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A Recreation Operations Planning System
(Volume One)

Cover Photograph: Planning encourages forethought and is creative
Prescription preparation
Brendon Clough
Victoria Forest Park
A Recreation Operations Planning System

A Dissertation Presented in Part Fulfilment of the Diploma in Parks and Recreation (Park Ranger Option)

Lincoln College

by

Dave Adam
1984
What forest recreation is all about - fostering a closer relationship between users and the environments they share
Acknowledgements

I particularly wish to thank:

Bruce Watson, Senior Forester, Hokitika: for his guidance, encouragement and vision that have made this paper possible and from whom I have learned so much.

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Peter Berg, Conservator of Forests, Hokitika: for the executive support so necessary for ROPS to be given a hearing.

I also wish to express my grateful thanks to:

Clive Anstey, Tom Rogers, Brendon Clough, Martin Abel, Shane Hall, Clint Eves, Kevin O'Connor, and all those others I've worked with, both in the field and office, whose endeavours have contributed towards better satisfying the leisure needs of people striving to appreciate and understand their environment and themselves.

Special thanks must go to Margaret Highland for typing, Ian Gilbertson and Rose Thomas for production assistance.

Finally, I dedicate this paper to Derek White - who strove for quality and perfection through action, kindness and wisdom.

Your example persists, my friend!
Foreword

As the importance of recreation in Westland's State forest has grown, in its contributions of rewarding experiences for visitors and in income and jobs for the region, it has become necessary to replace "seat of the pants" planning operations with a professional approach to management of the recreation resource. The Forest Service has long had a very professional approach to plantation forestry and the Department has developed an appropriate infrastructure and planning operations system for this. ROPS*, the planning system Dave Adam has developed for recreation operations in Westland Conservancy, is a step in introducing the same sort of professionalism into recreation forestry. In fact, ROPS builds on many of the successful aspects of production forestry organisation.

For forest managers, ROPS brings recreation into line with other aspects of forestry and ensures a systematic approach in areas of work where, at least in part, it was previously lacking. These areas of concern include:

- integration of planning and operations
- inventory of resources
- proper allowance for maintenance and redevelopment, as well as for new development
- design standard of work
- quality control
- physical and financial budgeting
- work programming
- proper use of specialist staff
- in-service training

ROPS is the key to ensuring Westland Conservancy's recreation operations are well planned, implemented and controlled. It forms part of a larger recreation planning system which takes account of national Forest Service policies and an overall Conservancy Recreation Strategy (yet to be published).

Very shortly ROPS will be running on every station in the conservancy. The introduction of the system has not occurred overnight - the time has been

*ROPS = Recreation Operations Planning System
taken to adapt the system to the type of recreation resources and the staff available in each area. We believe ROPS has wider application elsewhere in the Forest Service and other organisations. But a note of caution - if the elements of ROPS look as though they may suit you, don't copy Westland's system outright, adapt ROPS to your own special circumstances. In particular, it is important that ROPS planning be carried out by those responsible for recreation operations and they must become fully involved in the system.

The successful development, introduction and operation of a system like ROPS depends on staff commitment and enthusiasm. In Westland, Dave Adam has had both and also an ability to motivate other staff to get similar involvement.

The results can be seen, not only in this paper, but in the improved performance of all staff involved and in the higher quality of recreation work in Westland Conservancy.

P.J. Berg
Conservator of Forests, Westland Conservancy

B.N. Watson
Senior Forester, Hokitika
# Contents

## Volume One

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledgements</td>
<td>1</td>
</tr>
<tr>
<td>Foreword</td>
<td>2</td>
</tr>
<tr>
<td>1. Preface</td>
<td>2</td>
</tr>
<tr>
<td>2. Background</td>
<td>3</td>
</tr>
<tr>
<td>2.1 Recreation and the NZ Forest Service</td>
<td>4</td>
</tr>
<tr>
<td>2.1.1 Legislation</td>
<td>4</td>
</tr>
<tr>
<td>2.1.2 Planning</td>
<td>5</td>
</tr>
<tr>
<td>2.1.3 National Policy</td>
<td>5</td>
</tr>
<tr>
<td>2.1.4 Research</td>
<td>6</td>
</tr>
<tr>
<td>2.1.5 Operations</td>
<td>6</td>
</tr>
<tr>
<td>2.2 Westland Conservancy - ROPS Evolves</td>
<td>7</td>
</tr>
<tr>
<td>2.2.1 The Solution Develops</td>
<td>8</td>
</tr>
<tr>
<td>3. The Recreation Operations Planning System (ROPS)</td>
<td>9</td>
</tr>
<tr>
<td>3.1 ROPS - The Key Elements</td>
<td>10</td>
</tr>
<tr>
<td>3.2 Recreation Inventory</td>
<td>11</td>
</tr>
<tr>
<td>3.2.1 Description</td>
<td>11</td>
</tr>
<tr>
<td>3.2.2 Facility Classification</td>
<td>12</td>
</tr>
<tr>
<td>3.2.3 Preparation</td>
<td>13</td>
</tr>
<tr>
<td>3.2.4 Use</td>
<td>13</td>
</tr>
<tr>
<td>3.2.5 Advantages</td>
<td>13</td>
</tr>
<tr>
<td>3.2.6 Disadvantages</td>
<td>14</td>
</tr>
<tr>
<td>3.3 Work Programme</td>
<td>16</td>
</tr>
<tr>
<td>3.3.1 Description</td>
<td>16</td>
</tr>
<tr>
<td>3.3.2 Preparation</td>
<td>17</td>
</tr>
<tr>
<td>3.3.3 Use</td>
<td>17</td>
</tr>
<tr>
<td>3.3.4 Advantages</td>
<td>17</td>
</tr>
<tr>
<td>3.3.5 Disadvantages</td>
<td>18</td>
</tr>
<tr>
<td>3.4 Design Manual</td>
<td>19</td>
</tr>
<tr>
<td>3.4.1 Description</td>
<td>19</td>
</tr>
<tr>
<td>3.4.2 Preparation</td>
<td>20</td>
</tr>
<tr>
<td>3.4.3 Use</td>
<td>20</td>
</tr>
<tr>
<td>3.4.4 Advantages</td>
<td>20</td>
</tr>
<tr>
<td>3.4.5 Disadvantages</td>
<td>21</td>
</tr>
<tr>
<td>3.5 Prescriptions</td>
<td>22</td>
</tr>
<tr>
<td>3.5.1 Description</td>
<td>22</td>
</tr>
<tr>
<td>3.5.2 Preparation</td>
<td>23</td>
</tr>
<tr>
<td>3.5.3 Use</td>
<td>23</td>
</tr>
<tr>
<td>3.5.4 Work Completion Report</td>
<td>24</td>
</tr>
<tr>
<td>3.5.5 Photo Record System</td>
<td>24</td>
</tr>
<tr>
<td>3.5.6 Advantages</td>
<td>25</td>
</tr>
<tr>
<td>3.5.7 Disadvantages</td>
<td>25</td>
</tr>
<tr>
<td>3.6 The Recreation Operation Summarised</td>
<td>26</td>
</tr>
<tr>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>4. ESTABLISHMENT AND OPERATION</td>
<td>51</td>
</tr>
<tr>
<td>4.1 The Team Approach</td>
<td>51</td>
</tr>
<tr>
<td>4.2 The Recreation Planner</td>
<td>55</td>
</tr>
<tr>
<td>4.3 Establishment</td>
<td>57</td>
</tr>
<tr>
<td>4.3.1 Familiarisation</td>
<td>57</td>
</tr>
<tr>
<td>4.3.2 Study Tour</td>
<td>57</td>
</tr>
<tr>
<td>4.3.3 Group Discussion and Preparation</td>
<td>59</td>
</tr>
<tr>
<td>4.4 Operation</td>
<td>61</td>
</tr>
<tr>
<td>4.4.1 Prescriptions</td>
<td>61</td>
</tr>
<tr>
<td>4.4.2 Support and Servicing</td>
<td>65</td>
</tr>
<tr>
<td>5. MACRO-PLANNING</td>
<td>66</td>
</tr>
<tr>
<td>5.1 A Regional Context</td>
<td>66</td>
</tr>
<tr>
<td>5.1.1 Why ROPS First?</td>
<td>66</td>
</tr>
<tr>
<td>5.1.2 Macro-planning</td>
<td>66</td>
</tr>
<tr>
<td>5.2 The Recreation Strategy</td>
<td>68</td>
</tr>
<tr>
<td>5.2.1 Preparation</td>
<td>68</td>
</tr>
<tr>
<td>5.2.2 The Spectrum of Recreation Opportunities</td>
<td>69</td>
</tr>
<tr>
<td>5.2.3 ROPS - A Link</td>
<td>70</td>
</tr>
<tr>
<td>6. RESULTS</td>
<td>72</td>
</tr>
<tr>
<td>6.1 On Site Benefits</td>
<td>72</td>
</tr>
<tr>
<td>6.2 Benefits to Forest Service</td>
<td>79</td>
</tr>
<tr>
<td>7. CONCLUSION</td>
<td>81</td>
</tr>
<tr>
<td>8. RECOMMENDATIONS</td>
<td>84</td>
</tr>
<tr>
<td>8.1 For Westland Conservancy</td>
<td>84</td>
</tr>
<tr>
<td>8.2 Nationally</td>
<td>85</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>87</td>
</tr>
</tbody>
</table>
VOLUME TWO

APPENDIX 1 - WORK PROGRAMMES, SOUTHERN DISTRICT

- Tracks
- Picnic Areas/Car Parks
- Bridges
- Huts

APPENDIX 2 - DESIGN MANUAL, SOUTHERN DISTRICT

- Signs
- Track Designs
- Picnic Area Structures
- Footbridges

APPENDIX 3 - PRESCRIPTIONS, VICTORIA FOREST PARK

- Golden Fleece Battery Walk - Development Proposal
- Golden Fleece Battery Walk - Interpretation
1. Preface
1. Preface

Volume One presents an account of a comprehensive planning system developed for NZ Forest Service recreation operations in Westland Conservancy.

Section Two backgrounds Forest Service involvement in recreation management planning and the evolution of the Recreation Operations Planning System (ROPS) in Westland Conservancy.

Section Three describes in detail the elements of ROPS.

Its establishment and operation is discussed in Section Four.

ROPS is part of a greater planning process and its relationship to this is described in Section Five.

In Section Six the results and benefits of the ROPS model are considered and Section Seven is a summary of ROPS in which the nature of its success is discussed.

