Tourism and bushwalking in the Cradle Mountain -Lake St Clair National Park

Context, characteristics and impacts

by

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submitted in partial fulfilment of the requirements for the degree of Master of Environmental Studies by Coursework

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STATEMENT OF THE AUTHOR

This thesis contains no material which has been accepted for the award of any other higher degree or graduate diploma in any tertiary institution. To the best of my knowledge and belief, this thesis contains no material previously published or written by another person, except where due reference is made in the text of the thesis.

Michael Charles Byers

ABSTRACT

The Cradle Mountain-Lake St Clair National Park has a unique natural environment, characterised by a varied geology, a heavily glaciated landscape, a cool-wet alpine climate with considerable seasonal variation, a complex mosaic of plant communities including many endemic Tasmanian species, and high-quality wilderness values. The area now reserved in the Park has been subject to a variety of land uses, nearly all concerned with resource extraction or utilisation. The Park has considerable cultural heritage values, including numerous remnants of these previous uses.

The Cradle Mountain-Lake St Clair National Park is an important destination for tourists and bushwalkers alike. This study aims to examine tourism and bushwalking in the Park. This involves the investigation of the nature of these uses, the supply of tourism infrastructure, the numbers and characteristics of users, and the impacts resulting from these uses. Research work included personal observation, the collection of background information, the analysis of Parks and Wildlife Service statistics, water quality sampling, the undertaking of a questionnaire survey of Overland Track walkers, and a survey of the condition of the Overland and Pine Valley tracks.

The study finds that both tourism and bushwalking have increased considerably in recent years. Upgrading of the tracks and other tourist infrastructure has made the Park more accessible and attracted new types of visitor. While these increasing levels of visitation have resulted in a range of benefits, they have also resulted in many negative impacts, mainly on the natural environment. Tourism, bushwalking, and their resulting impacts require active management by the Parks and Wildlife Service. Several recommendations are made as to how this management can be improved.

ACKNOWLEDGEMENTS

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INTRODUCTION AND METHODOLOGY

1.1 Introduction

Since the late Nineteenth Century, increased mobility, ease of access, and leisure opportunities have enabled a greater number of local, interstate, and overseas tourists to visit Tasmania's mountain and wilderness areas. These areas are now largely incorporated within the Tasmanian Wilderness World Heritage Area (WHA). Visitation levels are increasing rapidly. Each year a greater proportion of visitors come from interstate and overseas.

The Cradle Mountain-Lake St Clair National Park forms a major part of the WHA, and is one of the main destinations for tourists in and to Tasmania. Accommodation and other infrastructure has gradually been developed within and bordering the Park to cater for tourists' needs. Many visitors come to the Park to bushwalk. Bushwalking has gradually increased in popularity, paralleling the growth of tourism. Walking tracks have evolved and attract increasingly large numbers of users on day, overnight, and extended walks. The Overland Track, which runs from Cradle Valley at the northern end of the Park to Lake St Clair at the Park's southern end, is Australia's most popular extended bushwalking destination. Each year, thousands of walkers from Tasmania, interstate, and overseas walk the Track. Several commercial tour operators are licensed to conduct extended walking trips along the Track. Most are tent-based, while one has private huts. Client numbers have increased significantly in recent years. These commercial operations have made the walk accessible to the elderly and those with little walking experience.

1.1.1 Outline of study

This study aims to document the nature of tourism in the Cradle Mountain-Lake St Clair National Park. A model of tourism developed by Morley (1990) is used as the framework for this study. This dynamic and encompassing model is based on two dimensions of tourism: the tourist-tour-others dimension and the demand-supply-impacts dimension (Table 1.1). The tourist is the person doing the travelling and staying, while the tour includes 'the destination, organisation and facilities that are the experience of the tourist' (Morley 1990: 7). The other parties include government departments, politicians, society as a whole, and the economy as a whole.

