Luncheon Cove.

1054. HIGHAM, C.F.W. 1968: Prehistoric research in Western Southland. *NZ Arch Ass Newsletter 11* (4): 155-164. [E]

1055. JONES, K.L. 1972: Prehistoric Polynesian stone technology: a study of usage and flaking technique with special reference to assemblages of stone flake debitage of New Zealand archaic culture provenance. Dunedin, University of Otago. (Unpublished thesis for M.A. in anthropology.)
Location: AU, DU.

1056. McCULLOCH, B.; Trotter, M. 1975: The first twenty years – radiocarbon dates for South Island moa-hunter sites, 1955-1974. *NZ Arch Ass Newsletter 18* (1): 2-17. [C53]
Discusses site 5140/2 in Takahe Valley.

1057. MANTELL, W.B.D. 1852: Mantell Papers 1852.
Mantell found tracks (believed to be those of lost tribe) during his coastal survey in 1852. (Unpublished.) [E]

1058. MOORE, P.R.; Tiller, E.M. 1975: Radiocarbon dates for New Zealand archaeological sites. *NZ Arch Ass Newsletter 18* (3): 98-107. maps. [C73]
Includes Dusky Sound sites 5156, 5157 and Takahe Valley 5140/2 and gives current estimated dates for artefacts found there.

1059. ODELL, N.E. 1952: Sutherland Sound, Southland, NZ. *Geog J 118* (3): 368-369. [A189/13]
Account of expedition to investigate archaeological and mineralogical sites of interest.

1060. PARK, J. 1922: Maori and early European exploration in West Otago. Dunedin, Otago Daily Times and Witness. 14p. [E]
(Reprint of a lecture to the Otago Institute.)

1061. PRICKETT, N.J. 1974: Houses and house life in prehistoric New Zealand. Dunedin, University of Otago. (Unpublished thesis for M.A. in anthropology.) [F]
Location: AU, DU.

1062. RIDDELL, M.J. 1972: A survey of Polynesian rock art. Auckland, University of Auckland. (Unpublished thesis for M.A. in anthropology.) [F]
Location: AU.

1063. RITCHIE, N. 1977: The Bligh Sound rock shelters. Invercargill, Southland Museum and Art Gallery. (Letter to assistant chief ranger FNPB.) [9] p.
Report with NZ Archaeological Association site record forms for two rock shelters 5120/5 and 5120/6.

1064. SHAWCROSS, F.W.; Terrell, J.E. 1966: Paterangi and Orurangi swamp pas. *Poly Soc J 75* (Dec): 404-429. [A190/11]

1065. SIMMONS, D.R. 1967: Lake Hauroko burial; preliminary report. *NZ Arch Ass Newsletter 10*: 66-68. [A190/12]

1066. SIMMONS, D.R. 1967: Note on the Lake Hauroko burial. *Poly Soc J 76*: 367-368. [A190/13]

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