Finally, Section Eight provides recommendations and future directions that will assist Forest Service in its role as a resource management agency responsible for recreational values on lands under its care.

In addition, appendices containing full examples of the elements of ROPS are presented separately (Volume Two). This enables ready cross-referencing between Volume One and the appendices.
2. Background
2. Background

2.1 Recreation and the NZ Forest Service

The New Zealand Forest Service administers half of New Zealand's forest area and is charged under the Forests Act (1949 as amended in 1976) with the management of this resource according to the concepts of "balanced" multiple use, with production, protection, and recreation being accorded equal consideration (Holloway, 1984).

2.1.1 Legislation

Kirkland (1978) has described the evolution of Forest Service involvement in recreation:

- The 1921 Forests Act made no formal provision for recreation. In practice, however, recreation was an accepted use of forest land although little effort was made to encourage it.

- The major revision of the Act in 1949 formally recognised recreation as a legitimate function but required that management for such purposes should "not (be) prejudicial to forestry", by which it must be assumed to mean timber production. Policies were, however, very restrictive, for example, permits were required to enter indigenous State forests and managers used this tool to regulate and restrict public access.

McKelvey (1964) attributed this conservatism to a preoccupation by managers with the fire hazard in plantation forests. He encouraged a more active "guidance of demand" rather than a reactionary stance. The catastrophic fires at Taupo in 1946 and Balmoral in 1956 were major setbacks to public use of exotic forests (Trotman, 1981).

- In 1954 Tararua Forest Park was designated and acceptance of the forest park concept established the principles of multiple use, access without a permit, and of an advisory committee involved in the park's management. In 1965 and 1969 the Forests Act was amended to provide for the creation of "State Forest Parks and Recreation Areas".
The 1969 Forestry Development Conference saw recreation as an aspect of multiple use which should apply to all forests. A further Forestry Development Conference in 1974-76 encouraged:

- complementary planning for recreation between land management agencies;
- awareness of the recreational needs of growing urban populations;
- regional recreation plans;
- liberal rights of entry to indigenous forests.

This generated impetus for the major Forests Amendment Act 1976, which provided for "balanced use" of State forests. The section of the Act "State Forest Parks and Recreation Areas" was replaced by a section titled "Use of State Forest Land for Public Recreation". Recreational, educational, historical, cultural, scenic, and scientific values on all forest lands had been recognised and were no longer subservient to production forestry.

2.1.2 Planning

Management plans for all State forest lands including forest parks, are required by the Forests Act. Recreation policies are contained within these plans which are prepared on a forest or forest park basis (for example, Coromandel State Forest Park Management Plan, 1977) and on a regional basis (for example, North Westland Regional Management Plan 1983). Kirkland (1978) set out a formal zoning system as a mechanism for achieving balanced multiple-use management on State forest lands. Recreation zones include wilderness, natural environment and recreational development. More detailed and systematic planning for site selection and development was sometimes recorded in amenity plans (for example, Southern District Amenity Plan, Westland Conservancy, 1977) and project reports (for example, Watson and Staton, 1976).
However, it has now been recognised that to better meet planning needs at these levels, an integrated planning exercise in order to produce a comprehensive regional recreation strategy is desirable (see 5.2). This has been attempted elsewhere (for example, Adam, 1982; Murdoch et al, 1983) and during 1985 a recreation strategy will be prepared for Westland Conservancy.

2.1.3 National Policy

At national level, during the 1978 Forest Recreation Workshop, calls were made for a national recreation policy that would support and strengthen recreation planning and management (Bignell, 1978). In 1983 Forest Service published its recreation policy which reiterated that:

"The underlying tenet of management of State forests is that they shall be managed for a multiplicity of uses, although not all uses will occur with equal emphasis in each area of a forest or among forests. Rather, the possible uses will be balanced one against the other in deciding the final mix of uses."

The recreation policy is committed:

- to allow people to enter and enjoy State forests;
- to provide a broad range of recreation opportunities for public use and enjoyment;
- to maintain and enhance the landscape where practicable;
- to increase public awareness and understanding of forests (their ecology, management and relationship to people) and forestry in New Zealand;
- to create State forest parks;
- to manage wild animals where it is compatible with sound land management practices;
- to allow new or less common recreational uses in State forests;
to control the erection and maintenance of buildings;

to charge for the use of some recreational facilities and services and apply the revenue to management of recreation in the forest;

to ensure a wide range of skills are available to complement this policy.

In his opening address to the Forest Recreation Workshop at Turangi in September 1984, the Director-General of Forests, Mr A. Kirkland, reiterated and stressed Forest Service commitment towards implementation of this policy.

2.1.4 Research

At the 1978 Forest Recreation Workshop, it was felt that recreation research lagged behind the department's commitment to planning and management. Since then, a major "Report on New Zealand Forest Recreation Surveys" (Murphy, 1981) has been published as have a number of studies focused at a regional level or on particular areas or groups of users (for example, Groome et al, 1983). A recommendation made in 1978 for a small permanent national research group has not been fulfilled (Holloway, 1984).

2.1.5 Operations

The decade leading up to the mid-1970s was one of rapid change for New Zealand society - the population became urbanised, abundant fossil fuels and transport provided for greater mobility, new technologies and greater affluence freed people to enjoy more leisure time. The results of this included:

- the rapid growth in outdoor recreation and tourism on public lands;

- an increased environmental concern;

- a public wish to have greater participation in decision-making processes as they affected public lands, natural resources and the environment generally.
During this period Forest Service directed the resources of the Environmental (EF) Division towards meeting the public's growing recreational needs and satisfying the requirements of the 1976 Forests Amendment Act. The traditional responsibilities of EF Division had been for wild animal control and many facilities well suited to recreational use, for example, mountain tracks, huts and footbridges were a direct consequence of this. Commercial helicopter operations had, however, successfully taken over the role of animal control, although some problems remained (especially with goats and possums). So EF staff were well suited to their new role being skilled hunters and trampers themselves, and they set about maintaining and developing a network of facilities in mountainous areas (Figure 1).

Fig. 1 - Environmental (EF) Division, Forest Service, developed and maintained facilities well suited for mountain recreation.

Tramper at Forbes Biv, Havelock River, Canterbury
By the early 1980s, however, the energy crisis had restricted mobility inducing a changed demand for recreation; and in an effort to better meet the requirements of "family" and "tourist" groups and to provide for a greater range of opportunity, it became Forest Service policy to cater for a wider cross-section of the public and re-direct resources toward this goal. The NZ Forest Recreation Surveys (Murphy, 1981) gave weight to the notion that there was a strong demand for picnic areas, short walks and interpretation in forests closer to home.

Despite progress with legislation and planning, and an awareness of the need for training (Bignell, 1978) little real progress had been made with operational planning, design, construction and maintenance or training for these (despite some short courses). EF staff were reluctant to move away from mountain recreation. When they did some good quality facilities were developed. Often, however, a lack of planning and design skills resulted in the best elements of a project being let down by, for example, poor signage, "bush" carpentry, the application of high country standards such as narrow tracks and steep grades, or a lack of interpretation and maintenance. As a result, an awareness developed that many projects were "unfinished" or "didn't work", that is, their design and development standards were inappropriate to the needs of those visitors who expected high quality facilities handy to the road.

Further, in the management of these operations, documentation, planning, financial accountability and communication within the department (for example, national planning through to local operations), was generally very poor, and lacking in direction and vision.

Good ideas often failed to be realised at the expense of:

- user satisfaction;
- the esteem of field staff;
- the public image of Forest Service.

Westland Conservancy was no exception.
A comparison with high quality developments elsewhere (for example, Arthurs Pass National Park and Ashley forest) clearly illustrated the benefits of training in landscape design, recreation, planning and management (Figure 2). However, even these areas, without a systematic way of doing things, lacked continuity and were highly reliant on individual talent. The time was ripe for a change.

Figure 2 - Entrance sign, Arthurs Pass National Park
2.2 Westland Conservancy — ROPS Evolves

Westland Conservancy (B. Watson, pers. comm.) had recognised that problems of poor site quality and lack of continuity both within and between developments, could be solved by:

1. retraining to develop skills appropriate to recreation operations and local requirements. In-service, on-the-job training was necessary;

2. comprehensive planning which would ensure:

   . forethought - is this development appropriate to the region? Who are the users? What is its purpose? What is essential to good design? How can we best do this job?

   . high standards in planning, design, construction and maintenance

   . documentation and communication to keep people informed at district and conservancy level, to record and plan business activities in an accountable form, and ensure integration of operations planning with macro-planning;

   . approval by forest management consistent with the policies, goals and objectives of Forest Service.

A problem was the lack of suitably qualified personnel to undertake the necessary systematic synthesis of existing planning and design work, and to integrate it with Forest Service field operations.

2.2.1 The Solution Develops

In August 1982 the author was employed at Victoria Forest Park as recreation planner and, with guidance from the Senior Forester, Hokitika, worked with park staff over ensuing months to develop a prescription planning process, which evolved into the Recreation Operations Planning System (ROPS). It drew heavily from existing:
recreation and landscape design manuals, for example, "Grist", "Design", see also 4.3.1;

elements of high quality design work elsewhere, for example, signs, tracks and structures (Figures 3 and 4);

development proposals from the author's previous work at Ashley Forest, Canterbury Conservancy, and those of Victoria Forest Park staff;

and the prescription system used elsewhere in Forest Service production operations.

Figure 3 - One can learn from high standards developed elsewhere. Note, for example, how colours are used on this map to highlight the walks, and the routed lettering style "Formula One"

Information Panel, Ashley Forest
Figure 4 - Appropriate use of colours, materials and placement ensures structures fit their environment.

Good design produces harmony.

Mt Grey Track Footbridge, Ashley Forest
The prescription system then was developed from that in use for production forestry operations, for example, pruning and thinning, which require prior planning, approval and job completion reporting. Despite contentions that everyone sees things differently, there are in fact elements fundamental to good design (see 4.3.2) and, further, recreation operations lend themselves to treatment as a business activity like other forest management and planning responsibilities. This was apparent to Westland Conservancy field staff.

High standards of planning, design and construction achieved at Victoria Forest Park through the use of ROPS were quickly recognised (Figure 5).