The model suggests that tourist demand is determined by various factors, including: the characteristics of the tourist such as their income, age, and motivations, which influence their propensity to travel for pleasure, their ability to travel, and their choice of destinations; the characteristics of the destination, such as its attractions, cost, and marketing; and the characteristics of the other groups, which encourage or discourage tourist demand through their policies, attitudes to tourists, and services provided. Tourist supply includes tourists' activities, length of stay, spending, and satisfaction, while the tour supplies the tourist resource (including accommodation and natural area visited) and the tourist facilities and services. The other group supplies infrastructure, economic and social services. The demand and supply dimensions of tourism are interrelated, in that the supply of tourist services, facilities, and infrastructure is in response to demand, while demand is to an extent determined by the supply of facilities and services. Tourism results in a range of impacts, some on tourists, some on the tour, and some on others:

> Supply and demand interact to produce the pattern of tourism and outdoor recreation, which may be defined as the spatial and temporal incidence of tourism and outdoor recreation. These patterns have associated economic, environmental and social impacts and give rise to planning and management problems and opportunities (Mathieson and Wall 1982: 8).

TOURIST	TOUR	OTHERS
DEMAND		
individual	prices	government policies
characteristics	fares	society & culture
income	promotion and	technology
age, sex	marketing	climate
etc	attractions	politics inter- and
motivations		intra-national
psychology		social trends
		economic trends
SUPPLY		
stay duration	resources	infrastructure
activities	natural	roads
usage	builtal	sewerage
satisfaction	cultural	electricity
spending	tourism	police
	facilities &	airports, etc
	services —	communications
	catering	economy & commerce
	transport	society
	reception	
	accommodation	
	entertainment	
	hospitality	
IMPACTS		
experience	income	environmental
knowledge	depreciation &	economic
pleasure	deterioration	social
	of resources	physical
	investment	

TABLE 1.1

Morley's model of tourism

Source: Morley (1990: 6)

The study initially involves an examination of the physical, historical, and political/managerial contexts in which tourism occurs within the Park. Chapter 2 examines the Park's natural context, providing a description of the physical setting in which tourism occurs within the Park. This includes the Park's spectacular geology and geomorphology, its soils, its unique vegetation, its variable climate, and its wilderness values. Understanding the natural setting in which tourism occurs is essential, as it is this which attracts tourists to the Park.

The study reports research that collectively provides a near-comprehensive history of the area. Chapter 3 outlines this history, tracing the changing uses to which the area has been put, examining the evolution of tourism, bushwalking, and the Overland Track, and the creation of the Cradle Mountain-Lake St Clair National Park. The area was only relatively recently reserved, having previously been utilised for a variety of uses, including Aboriginal occupation, and European forestry, prospecting, mining, grazing, and animal trapping. The overall history of the area has never really been compiled before, previous historical works having focused on particular aspects such as trapping and grazing, and the Weindorfers' establishment of Waldheim. Understanding the history of the area is an essential part of this study. It enables an understanding of the Park's cultural values. It is important to know how and why the Park was reserved, as this has influenced how tourism has been managed in the Park. It is also important to know how and why the Overland Track was constructed, as this has largely determined the nature of the bushwalking experience, and the type of impacts resulting as a consequence of its use.

Chapter 4 examines the political and planning contexts of the Park, looking at how it has been managed in recent decades. This includes government policy and legislation concerning tourism in national parks, tourist development within parks, commercial operations within parks, and the management of walking tracks. This outlines the political framework within which tourism operates in the Park.

Tourism itself is then examined: what tourism is, how it occurs within the Park, and who and how many people are involved in it. Chapter 5 examines the demand and supply dimensions of tourism within the Park: how the it fits into Tasmania's tourist framework; the physical infrastructure and services provided to cater for tourists; the numbers and characteristics of tourists visiting; and the factors motivating tourists to visit the Park.

Tourism's many impacts are then studied. Chapter 6 examines the impacts dimension of tourism, documenting and evaluating the positive and negative environmental, social, and economic impacts of tourism. While tourism to the Park in general is examined, the focus of the study is on bushwalking on the Overland Track.

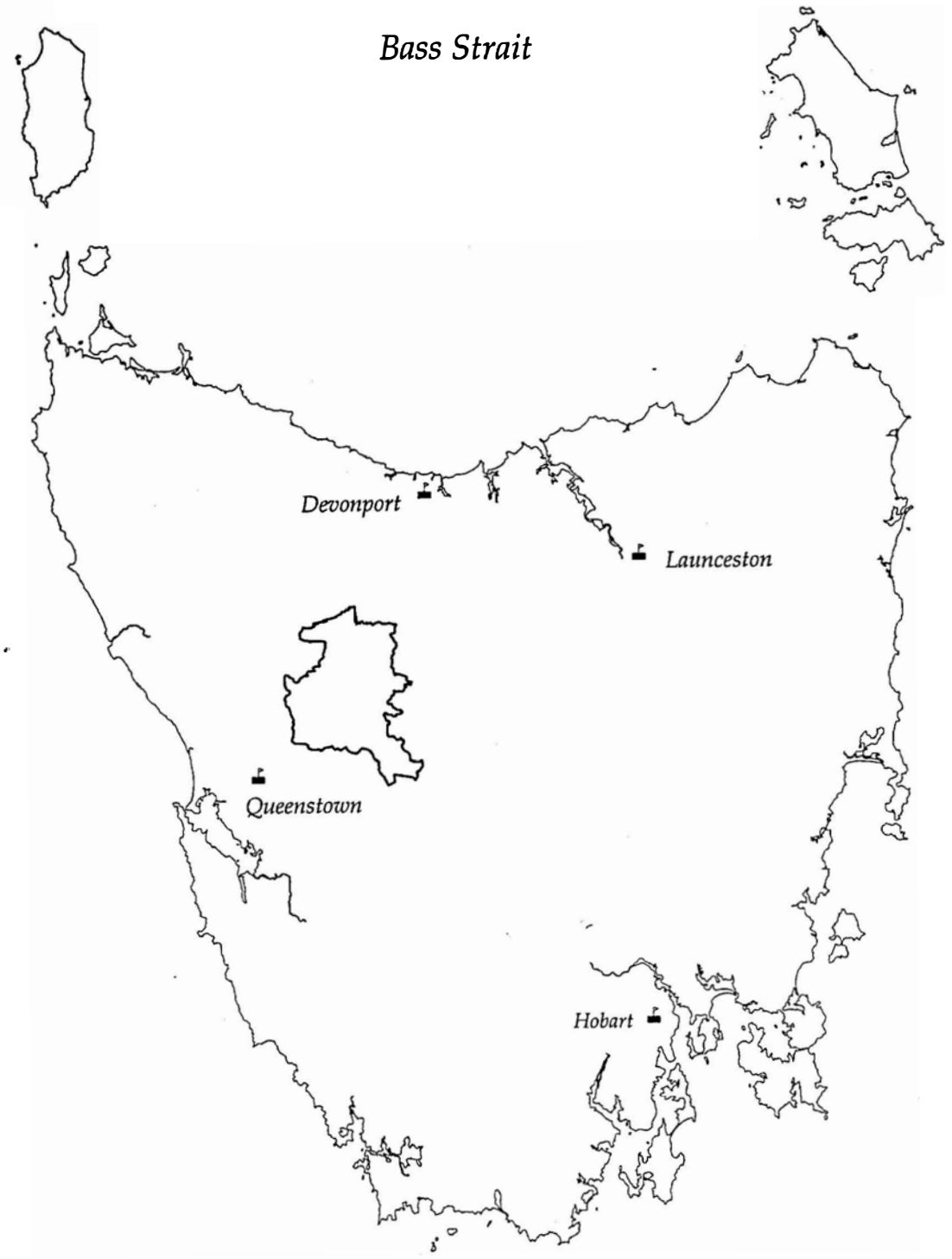
In Chapter 7, recommendations are made for managing tourism and its impacts within the Park.

1.1.2 Location of the study

The Cradle Mountain-Lake St Clair National Park is located in a mountainous area of Tasmania known as the central or western highlands, being to the west of the state's Central Plateau (Figure 1.1). The Park's main access points are at Cynthia Bay on the southern shore of Lake St Clair, and at Cradle Valley to the north of Cradle Mountain. Both main access points are relatively remote from Tasmania's major urban areas. By motor vehicle, Cynthia Bay is 175 km north-west of Hobart, 185 km south-west from Launceston via the Central Plateau, and 85 km east of Queenstown. Cradle Valley is 330 km north-west of Hobart via Perth, 155 km west of Launceston, and 85 km south of Devonport. The Pelion Plains, located at the centre of the Park, can be accessed from unsealed roads in the valleys of the Forth, Arm, Mersey rivers.