Figure 5 - Interpretive painting. Golden Fleece Battery Walk, Victoria Forest Park

A novel technique stimulating visitors to think of gold mining history and changes in their landscape.
By late 1984 ROPS was also established throughout the remainder of Westland Conservancy - in southern, central and northern districts. This is significant - for the first time a comprehensive planning system for recreation operations had been established at a regional level.
3. The Recreation Operations Planning System
3. The Recreation Operations Planning System

3.1 ROPS — The Key Elements

The key elements of ROPS include:

1. recreation inventory - a record of all developed and maintained facilities;

2. work programme - for development, inspection and maintenance of recreation facilities recorded in the inventory;

3. design manual - containing the design and construction standards for signs, tracks, picnic area structures and footbridges; and

4. prescriptions - these are the working plans which apply the standards established in the design manual to specific site developments scheduled in the work programme.

Let us now consider these elements in detail.
3.2 Recreation Inventory

Before any planning for recreation can be undertaken the existing supply of facilities must be recorded.

3.2.1 Description

From field inspections the Inventory lists and describes all developed facilities, that is:

- tracks - walks, tracks, routes
- service areas - picnic and camping areas, viewpoints, car parks
- huts
- footbridges

Higher use facilities are inventoried first. Information recorded includes:

- planning data and specifications, for example, track times, length, grade, width, surface and structures (see 3.2.2.)
- a description, for example, how to get there, interesting features, views, vegetation types, what to take and tenure.

This is typed onto a standard form and, with a map and brochure, filed in a ringbinder (Figure 6).
Westland Conservancy:
track information

track: Lake Ellery Walk
operations area: (see Location Map) Haast
classification: (see Table) Walk Class 3 Long Walk
length: 1.5 kilometres

| times | 20 minutes (e.g., sign 45 minutes, O.K.G. 45 minutes, 65 minutes in "South Westland Walks" & 25 minutes return in brochure)
| grade | 1st
| width | 0.3 metres

- surface: gravel/bench
- structures: entrance sign, traffic barrier, visitor book, lookout, boulder, footbridge

description:
The Lake Ellery Walk begins near the Jackson River Picnic Area, (see Jackson River Picnic Area data), 60 kilometres from the Haast Bridge turn-off. On the T.R. of the bridge over the Ellery Stream, a visitor book is available for your comments.

The track follows the T.R. of the Ellery Creek upstream through silver beech (Dacrydium montani) terraces, rimu (Dacrydium cupressinum) and kanuka (Kunzea ericoides) common here, as are tannwood (Pseudopanax crassifolius) and long leaf fern (Adiantum capillus-veneris). Totara (Podocarpus totara) is also abundant.

After 12 minutes the track climbs over a ridge of silver pine (Dacrydium cupressinum) or rimu pine (Dacrydium biforme). A footbridge is crossed after 15 minutes, and after 17 minutes the track forks. The Lake Ellery Walk continues to the right for 100 metres to the lake outlet (30 minutes) and view point. The view is magnificent, looking up Lake Ellery to Mt. Hauraki Knob (140 metres) with the Beaumont Tups to the north and the Stafford Range to the south-west. Ducks and eels can frequently be seen here, feeding near the sandy lake shores with emergent piloncara (e.g., Asteraceae).

State Forest 1, Canaan. The start of the track on Pt. R. 1692 - crown land lease to Mr. C. A. Hegde.
For ease of information retrieval descriptions are arranged by facility, in order of decreasing use within operations areas. An introduction in the Inventory explains these aspects. Copies are held in district and conservancy offices.

3.2.2 Facility Classification

Once facilities are quantified (for example, tracks, by time, length, grade, width, etc.) it will become apparent that there exists a wide range of standards. However, consideration of users' requirements (see "The Users - Track Designs" Volume 2; Appendix 2) enables formulation of "Criteria for Classification" (Figure 7). Facilities can then be classified (Figure 8) and organised accordingly in the Inventory (for example, tracks into classes of walk, track or route).
### Table 1: Criteria for Track Classification - Southern District

<table>
<thead>
<tr>
<th>TYPE</th>
<th>CLASS</th>
<th>MAX. LENGTH (KM)</th>
<th>MAX. TIME (OF TRIP)</th>
<th>GRADE (%-WEIGHTED AVERAGE)</th>
<th>WIDTH (m)</th>
<th>MIX. SURFACE</th>
<th>ROLLING RESISTANCE</th>
<th>MAX. BATTER</th>
<th>ELEVATION VALUE</th>
<th>MEANDERING</th>
<th>CORNER</th>
<th>CURVE</th>
<th>CURVING</th>
<th>STEPS</th>
<th>BEATS</th>
<th>MANSIONS</th>
<th>SAFETY MANSIONS</th>
<th>TERMINAL</th>
<th>STORES</th>
<th>LOCKETS/SAFETY VENTS</th>
<th>EXTINGUISHERS</th>
<th>ROUTES</th>
<th>ROUTES &amp; TRACES</th>
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</thead>
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<td><strong>walk</strong></td>
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<td></td>
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<tr>
<td>Short - suitable for disabled persons</td>
<td>1</td>
<td>0.5</td>
<td>15 mins</td>
<td>1°</td>
<td>1.5</td>
<td>Asphalt/packed gravel</td>
<td>•</td>
<td>4:1</td>
<td>•</td>
<td>•</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short Walk</td>
<td>2</td>
<td>1.0</td>
<td>30 mins</td>
<td>8°</td>
<td>1.2</td>
<td>gravel</td>
<td>•</td>
<td>4:1</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long Walk</td>
<td>3</td>
<td>10.0</td>
<td>4 hours</td>
<td>8°</td>
<td>1.0</td>
<td>gravel</td>
<td>•</td>
<td>4:1</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>track</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FAMILY Track</td>
<td>4</td>
<td>5.0</td>
<td>&gt;1 day</td>
<td>10°</td>
<td>0.8</td>
<td>vege.</td>
<td>•</td>
<td>4:1</td>
<td>•</td>
<td>•</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VALLEY Track</td>
<td>5</td>
<td>No max.</td>
<td>&gt;1 day</td>
<td>&gt;15° (with sections up to 10°)</td>
<td>0.5</td>
<td>vege./boulders (limited)</td>
<td>•</td>
<td>4:1</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RIDGE Track</td>
<td>6</td>
<td>No max.</td>
<td>No max.</td>
<td>&gt;10°</td>
<td>0.5</td>
<td>vege.</td>
<td>•</td>
<td>4:1</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>route</strong></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Route</td>
<td>7</td>
<td>No max.</td>
<td>No max.</td>
<td>40.5</td>
<td>1.0</td>
<td>vege./boulders</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:**
- See Sign System (in Design Manual)
- See Bridge Design (in Design Manual)
- To be completed

**N.B.:** HISTORIC TRACKS TO BE RE-CONSTRUCTED IN SYMPATHY WITH THEIR CHARACTER. This may require special exceptions to the above, eg. track width, culvert specifications. (From Southern District Design Manual 1984 as at February 1984)
Table 2: Tracks - Southern District

<table>
<thead>
<tr>
<th>Classification</th>
<th>Walk</th>
<th>Track</th>
<th>Route</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OPERATIONS AREA</strong></td>
<td><strong>1. SHORT (DISABLED)</strong></td>
<td><strong>2. SHORT WALK</strong></td>
<td><strong>3. LONG WALK</strong></td>
</tr>
<tr>
<td>Hari Hari</td>
<td>Greens Beach View-point</td>
<td>Greens Beach Seal Colony</td>
<td>Wharariki Track</td>
</tr>
<tr>
<td></td>
<td>Duffers Creek Tailings Walk</td>
<td>Okataina Track</td>
<td>Pukaki River Track</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bruce Bay</td>
<td>Black Rapids Walk</td>
<td>Hawke's Bay Walk</td>
<td>Air Strip Track</td>
</tr>
<tr>
<td>Paringa</td>
<td>Jamie Creek Walk</td>
<td>Manro Walk</td>
<td>Paringa Track</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haast</td>
<td>Ship Creek Walk</td>
<td>Lake Ellery Walk</td>
<td>Roaring Billy Track</td>
</tr>
<tr>
<td></td>
<td>Mataketake Lagoon Walk</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Haast Bridge Walk</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wharnell Point Walk</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(at February 1981)

Figure 8 - Track Classification, Southern District
3.2.3 **Preparation**

The Inventory is compiled from field inspections by the recreation planner (or forest ranger) and a NZ Forest Service land survey officer who is responsible for mapping. Photographic coverage is also taken during field inspections for the slide library and Photo Record System (see 3.5.5).

3.2.4 **Use**

The Recreation Inventory documents base information (including facility classifications) necessary for preparation of:

- work programmes
- design manuals
- prescriptions
- recreation strategies
- brochures
- signs (that is, names and times)

It is also invaluable for answering public and staff enquiries.

3.2.5 **Advantages**

1. The Recreation Inventory is a very accessible single volume source document containing a comprehensive list, description and classification of facilities. This record is of major value in the event of staff changes.

2. Use of a standard form kept in a ringbinder enables easy addition of new material and regular updating of information.

3. Facility classification enables forest management to:

   - determine a facilities purpose and name it accordingly (for example, as a walk or track; picnic area, viewpoint or car park);

   - assess whether a facility meets the criteria or, if not, what upgrading is required. Work can then be programmed (see 3.3.2);
4. Documentation encourages accuracy and consistency of information disseminated, for example, facility names, track times (both in brochures and on signs) and how to get there. (Roads are an integral part of the recreational experience and should also be inventoried; see 5.2.)

5. Districts' inventories can be brought together and a Conservancy Recreation Inventory readily compiled.

3.2.6 Disadvantages

<table>
<thead>
<tr>
<th>Disadvantage</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. New developments, upgrading or closure of facilities make the Inventory out of date</td>
<td>. Conservancy request for annual review and update</td>
</tr>
<tr>
<td>2. Updates, corrections and re-writes are time-consuming when done manually.</td>
<td>. Place the inventory on a word processor.</td>
</tr>
</tbody>
</table>
PREPARATION OF RECREATION INVENTORY

Compile list of facilities
Prepare inventory form
Select mapping scale
Collect facility information

Field inspection

Prepare map
Type description

Determine "Criteria for Classification"
Classify facilities

Write introduction
Collate and organise records in ringbinder

RECREATION INVENTORY

Annual review and update

SOURCE DOCUMENTS

files, amenity plans, local knowledge
a lettraset master
1:10,000, 1:25,000, 1:50,000
or 1:63,360 topographic (or aerial photograph)
brochures, outdoor recreation guides, etc.

other design manuals

Photo library
Photo Record System
3.3 Work Programme

The Work Programme assists forest rangers plan and schedule recreation operations. Displayed on the office wall it records proposed development and maintenance as a monthly calendar spanning three years. It is possible to see at a glance what work needs doing, and when.