The area of the Park is 161,000 hectares. It is approximately 65 km in length and 45 km wide (Figure 1.2). The Park is bordered on its north-eastern side by the Mersey Valley State Forest, on its eastern side by the Walls of Jerusalem National Park, on its south-eastern side by State Forest and private land, on its southern side by the Franklin-Gordon Wild Rivers National Park, on its western side by the Southwest Conservation Area, and on its northern side by private land and unallocated Crown Land, which is subject to forestry. The Overland Track traverses the length of the Park. A map of the Cradle Mountain-Lake St Clair National Park is included as Appendix A. This shows the location of the study in detail, identifying places of interest to tourists, and pinpointing sites mentioned below.

The Park contains one of the last great temperate wilderness areas in the Southern Hemisphere. Because of its large size it contains a wide range of ecosystems and landforms.



Cradle Mountain-Lake St Clair National Park

Towns

N

50 kilometres

FIGURE 1.1

The location of the Cradle Mountain-Lake St Clair National Park

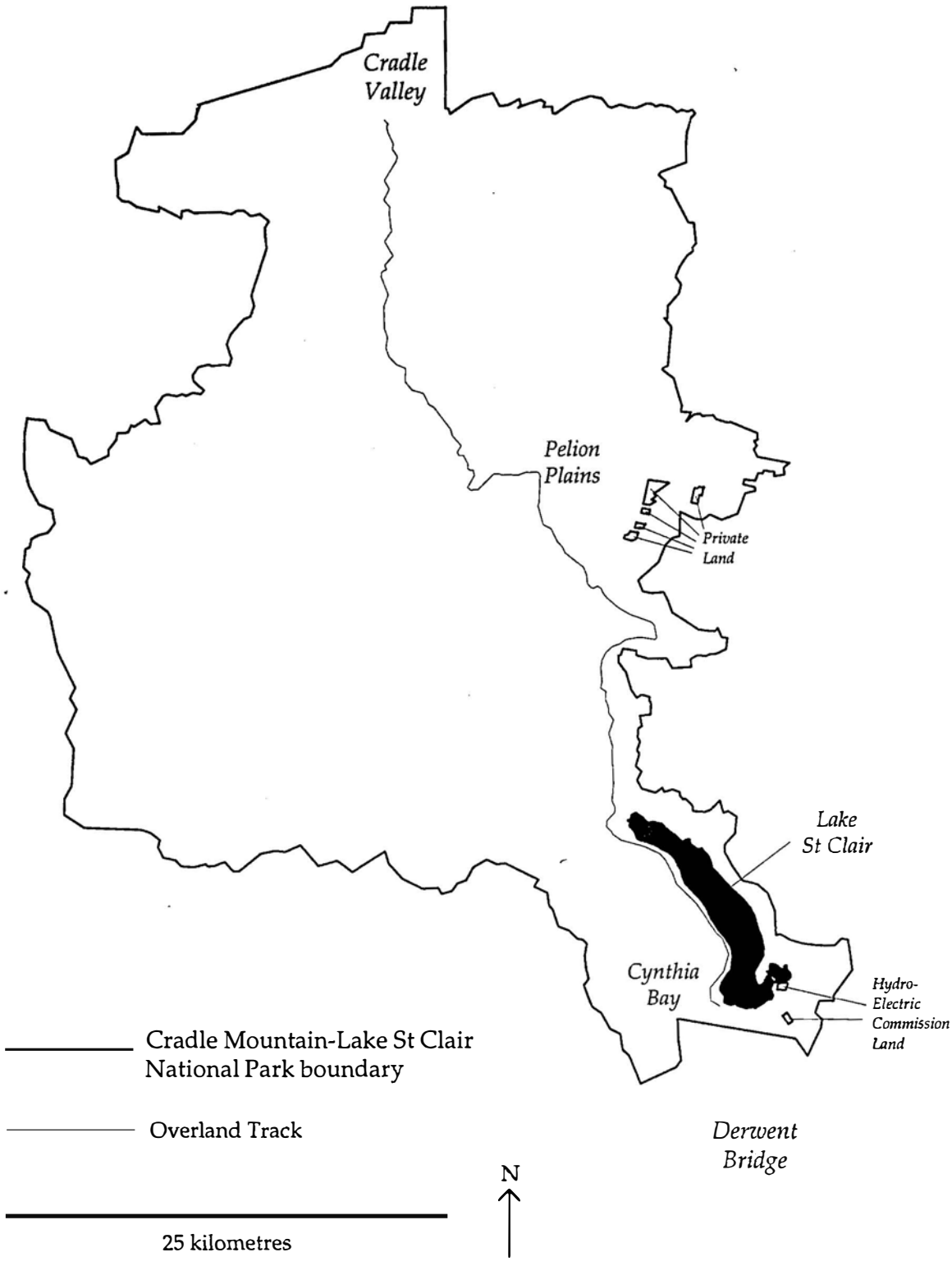


FIGURE 1.2

The Cradle Mountain-Lake St Clair National Park

1.1.3 Reason for the study

While tourism is dependent on a high-quality environment, the quality of the environment can be threatened by tourist development itself. This is especially so with nature-based tourism. The management of national parks to allow both tourism and environmental conservation is difficult as, although the two uses are compatible in many ways, they conflict in others. Management often involves the acceptance of a certain degree of environmental deterioration and other negative impacts, in exchange for economic, social, and other positive impacts. This awkward balancing act is particularly acute for economically disadvantaged states, especially in their remote mountain areas, where the quality of the environment is often the only resource which can be exploited (Organisation for Economic Cooperation and Development 1980). A compromise must be found between tourism growth and environmental conservation, and this necessitates a careful and well-informed decision-making process. In order to manage tourism and its impacts we need to properly understand exactly what tourism is and how it interacts with the natural environment: 'An objective evaluation of the impacts of tourism is required if government agencies, planners, developers and businessmen are to appreciate the full implications of their actions' (Mathieson and Wall 1982: 2).

Despite this need, tourism and its impacts are often poorly understood and documented. According to Boo (1990) there is an urgent need to study tourism to protected areas:

> Few statistics exist on the numbers and profiles of people who travel to protected areas, or on which protected areas receive the most visitors and why. Only a few studies have examined the economic activity generated by nature tourism at the local, national, and international levels. Even less is known about environmental impacts of tourism that could threaten the viability of the resource base. Yet, despite the fact that this information is scarce and not well consolidated, it is vital as a basis for planning and developing tourism that will be advantageous and sustainable in protected areas. Tourists appear to be drawn by a diverse array of educational, recreational, and aesthetic experiences provided by the national parks, reserves, and wildlife refuges (Boo 1990: 4).

Many recent Australian reports have highlighted the need for research into the impact of visitors to natural areas. These include the *Environmentally Sustainable Development - Tourism* report (Australia, Commonwealth Government 1991), the *World Heritage Area Management Plan* (Tasmania,

Department of Parks, Wildlife and Heritage 1992a), *Issues and Approaches in Ecotourism* (Australia, Commonwealth Department of Tourism 1993), and the *National Ecotourism Strategy* (Australia, Commonwealth Department of Tourism 1994). The Commonwealth Government's (1991) *Environmentally Sustainable Development - Tourism* report prioritises research into various aspects of the economic and social/environmental impacts of tourism. These priorities include studies of the economic contribution to the local area, the economic impacts of specific developments, cost/benefit analysis of the social and environmental impacts to local areas, and the impacts of specific developments.

The present study's objective is to investigate the context, characteristics, and impacts of nature-based tourism in the Cradle Mountain-Lake St Clair National Park. This information will provide a greater understanding of who visits the Park, identify their characteristics, and suggest how their visitation impacts on the environment, society, and the economy. It will hopefully assist the Parks and Wildlife Service (PWS) to identify existing problems and to plan for their management.

1.2 Methodology

Because of the multidisciplinary nature of the study, a wide variety of research methods were used:

1.2.1 Personal observations

The author has considerable personal experience in bushwalking in the Park, having first walked there in 1980. He has walked in the Park many times, on day, overnight, and extended walks. These walks have been with friends, the Hobart Walking Club, or whilst guiding commercial bushwalking trips. The author has visited the Pine Valley area 12 times, and has walked the length of the Overland Track over 30 times. During this time, the author has met many groups, talked to many individual walkers, and experienced how the Track conditions have changed over time. Some comments made are partly based on this personal experience.