3.3.1 Description

The Work Programme is laid out on 80 x 55 cm (or A1) sheets, covering:

- service areas, for example, picnic areas, car parks
- tracks
- huts
- footbridges
- historic sites

Facilities are listed by operations areas in order of classification. This information is obtained from the Recreation Inventory and its facility classifications (see 3.2; Figure 8).

Recreation development and maintenance (including inspections) are plotted onto the calendar by months they fall due (see Volume 2, Appendix 1). Where possible timetabling of development and maintenance is synchronised (for example, to ensure simultaneous inspection of bridges and huts on a valley track check) and distributed evenly throughout the year.

3.3.2 Preparation

Work programmes are compiled by the recreation planner or forest ranger. Maintenance frequency and activity are detailed in Design Manual "Maintenance Schedules" (see 3.4.3.; Volume 2, Appendix 2) drawn up from group discussions (see 4.3.3). Development priorities are ideally obtained from a Recreation Strategy (see 5.2.3). However, as one was not available for Westland Conservancy, priorities were determined by group discussion (see 4.3.3). Due regard was given to district amenity plans, regional forest management plans, current district and conservancy requirements.
For example, the conservancy policy to upgrade and complete existing facilities, high use areas generally taking priority, rather than develop new ones. Comparison of existing facilities with Design Manual "Criteria for Classification" enables estimation of the extent and time required for upgrading. Developments are then plotted by months in order of priority.

A separate detailed outline of proposed developments is recorded and filed (enabling future retrieval of details represented by a development plot). In effect these represent Recreation Strategy "goals" (see 5.2.3).

3.3.3 Use

From a glance at the Recreation Work Programme, the forest ranger can list development and maintenance operations required that month. Their orderly completion can then be organised together with other duties.

Development: Approved prescriptions are required for all development and major upgrading (see 3.5.2). These are prepared well before the month due for implementation allowing sufficient time for approvals and organisation of materials, labour and transport.

Maintenance: The forest ranger retrieves a "Recreation Facility Inspection and Maintenance Record" (Figure 9) from the files. These cover tracks, picnic areas, car parks, huts and footbridges. On this is noted maintenance required (including work outstanding recorded on previous inspections). Upon job completion the maintenance crew return this form, having noted work completed or outstanding. The forest ranger then transfers work outstanding onto a new "Recreation Facility Inspection and Maintenance Record" and budget information onto a "Maintenance Costs" form (see "Track Designs" Volume 2, Appendix 2). These are filed for future retrieval (see 3.3.5).
<table>
<thead>
<tr>
<th></th>
<th>WORK REQUIRED</th>
<th>WORK COMPLETED</th>
<th>WORK OUTSTANDING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(From Forest Rangers Inspection)</td>
<td>(Tick)</td>
<td>(Maintenance gang to detail)</td>
</tr>
<tr>
<td><strong>Car Park</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spraying:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicle Barrier:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surface:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Picnic Area</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lawns:</td>
<td>Mow</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Weedeat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Borders:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Weedeat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planting:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Weedeat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rubbish Bins:</td>
<td>Empty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toilets:</td>
<td>Replace toilet paper</td>
<td>Clean and disinfect</td>
<td></td>
</tr>
<tr>
<td>Fire Places:</td>
<td>Clean</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire Wood:</td>
<td>Replace</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Supply:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Noxious Weeds:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wood Shelter:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Picnic Tables:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Platforms:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seats:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety Barrier:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic Barrier:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boat Ramp:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stile:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Signs:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interpretive Signs:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 9 - Recreation Facility Inspection and Maintenance Record
At the month's end, the forest ranger hatches out development and maintenance jobs completed and arrows forward to the next month jobs unfinished or outstanding. The Work Programme therefore provides a visual indication of performance and record of operations.

Work required for the next month is then noted, including jobs brought forward, and the process repeated.

3.3.4 Advantages

1. The Work Programme is presented in a simple visual format, prominently displayed in the forest ranger's office. Monthly job lists ensure that work on recreation facilities, particularly maintenance, is unlikely to be overlooked (for example, when rangers take leave or staff changes occur).

2. Goal setting gives purpose to the job. Each month there is plenty to be done, challenging staff to effectively manage their affairs to meet Work Programme goals. Results of their efforts can be seen, performance assessed (see also 3.5.4.) and adjustments made.

3. In macro-planning terms, programming work three years in advance encourages thought about purpose, strategy, continuity of employment, resource allocation, alternatives and long-term consequences.

4. The Work Programme translates recreation and management plan ideals into attainable objectives. In effect, it represents the working section of a Recreation Strategy (see 5.2.3). The next three years' work can be seen at a glance.

3.3.5 Disadvantages

Solutions

1. Work programmes are fixed and can quickly become out of date as flexible work performance responds to changes in:
   - financial and labour allocations
   - work priorities
   - policy

While production of a comprehensive conservancy Recreation Strategy (see 5.2) and collation of prescription budgets (see 3.5.4, 3.5.6) and "Maintenance Record" cost data (see 3.3.3) will enable more accurate work programming, it doesn't solve the problem of the
Disadvantages (continued)

2. They are drawn up as guesstimates without any detailed budget or performance data base

Solutions (continued)

Work Programme being a fixed document facing the reality of a changing economic and political future. COMPUTERISATION of work programmes will enable rapid adjustment and updating in response to operational changes.

Benefits of computerisation include:

- elimination of manual chart preparation;
- rapid production of copies for district and conservancy use;
- integration of work programmes with normal financial management systems, prescription budgets and maintenance cost records. This enables up-to-date financial statements and recreation project job costing of greater accuracy;
- preparation of annual estimates becomes an easy task and provides opportunity for annual review and updating of work programmes.
Prepare work programme chart

List and arrange facilities
(by operations areas and classification)

Plot and synchronise maintenance
and inspections

Plot and synchronise developments

WORK PROGRAMME

Annual review
and update

a lettraset master

Recreation Inventory

Design Manual maintenance schedules (and group meeting)

Inspection and Maintenance Record

Conservancy Recreation Strategy
(and prescriptions)

OR

group meeting (files, financial allocations, amenity plans, policy, etc.) recorded as -

development details (for elaboration)

Recreation Inventory

financial records

recreation plan
3.4 Design Manual

The Design Manual provides for:

- high standards in the development and maintenance of recreation facilities and structures
- continuity within and between site developments (except when compelling reasons for special treatment exist, for example, historic sites, pack tracks, and walkways).

3.4.1 Description

The Design Manual (see Volume 2; Appendix 2) contains design standards for:

- signs
- tracks
- picnic areas
- footbridges

Each section contains illustrated discussion on:

- user requirements
- design principles

together with detailed:

- criteria for classifications (specifying what structures are appropriate and where - Figure 7)
- designs (Figure 10)
- material and construction specifications
Figure 10 - Design Manual Designs

- Picnic table design
- Scale 1:12.5
- Forest signs design
- Scale 1:12.5
- Fireplace detail design
- Scale 1:20
- Boardwalk design
- Scale 1:12.5
Sections are collated into a ringbinder and the manual kept in the forest ranger's charge. Copies are held in district and conservancy offices.

3.4.2 Preparation

The Design Manual is prepared by the recreation planner and forest ranger, documenting the consensus arrived at from the group design process (see 4.1, 4.3.3). It requires approval from the District Ranger, District Forester and Environmental Forest Ranger.

A set of masters is filed from which further copies can be made.

3.4.3 Use

The Design Manual is a comprehensive reference document containing high quality designs and guidelines for recreation operations. Its source material is used in preparation of:

- prescriptions, for example, "Criteria for Classification", standard designs and construction specifications are applied to development projects (see 3.5.2)
- work programmes, for example, maintenance schedules guide maintenance frequency (see 3.3.2)
- recreation inventory, for example, "Criteria for Classification" are used to classify and arrange facilities (see 3.2.2).

3.4.4 Advantages

1. Use of standard designs:

   - eliminates the need to design structures for each job, thereby reducing the time involved preparing prescriptions (see 3.5.2);
   - frees staff to concentrate on landscape design matters, for example, track alignments, spatial arrangement of the site, and placement of structures;
provides continuity within and between sites, as the relationship of one structure to another is given attention. Visitors and tourists respond to quality and unity in sign and structure design for it conveys an identity enabling ready recognition of recreation sites within a park (for example, Victoria Forest Park) or a region (for example, Westland).

2. Full consideration of recreation planning, design, construction and maintenance is necessary during its preparation (for example, see "Design Principles", Volume 2; Appendix 2). The resulting high quality of designs reflects the degree of understanding and integration of these considerations. Visitors value quality for it enhances their experience. They will therefore respect the agency that provided it, in this case the Forest Service.

3. Professional, attractive documentation encourages thorough consideration and approval by forest management.

4. New staff can quickly familiarise themselves with recreation designs and specifications, ensuring continuity of their use. However, new designs, improvements or replacements can still be made if necessary, although approval is required to guard against changes from "whims". The ringbinder format enables easy insertion of new designs, deletion of old ones and correction of script or design errors.

5. Specialist designs for toilets, shelters, huts and interpretation (for example, for brochures, interior and exterior displays) can always be added.

3.4.5 Disadvantages Solutions

1. Preparation of the Design Manual requires time and specialised skills in order to fully integrate all aspects of recreation design and planning. Employment of a conservancy recreation planner (for example, graduate with Diploma in Parks and Recreation).
2. "Standardisation!" shout the critics. Some degree of uniformity is required to present a recreation identity (see 3.4.4). For example, Westland Conservancy has an integrated sign system and track designs to promote a Westland "image" (as opposed to each district having its own). Within this unity diversity is permitted in special situations (for example, historic sites, Victoria Forest Park) when good reasons exist to present a separate identity and diverge from standard designs. This flexibility provides for balance and interest rather than the confusion of unco-ordinated development. Further, if a good design exists, it is desirable to continue to use it.
PREPARATION OF DESIGN MANUAL

GROUP DESIGN PROCESS

See Section 4

Write script and type
Draw designs
Illustrate
Photocopy, collate and organise in ringbinder

Recreation Inventory
Other Design Manuals

Approval

DESIGN MANUAL

Update and amendment as required

masters
3.5 Prescriptions

Prescriptions are working plans applying standards set in the Design Manual to specific site developments programmed in the Work Programme.

3.5.1 Description

Every prescription has the following format (see Volume 2; Appendix 3):

- title page: containing prescription number by operations area
- approvals page: includes file and job numbers, and month(s) in which work is programmed
- contents page
- location map
- introduction: outlines the reasons for the project (by reference to the recreation strategy, amenity plans, etc.) and the standard of development (for example, class of walk or track)
- concept plan: the project may require specialist input, for example,
  - a landscape plan from the landscape architect (Figure 11)
  - toilet, hut or shelter plans from an architect
  - a track alignment or interpretation plan from the recreation planner
- designs, specifications, construction sequences and costings
- budget
- maintenance schedule
- work completion report
LAKE PARINGA
PICNIC AREA
CONCEPT

Figure 11 - Landscape Plan, "Lake Paringa Picnic Area Development"
Prescription, Southern District
The prescription is presented in a plastic folder with a transparent cover (Figure 12).

3.5.2 Preparation

Prescriptions are required for all development and upgrading projects, for example, track marking, picnic area landscaping, track interpretation, signs, brochures, displays, track upgrading, restoration of historic machinery. Once ROPS is operational, annual maintenance can also be prescribed.
1. **Site selection** is recorded on the Work Programme (see 3.3.2).

2. **Site inspection** is undertaken well before implementation date (indicated on the work programme) to allow preparation and approval of the prescription (see 3.3.3).

A detailed outline of the proposed development, represented on the Work Programme, is retrieved from the file (see 3.3.2). This information would normally be contained in a Recreation Strategy (see 5.2.3).

A project planning team is established and co-ordinated by the forest ranger. In larger operations (for example, Victoria Forest Park and Southern District) this role is delegated to someone with the necessary time, skills and motivation. It is desirable to have one person co-ordinate and write the prescription (see 4.1 for discussion of the team approach).

Depending upon the project's nature, a conservancy "specialist" may be involved. For example:

<table>
<thead>
<tr>
<th>Project</th>
<th>Project Planning Team</th>
</tr>
</thead>
<tbody>
<tr>
<td>Footbridge construction</td>
<td>Forest ranger and engineer</td>
</tr>
<tr>
<td>Picnic area landscaping</td>
<td>Forest ranger, recreation planner and landscape architect</td>
</tr>
<tr>
<td>Restoration of historic building</td>
<td>Forest ranger, historian and architect</td>
</tr>
<tr>
<td>Track interpretation</td>
<td>Forest ranger, recreation planner, artist, archaeologist</td>
</tr>
</tbody>
</table>

The project planning team then inspects the site to determine the scope of development (Figure 13). Appropriate "Criteria for Classification" are selected to establish the project's design standards (see 3.4.3). Projects are treated as a package so that all aspects and relationships of the site development receive attention.
Figure 13 - Project Planning Team discussing prescription for Charming Creek Walkway. Paul Mahoney, Historian, Jim Robertson, Forest Ranger, and John Green, Leading Hand.
For example:

<table>
<thead>
<tr>
<th>Project</th>
<th>Aspects</th>
<th>Relationship of</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picnic area landscaping</td>
<td>• signs, tables, fire-places, toilets,</td>
<td>• signs to AA road signs</td>
</tr>
<tr>
<td></td>
<td>• shelter, interpretation, boat ramps, etc.</td>
<td>• interpretation to brochures</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• this site to others in the area</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(for example, to camping opportunities, etc.)</td>
</tr>
<tr>
<td>Track upgrading</td>
<td>• signs, boardwalks, bridges, benching,</td>
<td>• track alignment to its interpretative purpose</td>
</tr>
<tr>
<td></td>
<td>• surfacing, realignments, interpretation,</td>
<td>• interpretation to brochures, Recreation</td>
</tr>
<tr>
<td></td>
<td>• etc.</td>
<td>Inventory, etc.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• this site to others in the area</td>
</tr>
</tbody>
</table>

Interim approval for the project may be required from district or conservancy if, for example, significant expenditure or new development is proposed. A brief is then prepared.

Whatever the project, full application of the landscape planning and design process is required (Anstey et al., 1982; Queensland Dept of Forestry, 1980; Simmonds, 1963). Thorough awareness, inspection and analysis of the site's values, user requirements and all relevant information are necessary before creation of an integrated development concept and package. Nothing less is adequate!

The orderly approach to recreation design and development involves:

- Site Inspection
- Analysis + Synthesis
- Preparation of a Concept(s)
- Approval of Proposal (that is, Prescription)
- Implementation
- Review
3. **Prescription preparation.** The forest ranger (or his deputy) collects all necessary information, including specialist concept plans, and calculates the quantities of:

- labour
- materials and
- transport

required for project construction. These are costed and brought together in a budget. Designs and construction specifications are drawn from the Design Manual (see 3.4.3; Volume 2; Appendix 2) and costs from "Costing Data" (Figure 14). A maintenance schedule is also written. The prescription can now be typed, photocopied and collated. Masters are used to ensure standard format and speed preparation time.

4. **Approval.** The prescription is then presented to the forest ranger and district forester. Their approvals, comments (for example, on sources of finance and planning respectively) and any final adjustments completed, the prescription is presented to the district ranger for final approval. Significant projects may require further approval at conservancy level. The prescription number is recorded in a "Prescription Index".
## COSTING DATA

### TIME BASED EFFECTIVE FROM 25 MAY 1983

<table>
<thead>
<tr>
<th>Group Number</th>
<th>Description</th>
<th>Daily 'Hauling' Charge</th>
<th>Daily Operating Rate</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Core, broken</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02</td>
<td>Core, heavy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>03</td>
<td>Trucks, 4 x 2, up to 2.25 tonnes</td>
<td>$1.26/m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>04</td>
<td>Trucks, 4 x 2, 2.25-4.5 tonnes</td>
<td>$1.98/m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>05</td>
<td>Trucks, 4 x 2, 4.5-7.0 tonnes</td>
<td>$3.24/m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>06</td>
<td>Trucks, 4 x 2, 7.0-9.0 tonnes</td>
<td>$3.60/m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>07</td>
<td>Trucks, 4 x 2, over 9.0 tonnes</td>
<td>$3.72/m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>08</td>
<td>Tractor transporters</td>
<td>$1.24/m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>09</td>
<td>Loggers, trackers</td>
<td>$1.00/m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Loggers, trailers</td>
<td>$3.00/m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Trucks, 4 x 4, up to 2.25 tonnes</td>
<td>$4.00/m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Trucks, 4 x 4, 2.25-4.5 tonnes</td>
<td>$5.00/m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Trucks, 4 x 4, 4.5-9.0 tonnes</td>
<td>$5.80/m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Trucks, 6 x 6</td>
<td>$27.00/day</td>
<td>$39.00/hr</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Refuelling trucks</td>
<td>$40.00/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Motor spares</td>
<td>$51.00/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Loggers</td>
<td>$39.00/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Crawler tractors, over 305 kW</td>
<td>$51.00/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Crawler tractors, 213-275 kW</td>
<td>$44.00/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Crawler tractors, 95-115 kW</td>
<td>$41.00/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Crawler tractors, 76-95 kW</td>
<td>$41.00/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Crawler tractors, 56-55 kW</td>
<td>$41.00/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Crawler tractors, 38-45 kW</td>
<td>$41.00/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Crawler tractors, up to 36 kW</td>
<td>$41.00/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Apit. wheel tractors, over 35 kW</td>
<td>$41.00/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Apit. wheel tractors, up to 35 kW</td>
<td>$41.00/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Industrial wheel tractors, 4 x 4</td>
<td>$41.00/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Log skidders, up to 75 kW</td>
<td>$41.00/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>Log skidders, 76-125 kW</td>
<td>$54.00/hr</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### TIMBER DATA

P.B. Radiata rough sawn

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Standard Quantity</th>
<th>Cost/Unit</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>P.B. Radiata rough sawn</td>
<td>3m</td>
<td>$11.00/m</td>
<td></td>
</tr>
<tr>
<td>02</td>
<td>P.B. Radiata rough sawn</td>
<td>4m</td>
<td>$12.00/m</td>
<td></td>
</tr>
<tr>
<td>03</td>
<td>P.B. Radiata rough sawn</td>
<td>5m</td>
<td>$13.00/m</td>
<td></td>
</tr>
<tr>
<td>04</td>
<td>P.B. Radiata rough sawn</td>
<td>6m</td>
<td>$14.00/m</td>
<td></td>
</tr>
<tr>
<td>05</td>
<td>P.B. Radiata rough sawn</td>
<td>7m</td>
<td>$15.00/m</td>
<td></td>
</tr>
<tr>
<td>06</td>
<td>P.B. Radiata rough sawn</td>
<td>8m</td>
<td>$16.00/m</td>
<td></td>
</tr>
<tr>
<td>07</td>
<td>P.B. Radiata rough sawn</td>
<td>9m</td>
<td>$17.00/m</td>
<td></td>
</tr>
</tbody>
</table>

### LUMBER DATA

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
<th>Weekly Cost Rate</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Logs, small</td>
<td>$19.00/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Logs, medium</td>
<td>$34.00/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Logs, large</td>
<td>$50.00/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Logs, extra</td>
<td>$67.00/hr</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Figure 14 - Costing Data, Southern District
3.5.3 Use

Implementation of the project is now a straightforward operation. The forest ranger organises materials, transport and labour (all quantified in the prescription; see 3.5.1). A copy of the prescription is given to the work crew, and the operation begun during the month indicated on the Work Programme (see 3.3.3). Standards are set for work crews in prescription specifications enabling performance to be monitored.

3.5.4 Work Completion Report

Upon project completion a Work Completion Report (Figure 15) is written and includes:

- a review of the operation
- estimated and actual costs
- forest ranger and O/C job comments on performance

This report is then circulated (with the prescription) for comment and approval by those who approved the prescription, that is, environmental forest ranger, district forester and district ranger. Upon return of the Work Completion Report the prescription is then stored by operations area in a "Recreation Prescription Completed File". This ringbinder is later referred to for budget information (see 3.3.5).

Finally, the forest ranger updates the:

- Work Programme - monthly development completed is hatched out and new maintenance and inspection requirements detailed in the prescription "Maintenance Schedule", are plotted (see 3.3).