The author made over 24 visits to the Park between November 1993 and December 1995, spending around 120 days in the field. He was employed as a bushwalking guide on the Overland Track for the majority of these visits. Several trips were made expressly for reconnaissance, involving the distribution of survey questionnaires, the testing of water quality, and the assessment of campsite, hut, and track conditions, mentioned below.

1.2.2 Background information

Background information was collected mainly through literature review, and the use of several indices of Tasmanian periodicals. Searches were made of various library collections, including those at the Morris Miller Library, Science and Technology Library, and the Department of Geography and Environmental Studies collection at the University of Tasmania, the Environment Library of the Department of Environment and Land Management, the Department of Tourism, Sport and Recreation's library, the Parliamentary Library, the State Library of Tasmania, the Tasmaniana Library, and the Launceston Local Studies Library. Researching the history of the Park also involved extensive archival searches, including the Archives Office of Tasmania, the University of Tasmania Archives, and the Community History Museum of the Queen Victoria Museum and Art Gallery. The author personally communicated with several historians with interests related to the study, including Simon Cubit (snaring and cattle grazing), Jack Branagan (early bushwalking), and David Wilson (early bushwalking, tourism, and fatalities). PWS staff, including track rangers and track workers in the field, the Track Management Officer, Wilderness Recreation Research Officer, and archaeologists assisted by providing information.

1.2.3 Parks and Wildlife Service statistics

Statistics gathered by the PWS concerning visitor and walker numbers and characteristics were used. The PWS has collected these statistics since it was established in 1971, so they are useful in identifying long-term trends. Statistics include records of the number of people visiting each park centre, daywalkers from these centres, and the number of people walking the Overland Track.

The PWS estimates visitor levels by using car counters to work out the number of visitor vehicles, which is then multiplied by an average number of people thought to be in each car, known as a car multiplier (Buckman and O'Loughlin 1991). Car multipliers of 2.8 are used at both Cradle Mountain and Lake St Clair. People visiting by bus are added to obtain a total number of visitors arriving. Private vehicle visitors account for about 95 per cent of the total visitors in 1984-85, with bus visitors comprising the other 5 per cent.

Walker statistics are all derived from voluntary registration logbooks located at the start of tracks. All data must be regarded as approximate, as many walkers fail to register in logbooks, whilst others may only partially comply. For example, in 1993-94 1,472 Overland Track walkers who deregistered at Lake St Clair had failed to register at Cradle Mountain. The proportion of walkers recording trips in logbooks may vary from year to year and centre to centre. Calais (1981) estimated that 10-15 per cent of Overland Track walkers and 20-25 per cent of daywalkers failed to register in logbooks. The PWS Planning Statistics Officer, who has responsibility for collecting and recording user statistics, believes that 25-30 per cent of walkers fail to register (Sue Rundle, personal communication). The location of logbook booths can greatly affect their accuracy (Buckman and O'Loughlin 1991). Data for some years is incomplete as not every day was recorded. Despite these problems the PWS data provide an estimate of user numbers and usage trends.

1.2.4 Water quality sampling

The microbiological water quality of Douglas Creek between the Pelion Plains and Pelion Gap was sampled and analysed. Dr Christian Garland, Director of the Aquahealth laboratory and senior lecturer in the Department of Geography and Environmental Studies, assisted in collecting the water samples, transporting them to Hobart, and analysing them. Analysis was undertaken by the Aquahealth laboratory, University of Tasmania, Hobart, which is accredited by the National Association of Testing Authorities, Australia (NATA) for microbiological testing.

A sampling schedule was planned, involving three successive sampling visits. The first was planned to be after several weeks of dry weather during the peak bushwalking season (January 1995), the second was planned to be after two days of wet weather, whilst the third was planned to be after two weeks of dry weather. This schedule was designed to sample Douglas Creek during low water conditions, when stream flows were slowest, and any contaminants present would be more concentrated. The visit after wet weather was planned to cater for any flushing of faecal contaminants into the creek after rain.

The first site visit was planned for the 22nd and 23rd of January 1995. However, there were falls of rain on the 20th and 21st of January of around 20-30 mm and 8 mm fell on the 22nd of January. The author was at the Pelion Plains on the 20th of January, and decided that the flooded river

conditions were unsuitable for sampling. The visit was cancelled and postponed until mid-February, when both the author and Dr Garland were both available.