- Recreation Inventory - recording a new facility, or upgrading that has resulted in a change in the facilities classification, or a realignment requiring new description.
**Work Completion Report**

**DATE:** 1.6.83

<table>
<thead>
<tr>
<th>COSTING:</th>
<th>Actual Cost</th>
<th>Budget Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning -</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labour -</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leading hand</td>
<td>192 hrs @ $6.50/hr</td>
<td>1248.00</td>
</tr>
<tr>
<td>F.H.1.</td>
<td>416 hrs @ $5.54/hr</td>
<td>2304.00</td>
</tr>
<tr>
<td>F.H.2.</td>
<td>24 hrs @ $5.27/hr</td>
<td>127.00</td>
</tr>
<tr>
<td>Carpenter</td>
<td>136 hrs @ $7.00/hr</td>
<td>952.00</td>
</tr>
<tr>
<td><strong>Total Labour Cost</strong></td>
<td><strong>4,631.00</strong></td>
<td><strong>5,768.00</strong></td>
</tr>
<tr>
<td>Transport -</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suzuki 4WD</td>
<td>350 km @ $0.30/km</td>
<td>105.00</td>
</tr>
<tr>
<td>Toyota Landcruiser 4WD</td>
<td>250 km @ $0.38/km</td>
<td>95.00</td>
</tr>
<tr>
<td>Hino</td>
<td>100 km @ $1.30/km</td>
<td>130.00</td>
</tr>
<tr>
<td>Rail freight (on Poles)</td>
<td></td>
<td>63.00</td>
</tr>
<tr>
<td><strong>Total Transport Cost</strong></td>
<td><strong>393.00</strong></td>
<td><strong>124.00</strong></td>
</tr>
<tr>
<td>Materials -</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crushed gravel</td>
<td>in stock</td>
<td></td>
</tr>
<tr>
<td>Poles 12 m(3)</td>
<td>648.00</td>
<td></td>
</tr>
<tr>
<td>Red Beech timber (2.5m³)</td>
<td>175.00</td>
<td></td>
</tr>
<tr>
<td>Radiata timber</td>
<td>130.00</td>
<td></td>
</tr>
<tr>
<td>Cement (2 bags)</td>
<td>10.00</td>
<td></td>
</tr>
<tr>
<td>Netting (chicken)</td>
<td>60.00</td>
<td></td>
</tr>
<tr>
<td>Nails</td>
<td>80.00</td>
<td></td>
</tr>
<tr>
<td>Stain &quot;Aspen&quot; 29.4@ $24.00/4l</td>
<td>174.00</td>
<td></td>
</tr>
<tr>
<td><strong>Total Materials Cost</strong></td>
<td><strong>1,277.00</strong></td>
<td><strong>1,646.00</strong></td>
</tr>
</tbody>
</table>

**Total Construction Cost:** $6,509.00 $7,738.00

**COMMENTS:**

**O/C Job:** Track was worked on periodically from 18/1/83 until completed on 2/3/83. Gravel for the track surface came from the Ajax low level mullock heap, Blacks Point. Footbridge construction began 21/3/83 and was completed on 13/4/83.

Forest Ranger, Forest Park: I am most impressed and compliment you and your crew for an excellent job all round. While you show concern for some ongoing this is still a cost efficient result and that is what you should be proud of as you have clearly understood your objective and achieved it. Good work. 26/6/83.

District Forester: C. D. Reason

District Ranger: Figure 15 - Work Completion Report. Golden Fleece Battery Walk Development Prescription, Victoria Forest Park

44
3.5.5 Photo Record System

New structures are photographed for the photo library and photo record system. These cards are referred to in cases of loss or damage to structures enabling rapid and efficient repair or replacement. (Figure 16).

Figure 16 - Photo Record Card, Victoria Forest Park
3.5.6 **Advantages**

1. Prescription documentation ensures that a development project is thoroughly planned (for example, in all aspects of design, construction and maintenance) before work begins. The implementation operation is then a straightforward operation.

2. Easy to read, attractively presented prescriptions will ensure consideration and approval from forest management. High standards of implementation by work crews are then expected, and disruption through staff changes is minimised.

3. Planning is done by those doing the job. Forest rangers and their staff are involved from project planning to completion. They are responsible for co-ordinating both prescription preparation and implementation, therefore ensuring clear understanding of all facets of the project.

   Foresters are freed to concentrate on specialist advice and strategic planning.

4. Use of "specialists" results in thorough design and integrated planning, creating expectations of a high quality product.

5. Operational performance can be monitored. Work Completion Reports ensure accountability and work crews have written standards and quantified goals towards which to apply themselves.

6. Prescriptions prepared at least twelve months in advance make physical and financial budgeting a straightforward procedure (see also 3.3.5). Budgets can be readily updated if the prescription is getting "old".

7. Prescriptions provide an excellent basis for comparison of claims for supplementary financial or physical resources. They are more likely to attract finance than projects without prescriptions, and if cases for funds have to be made to Head Office, the required information has been already collated.
8. Use of Design Manual designs, construction information and "Criteria for Classification" saves time (see 3.4.4; Volume 2; Appendix 2).

9. Prescriptions and the photo record system ensure that damaged structures or facilities can easily be replaced.

3.5.7 Disadvantages


   Solution

   1. Employ a deputy to the forest ranger for:

      • co-ordination of project planning
      • prescription preparation
      • quality control

   Such a person may be:

      • a graduate with the Diploma in Parks and Recreation, Lincoln College, or
      • drawn from our own staff and given suitable retraining.

2. Failure to utilise specialised skills and equipment will result in a poor prescription and inferior development.

   Solution

   2. Utilise a typist and photocopier. Stations without these facilities will need to delegate this function to their district office.

      • Ensure availability of conservancy based "specialists" (see 3.5.2).
PREPARATION OF PRESCRIPTIONS

Form Project Planning Team

Site Inspection

Consensus on development
Interim project approval

Collect specialist material
Prepare format
Quantify materials, labour,
transport
Cost

Write introduction
Collate and organise material
Place in plastic folder

Approval
Record prescription number

PRESCRIPTION

Project completion

Work completion report

Approval

FILE

SOURCE DOCUMENTS

- Work programme
- Recreation Strategy
  OR
  Development details

- Plans, maps, surveys, etc.
- File note/minute sheet

- Concept plans, etc.
- Letraset negatives
- Other prescriptions
- Costing data

- Recreation Strategy
- Regional/amenity plans

- Prescription index

- Work diary
- Financial statements/invoices
- Recreation inventory
- Photo record system

- Recreation prescriptions
  Completed file
3.6 The Recreation Operation Summarised

ROPS provides for strength in planning through use of recreation inventories, work programmes, design manuals and prescriptions. However, the quality of a finished project relies on high standards of both planning and implementation.

A good recreation operation is strong in both.

High standards of implementation result from:

1. forest rangers' skills in communication, organisation, motivation, supervision and training of his team;

2. a team approach involving a skilled work crew and tradesmen (for example, a carpenter and stonemason);

3. a work environment that fosters freedom to be creative and ingenious;

4. continual in-service training.
Les Nicol, Carpenter, Victoria Forest Park, skilled in the use of Taiwanese hammers.

To repeat, a high quality recreation product for users is the result of the integration of high standards in both planning and implementation.

Quality, of course, is never absolute—it evolves; high standards of planning encouraging high implementation standards (and vice versa).
4. Establishment and Operation
4. Establishment and Operation

4.1 The Team Approach

Figure 17 - The best jobs result from a team effort - working together


The establishment and operation of ROPS in Westland Conservancy is a team (compared with individual) effort. Bringing people together in open discussion (Figure 17) and a creative work environment has the advantage of ensuring that a product (that is, "the whole") is greater than the sum of its parts. This is because:

1. maximum use is made of specialised skills in both planning and implementation, for example, landscape architects and carpenters (Figure 18) respectively as well as a recreation planner, historian, archaeologist, engineer, journalist and draughtsperson;
2. division of labour is possible, for example, the forest ranger manages the operations; his deputy prepares prescriptions and work crews implement them (Figure 19). In this way products can be completed to a higher degree of quality and faster than any one person can hope to achieve;

3. the risk of overlooking something is reduced, someone will think of it;

4. individual bias is dampened through exposure to others' viewpoints;

5. team members and work staff can see why decisions were made;

6. communication through working together promotes understanding and learning;

7. forest rangers and work staff have more enthusiasm for a product they helped fashion.

Figure 18 - Use of skilled and qualified people has paid off.

Les Nicol, Carpenter, routing sign. Victoria Forest Park
This last point must be stressed. ROPS, through a "bottom-up" as well as a "top-down" approach prevents alienation of operational staff by involving them in the planning process. Their creativity is exercised from design through to implementation. Positive feedback on products generates pride and self-worth which in turn becomes mirrored in the quality of future achievements. Confidence is developed, for example, in management, planning and communication. And a receptivity to growth and knowledge develops. INVOLVEMENT is vital!

Critics may suggest that the team approach will compromise "specialist" advice. The author believes that this is unlikely in a creative (as opposed to a regressive) work environment. In such a setting, team members actively integrate "specialist" knowledge while growing/evolving towards "reality, truth..."

And "from those who have much, much is to be expected"! In a regressive (in contrast to growth) setting this imperative assumes greater urgency.

Involvement, communication and sharing information foster integration as opposed to division.
Figure 19 - Walk construction, like planning, is a skilled business.

Division of labour enables staff to develop their skills.

The Haast team working on Jamies Creek Walk, Southern District
4.2 The Recreation Planner

Figure 20 - In-service training is essential to keep staff up to date and foster skill development.

The author discussing lettering at Westland Conservancy's Signs Workshop

The recreation planner is central to development of ROPS. Functioning as a catalyst to the team his responsibilities include:

1. bringing to operational staff new information and ideas on recreation, management, planning, design and construction. In effect, providing comprehensive in-service training that would otherwise be unavailable (Figure 20);

2. co-ordinating the orderly establishment and implementation of ROPS by forest rangers and work staff;

3. setting up the documentation that goes with ROPS (for example, Recreation Inventory, Work Programme and Design Manual);
4. keeping abreast of current developments in recreation planning, design, construction and maintenance.

(The author, as Recreation Planner, Westland Conservancy, drew from his parks and recreation training in landscape architecture, ecology, psychology, sociology and planning. Observation from travels and private studies are also invaluable).

Having one person responsible for co-ordinating the establishment of ROPS in all districts has the major benefits to conservancy of ensuring continuity of:

. documentation, for example, Recreation Inventories, Work Programmes, Design Manuals and prescriptions are so compatible they can be readily collated into a Conservancy Recreation Inventory, Design Manual, etc.;
. design standards throughout the region (see 3.4.5);
. communication, thereby providing further opportunity for conservancy inputs and planning perspectives.
4.3 Establishment

Establishment of ROPS in the districts of Westland Conservancy followed the following sequence:

4.3.1 Familiarisation

The recreation planner makes himself familiar with facilities, district operations and recreational patterns. For this, it is desirable that he is directly involved with the Recreation Inventory. A literature survey is also necessary, for example, of files, brochures, reports, management and amenity plans.

A design group is established from forest rangers and their staff involved with planning recreation operations. The recreation planner gives them a reading list which they are encouraged to at least glance at. It includes:

"Landscape Architecture" (Simmonds, 1963)
"National Forest Landscape Management, Vol. 1" (US Forest Service, 1973)
"Creative Forestry" (Anstey et al, 1982)
"Sign System" (Queensland Department of Forestry, 1979)
"Recreation Manual" (Queensland Department of Forestry, 1980)
"Victoria Forest Park Design Manual" (NZ Forest Service, 1983)
"Victoria Forest Park Operations Planning System" (Groome, 1983)
"Southern District Design Manual" (NZ Forest Service, 1984)
PARKS magazine
A photograph album with many examples of tracks, signs, footbridges, structures, visitor centres, interpretation panels, etc.

4.3.2 Study Tour

The design group and recreation planner then go on a study tour to investigate track, sign and structure designs elsewhere (for example, Arthurs Pass National Park, Ashley Forest, Hanmer Forest Park, Lewis Pass National Reserve, and Victoria Forest Park were visited; Figure 21). Members are challenged to react - "If it looks good, it is good" - and analyse these reactions - "Why do you think it looks good/bad? What is right/wrong with it?" From this analysis design principles are formulated (see "Design Principles" Volume 2; Appendix 2).
Figure 21 - Study tours are an essential training technique.

Westland Conservancy study tour visiting Victoria Forest Park

Study tours are an essential and successful training technique providing staff with:

- the opportunity to get away from their "spheres of influence", thereby freeing them to openly criticise and objectively analyse signs, structures, sites, etc., without offending anyone;
- exposure to a wide range of good (and bad) ideas and structures over a short period, resulting in a clear perception of the elements of quality;
- the chance to share ideas and learn from others in a useful exchange that places issues in a broader perspective;
- a common source of experience. All group members must have experienced first hand the same facilities to ensure productivity in subsequent discussions (see 4.3.3).
4.3.3 Group Discussions and Preparation

Added to their previous work experience the group now has a common and broad background of knowledge to draw from. It proved advantageous for Westland Conservancy study tours to have ROPS already in operation at Victoria Forest Park. Groups could experience it first hand and it is worth recording that all staff voluntarily accepted its value!

The recreation planner now chairs a series of group discussions to determine in detail:

. the nature of users and design principles;
. "Criteria for Classification" and design specifications for associated structures;
. "Maintenance Schedules" and maintenance requirements;
. development scope and priorities (if required)
. prescription format

Upon consensus the recreation planner and forest ranger (or his deputy) can complete the Recreation Inventory (see 3.2) and prepare the Work Programmes (see 3.3) and Design Manual (see 3.4). These records form the reference base for ROPS. Prescriptions are operational documents.
ESTABLISHMENT OF ROPS SOURCE DOCUMENTS

RECREATION INVENTORY
(See Preparation Flow Chart)

Familiarisation
Background reading

Study tour

Group meetings

WORK PROGRAMME
(See Preparation Flow Chart)

DESIGN MANUAL
(See Preparation Flow Chart)

PRESCRIPTIONS
(See Preparation Flow Chart)

ROPS OPERATIONAL

Photo record system

Brochures
Files
Amenity plans
Reports, etc.
Photo library

Development details

Inspection and Maintenance Record
Maintenance Costs

60
4.4 Operation

4.4.1 Prescriptions

The recreation planner now works closely with the forest ranger (and/or his deputy) on:

- preparation of the first prescriptions and their approval (see 3.5);
- training of work crews to ensure that field skills are available for the production of signs, structures and facilities. A carpenter is essential for construction of structures (bush carpentry is inadequate; see Section 6; Results).

ROPS is operational! Now in command of the necessary documents and skills, the forest ranger assumes full responsibility for the preparation of recreation prescriptions, organisation of operations and subsequent quality control.

While the novelty of establishment may fade as ROPS becomes operational, new challenges for the team ensure interest will be maintained with:

- new projects;
- fine tuning;
- confidence to handle specialists;
- confidence to manage larger and more complex development packages, for example, interpretation;
- increasing availability of finance (attracted by prescriptions);
- ROPS reviews (see 3.2.6, 3.3.5, 3.4.5), for example, of Work Programmes;
- continued re-training (see 4.2).

New staff are quickly able to see what is going on and fit into the recreation operation. The above points equally apply for them.
Compile Monthly Work List

Development (See Page 63)

Maintenance (See Page 64)

Action

Record Performance

Repeat

. Work Programme

. Prescriptions

. Inspection and Maintenance Records
Monthly Work List
Is maintenance on it?

Yes

Plan

Retrieve Inspection and Maintenance Record

Action (including ordering materials, organising job, quality control)

Is maintenance complete?

No

Update Arrow Forward

Yes

Record performance

Maintenance Costs File

Update

Repeat
4.4.2 Support and Servicing

Once ROPS is operational throughout the districts the recreation planner can be based at conservancy. Remember, ROPS is now the responsibility of and a normal function of district recreation staff. The recreation planner, then, is freed to perform his other duties, including:

. organising courses to bring staff up to date with new developments, for example, conservancy signs (see Houston et al, 1984), landscape and interpretation workshops (Figure 20);
. fine tuning and reviewing ROPS;
. providing "specialists" to districts;
. organising interpretation services, for example, brochures, displays, track and picnic area interpretation, publicity;
. liaison between conservancy and districts' operations;
. co-ordination of delegated major projects;
. assistance with preparation of conservancy Recreation Strategy (see 5.2) and its review;
. preparation of technical reports, for example, interpretation, methods, planning systems;
. associated duties as required.

(The author, as Recreation Planner, Westland Conservancy, is directly responsible for such duties to the Senior Forester, Hokitika.)
5. Macro-Planning
5. Macro-Planning

ROPS is part of a greater planning process and it is therefore necessary to place it in context. This section outlines the macro-planning that takes over where ROPS leaves off.

5.1 A Regional Context

5.1.1 Why ROPS First?

It has already been noted (for example, 3.3.2) that Westland Conservancy district staff had to resort to "seat of the pants" assessments to determine site development priorities for Work Programmes in lieu of a Recreation Strategy. Nonetheless, ROPS was implemented before preparation of a Recreation Strategy because it led to immediate and visible improvements in the field compared with the delayed, "invisible" nature of macro-planning. Consultation with the Conservancy Senior Forester, however, ensured a broadening of perspectives, so interim operations under ROPS would fit the context of a Recreation Strategy.

Further the ROPS first, then the Recreation Strategy approach is in accord with the "bottom-up" compared with "top-down" policy. The new skills and greater awareness gained by field staff working with ROPS will generate information (for example, Recreation Inventory) and comment (for example, on planning systems) necessary for preparation of a good Recreation Strategy. Forest rangers having seen the need for, and been involved in the macro-planning exercise, will readily accept and implement "their" Recreation Strategy.

5.1.2 Macro-Planning

A district alone, however, is too small a unit to achieve the broad perspective necessary to ensure:

- site selection and development appropriate to a wide spectrum of recreation opportunity and regional interpretation;
- a conservancy recreation "identity" from continuity (see 3.4.4, 3.4.5).
Regional level (that is, conservancy) macro-planning is necessary to give perspective to district operations, that is ROPS. Again, the whole is greater than the sum of the parts.

![Diagram showing hierarchical planning]

The ideal planning process of determining:

- policies
- goals
- objectives

operates in an integrated manner through various levels of scale in a planning hierarchy, for example:

<table>
<thead>
<tr>
<th>Level in Hierarchy</th>
<th>Plans</th>
</tr>
</thead>
<tbody>
<tr>
<td>National</td>
<td>. Government policy</td>
</tr>
<tr>
<td></td>
<td>. Forest Service national policy</td>
</tr>
<tr>
<td>Regional</td>
<td>. Conservancy Recreation Strategy</td>
</tr>
<tr>
<td>Local</td>
<td>. for example, Design Manual</td>
</tr>
<tr>
<td>Site</td>
<td>. ROPS</td>
</tr>
<tr>
<td></td>
<td>. for example, Prescriptions</td>
</tr>
</tbody>
</table>

Through plans broader levels give direction to lower levels which, in turn, feed back information for decision-making.
5.2 The Recreation Strategy

To date regional forest management plans (for example, North and South Westland) have performed the function of a Recreation Strategy (see 2.1.2). Their policy is that the West Coast is generally well supplied with outdoor recreation facilities and emphasis shall be given to:

- upgrading and completion of existing high use facilities;
- interpretation;
- publicity

However, an integrated macro-planning exercise to produce a comprehensive regional Recreation Strategy would better serve planning needs at this level. (Westland Conservancy will have a detailed Recreation Strategy during 1985.)

5.2.1 Preparation

The first step is to record, classify and map the supply of existing facilities. This has, of course, been undertaken for the Recreation Inventories (see 3.2). It should also include access, for example, roads. Facilities are then compared with studies of:

- users' (including tourists) demand, current and potential (for example, what are their expectations, motivations, abilities, dynamics?);
- other agencies' recreation facilities (for example, both private or on public lands administered by Lands and Survey or local authorities);
- the landscape's opportunities, current and potential (for example, "class 8"; see "Track Classification - Track Designs", Volume 2; Appendix 2); and
- Forest Service policy, administration and financial capabilities (with regard to other agencies)

in a comprehensive team planning exercise to analyse the extent of the region's spectrum of recreation opportunity (see 5.2.2) and any gaps that may exist in it (for example, a lack of facilities for a community, disabled users, or children).
This analysis of Westland's resources for recreation - natural and social, current and potential - will be interwoven with cultural and ecological issues, into a philosophical "essay". This is necessary to put the regional view into an holistic perspective by considering, for example, the nature and function of recreation in New Zealand society, its energetics and economics, resources, tourism and conservation.

From this philosophical overview, a broad conceptual strategy - a vision - for recreation management can be constructed. A detailed strategy can then be prepared which details, facility by facility, what will be developed, maintained, or retired and/or interpreted, and to what extent.

Thus, the macro-planning exercise through to determination of detailed strategies will enable review of regional management plans, work programmes and design standards (that is, ROPS).