On the 14th and 15th of February 1995, the author and Dr Garland visited the site. No rain had fallen in the week prior to the visit, though heavy falls had occurred nine days before the samples were taken. Water levels were low, typical of Douglas Creek's summer level. The area was examined for likely sources of faecal contamination. Ten sampling stations were chosen and taped for consistency over the three sampling times. The location of these stations is shown in Figure 1.3, and is described in the following table:

Station	Grid reference (55GDP ...)	Description of station's location
1	209680	Douglas Creek above all huts
2	208681	Side stream below Cradle Hut's hut
3	209681	Douglas Creek above side stream
4	208682	Douglas Creek below side stream
5	208683	Douglas Creek water hole above Ranger's Hut
6	208684	Douglas Creek adjacent to New Pelion Hut
7	208686	Douglas Creek below New Pelion Hut
8	209690	Douglas Creek at Mt Oakleigh track turn-off
9	207681	Effluent flowing from Cradle Hut's toilet
10	207684	Effluent flowing from New Pelion's toilet

The initial series of 120 ml samples was aseptically collected into sterile 150 ml plastic bottles on the morning of the 15th of February 1995 (Plates 1.1 and 1.2). They were transported at under 10°C in an insulated backpack via the Arm River Track, then by eski in a private vehicle to the Aquahealth laboratory at the University of Tasmania, Hobart, for rapid processing.

The water samples were tested for faecal coliforms and *E. coli*. These organisms are generally not pathogens themselves, but act as indicators that faecal contamination is present, and that pathogens from the intestinal tract, including *Salmonella*, *Shigella*, and other organisms capable of causing epidemics, may be present (Fresenius, Quentin, and Schneider 1988). Faecal coliforms are bacteria which are found in the intestine of warm-blooded animals. They are not present in clean ground water, but are capable of multiplying outside the intestinal tract. Because of this, they are indicators of hygienically significant deterioration of water quality. It is also important to test for *E. coli*, which is a sub-group of faecal coliforms. This organism can generally live only for a short time outside the intestinal tract, in water, and therefore indicates relatively fresh faecal contamination.