5.2.2 The Spectrum of Recreation Opportunities

It is important to note, however, that a facility is not, and cannot be, all things to all people. Therefore a range of recreational opportunities must be planned for, to satisfy users' needs, for example, for trail bike areas, picnic areas, accessible walks and remote tracks. The spectrum of recreation opportunities must also give appropriate emphasis to the special values of a region, for example,

- landforms: coasts, rivers, lakes, mountains;
- vegetation: forests (for example, beech, podocarp, coastal), pakahi, grassland;
- history: Maori, goldmining, industrial, sawmilling, farming;
- land use: sustained yield forestry, agriculture, coal and goldmining, conservation.
To this end simultaneous macro-planning consideration of interpretation, both of natural and cultural history, is necessary.

A further point now becomes important. Forest Service cannot plan in an integrated way in isolation. A co-ordinated approach with other agencies is imperative to assure an holistic perspective, minimising duplication and conflict, and thereby benefiting the user. As the aim of site planning is to integrate users' needs with the site's values to sustain a creative experience, so too the aim of macro-planning is the integration of society's recreational needs with the diversity of landscape character to provide a broad spectrum of recreation opportunity that will enrich our life-styles and culture.

5.2.3 **ROPs - A Link**

The Recreation Strategy, then, is designed to give detailed long-term direction to district operations. Through a macro-planning process a philosophical, conceptual and regional perspective is arrived at, and then translated into detailed goals and objectives. These can then be actioned through the Recreation Operations Planning System. Work Programmes and Design Manuals link ROPS to the Recreation Strategy.

Further, the Recreation Strategy and ROPS are the link between national and local levels in Forest Service's organisational hierarchy:

```
NATIONAL       Policy/Money
   ↓                ↓
REGIONAL       Link/ROPs + Recreation Strategy
   ↓                ↓
LOCAL       Skills/Action
```
THE RECREATION MACRO-PLANNING PROCESS

DATA COLLECTION

Existing facilities
(that is, Recreation Inventory)

Use
(including cultural data)

Landscape

Forest Service
(for example financial resources, administration)

ANALYSIS

SYNTHESIS
(A vision)

RECREATION STRATEGY

A Philosophical Essay

Detailed Direction: Policies

Goals

Objectives

ROPS

WORK PROGRAMMES

DESIGN MANUAL

RECREATION INVENTORY

PRESCRIPTIONS

Action

Regular monitoring and Review
Think ahead
6. Results
6. Results

The major indicator of the success and achievements of the Recreation Operations Planning System is growth in its use. Developed in Victoria Forest Park, it has expanded to use throughout Westland Conservancy. The benefits of ROPS:

- on site, and
- to Forest Service operations

can readily be seen. This generated willing acceptance and support from district staff and forest rangers which facilitated the rapid transmission of ROPS to other areas. (Significant interest from Head Office, Forest Service, is currently being shown in order to determine what application ROPS has to other conservancies.)

6.1 On Site Benefits

1. Structures are better designed and built (Figures 22-30).

2. There is a significant increase in the visual quality of sites.

3. Site function is significantly increased. More attention is given to determining the specific needs of users and designing for them, for example, sun, shade, shelter, privacy, access, views, waste disposal, safety, information. Misleading and conflicting times and information (for example, between signs and brochures) is corrected.

4. Therefore on-site user satisfaction is increased.

"It is visually beautiful, there is a visual harmony among all its parts - it looks good. It is functionally beautiful, there is a functional harmony among all its parts - it works well. It has unity, it is beautiful - I like it."

- Landscape Architecture (Simmonds, 1963).
5. There is greater continuity within and between sites in a region. They, therefore, present a stronger identity to users (particularly through a sign system).

6. All facilities receive treatment, for example, maintenance, upgrading or development. And this is done to favour quality above quantity, that is, inappropriate facilities may be abandoned.

7. Site developments are treated as a package, and planned with reference to a regional Recreation Strategy.
Figure 22 - Before ROPS; facilities were poorly maintained and less well designed, Southern District.

Figure 23 - After ROPS; structures are better designed and built.

Note the graphic lettering "Rockwell Bold" and use of colours to produce a very legible message on a structure in harmony with its setting (see Design Manual Southern District, Volume 2; Appendix 2)
Figure 24 - Before ROPS; rubbish bins were provided with little thought

Figure 25 - After; rubbish bin, Victoria Forest Park Design Manual
The following illustrations show other finished products:

Figure 26 - Fireplace/barbecue
Victoria Forest Park Design Manual.

Thoughtful design and use of a stonemason results in a functional and attractive facility.
Figure 27 - Jamies Creek Walk. A project upgraded to a prescription. The result of thorough planning and high construction standards.

Figure 28 - Boardwalk Jamies Creek Walk. Access is sensitively provided without damage to the forest.
Figure 29 - Before
Waiuta Hospital, Victoria Forest Park

Figure 30 - After Restoration
6.2 Benefits to Forest Service

1. Increased user satisfaction generates positive feedback and an enhanced public image. Users value quality facilities and experiences, and recognise this as professional Forest Service interest and commitment to their needs.

2. A professional image encourages the development of staff skills and attracts "specialists".

3. Increased skills bring efficiency and economy to recreation management, planning and operations. Forest rangers, for example, are better able to handle all operational matters, freeing foresters to concentrate on macro-planning.

4. Financial allocations are formally accounted for and well spent on quality results (see 6.1). ROPS ensures greater quality control throughout operations.

5. Staff are more confident in their job. They are better skilled and therefore willing to involve and use "specialists" in their projects, and confident in their approach to the public.

6. A growth cycle is established for the recreation team:

```
Quality Product

Better Operations  Positive Feedback

Better Planning

Development of Job Skills and Knowledge

Enthusiasm to do the job better

Pride and Self-Worth

Job satisfaction is increased!
```
6. Staff changes aren't disruptive. The continuity of operations is assured.

7. Forest management is better informed about recreation operations. The increased flow of information and communication enables a more integrated approach to decision-making. ROPS and the Recreation Strategy provide a strong link between operations and macro-planning.

8. Regular assessment and review of activity is facilitated.
7. Conclusion
7. Conclusion

Forest Service's goal of recreation planning could be broadly stated as to better provide for the needs of users - that very diverse group who visit forests in their leisure time. Traditionally huts and tracks have been provided in remote areas for hunters and trampers. In recent years emphasis has focused on development of accessible, high standard walks, picnic areas and interpretation to cater for those very large groups who are labelled the "family" and "tourists". Only recently, however, have we begun to develop professional skills necessary for good recreation planning and management.

Figure 31 - With ROPS work is well planned, well controlled and well implemented. A team approach ensures full involvement.

Victoria Forest Park staff using prescription for quality control.
Westland Conservancy's Recreation Operations Planning System (ROPS) ensures:

- higher quality, and
- greater continuity

both within and between recreation sites. Work is well planned, well controlled and well implemented (Figure 31). This results in a better public service and therefore increased user satisfaction. Forest Service's image is enhanced.

ROPS achieves better results in recreation planning, design, construction and maintenance through:

- documentation; that is, prescriptions, design manuals, work programmes, recreation inventories and the Recreation Strategy. This ensures thorough pre-planning and accountability. Time is taken to think things through;

- a team approach; involvement and communication ensure that the best skills are brought to a project, including conservancy specialists and recreation planner. Planning is done by those doing the job ("bottom up" compared with "top down"). This promotes a creative and productive work environment;

- in-service training; to bring out the best from staff and keep them abreast of new techniques and knowledge, for example, through conservancy workshops.

To summarise, the Recreation Operations Planning System (ROPS) is a comprehensive management planning process that encourages the holistic integration of site and landscape values with man's creative needs. Products result which we perceive as having quality and continuity and can be experienced as harmony.
Friends, a forest, a fine day and good facilities....
8. Recommendations
8. Recommendations

8.1 For Westland Conservancy

1. Review ROPS in Westland Conservancy before 1986. Victoria Forest Park and Districts' Recreation Inventories, Design Manuals and Work Programmes should be correlated, consolidated and fine tuned (for example, Design Manuals extended to include footbridges, shelters, huts, toilets and designs for interpretation, that is, indoor and outdoor displays and brochures).

2. Establish ROPS in Central District's high country operations during 1985. This would complete implementation in Westland Conservancy.

3. That Victoria Forest Park, Northern, Central and Southern Districts get twelve months ahead in prescriptions as soon as possible. (The employment of graduates in parks and recreation would be desirable to meet this goal.)

4. Computerise Work Programmes during 1985 to enable:

   - rapid response to changes in policy, financial or operational conditions;
   - provision of quick and accurate financial and material budgeting information.

5. That a Recreation Strategy for Westland Conservancy be prepared during 1985. It must be a co-ordinated and comprehensive exercise, giving direction to:

   - existing and new development packages;
   - interpretation (including visitor centres, handbooks and publicity);
   - monitoring and research necessary to review policy, performance and ROPS.
6. That workshops be regularly held at conservancy level to:

. enable continuous review and fine tuning of recreation operations planning and implementation;
. continue in-service training for staff.

These may cover signs, landscape design, interpretation and operations planning. It will be desirable to bring in guest lecturers with appropriate expertise.

8.2 Nationally

1. If the Westland Conservancy model of ROPS proves suitable, it should be established nationally for Forest Service operations. It is also likely to have application in other agencies, for example, the National Park Service, local and regional authorities.

2. Continued support will be necessary from forest management and administration to encourage thorough planning, accountability and attention to detail. Disruption from changes in policy, finances and staff must be minimised.

3. A staffing structure to service ROPS will be necessary to:

. attract the appropriate skills (for example, graduates in parks and recreation, landscape architecture);
. give stability to employees and therefore operations;
. provide for a career.

To ensure that high standards are achieved and job satisfaction obtained, attention must be given to:

. fitting the right skills to the right job;
. motivation, supervision and training within the context of the team approach and from the "bottom up";
4. Consideration be given to establishing a Forest Service Recreation, Interpretation and Landscape Unit at national level (compared with Landscape Section, Planning Division). Its responsibilities would include assistance with:

- preparing national policy and strategies as a basis for improved financial allocations;
- preparation of Conservancy Recreation Strategies;
- co-ordinating research, for example, user studies, landscape and historical assessments, planning system and interpretation studies;
- specialist services, for example, handbook and brochure preparation, landscape planning, historical inventory, publicity and video interpretation;
- training, for example, contributing expertise to conservancy workshops;
- dissemination of information on all aspects of landscape, interpretation and recreation, including planning, design, and construction, for example, through a high quality national magazine.
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PARKS MAGAZINE

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