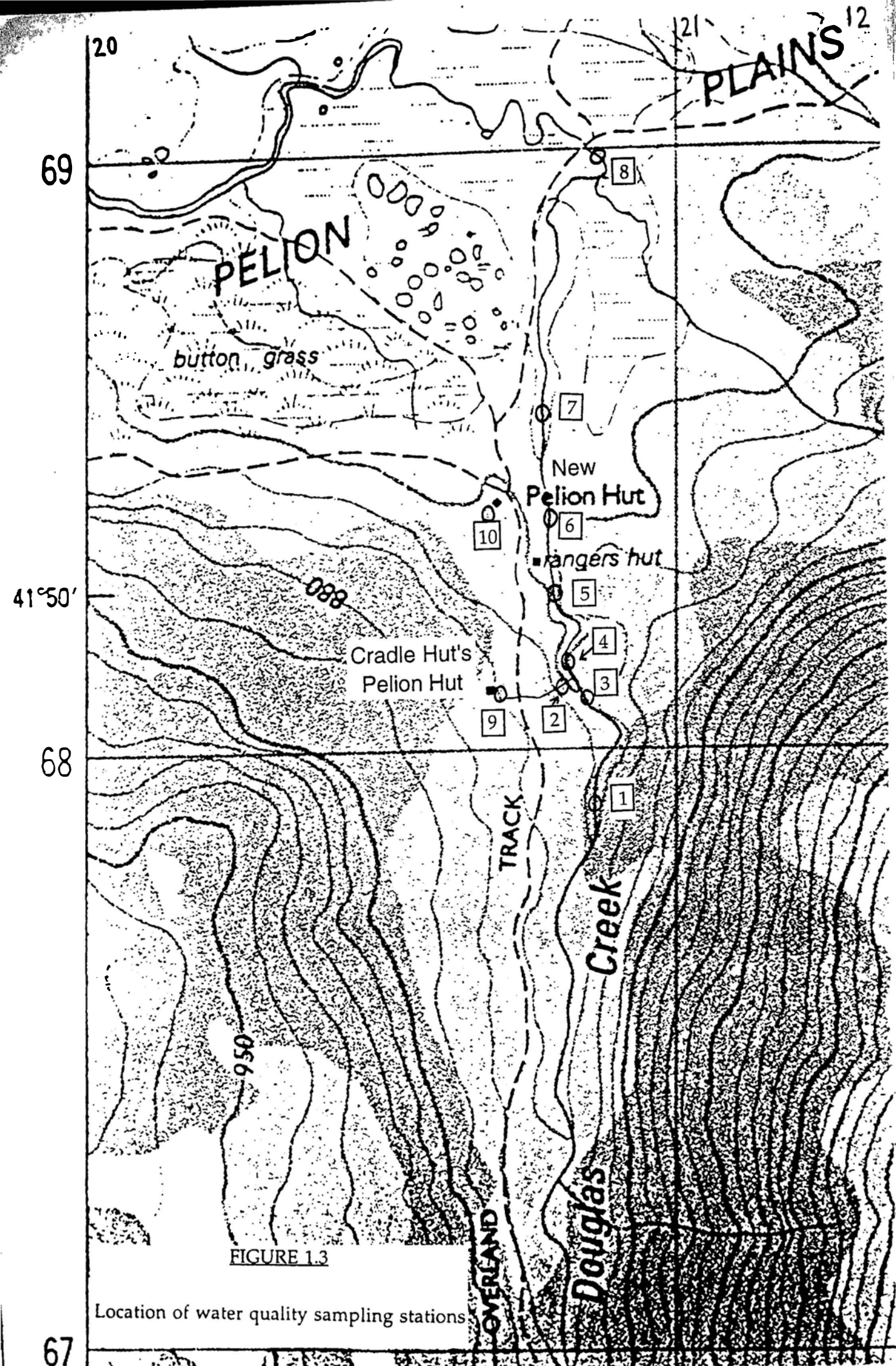


FIGURE 1.3

Location of water quality sampling stations

PLATE 1.1

The author sampling water from Douglas Creek (site 7)

PLATE 1.2

Dr Garland sampling effluent flowing from the New Pelion Hut toilet

Analysis was commenced within 24 hours of sample collection. Volumes (1, 10, and 100 ml) of samples were 0.45 µm membrane filtered (cellulose acetate, 47 mm). The filters were placed on membrane-lauryl sulfate agar and incubated at 30°C for 2-4 hours, then at 44°C for 14-18 hours. Presumptive faecal coliforms were counted on plates with 10 to 100 colonies (yellow) and representative colonies were subcultured into lauryl tryptose broth and incubated at 44°C for 24 hours. Confirmed faecal coliforms (gas producers) were then subcultured into tryptone water and incubated at 44°C for 24 hours. Faecal coliforms were confirmed as *E. coli* by checking for a positive indole reaction. Counts of faecal coliforms and *E. coli* were expressed per 100 ml.

Unfortunately, the author was unable to continue with the second and third sampling visits, as planned originally. Work commitments fully occupied him for the remainder of February and all of March. On the 26th of March 1995 he suffered a serious knee and hip injury whilst working, which was subsequently aggravated by continued walking, necessitating several months of rest and physiotherapy. This occurrence severely limited the results obtained by water quality testing, reducing the number of visits by two-thirds. It also meant that potential effects of surface flushing could not be measured.

1.2.5 Overland Track Walker Survey

The author undertook a survey of walkers on the Overland Track to identify their characteristics and to study their experiences of the walk. The survey was conducted over a six month period, November 1994 - April 1995.

A self-administered questionnaire was used as the format of the survey. A copy of the survey questionnaire is included at Appendix B. Pre-addressed and reply-paid envelopes were supplied with the questionnaire. The data was obtained through a convenience sample. Walkers self-selected themselves to participate in the survey.

1.2.5.1 Choice of sampling method

There were substantial barriers which prevented the conducting of a randomly sampled survey. In particular there were two main barriers in obtaining access to the walker population.

Firstly, the author had to overcome, in the context of limited time and resources, the logistics of surveying such a population. The Overland Track is remote, the objects of study are on the move and there are limited numbers of walkers on the Track at any one time. To obtain a representative sample would require an amount of time and money not available to the author.

Secondly, the Parks and Wildlife Service requested that the survey not be distributed during the peak usage period. The PWS were conducting various surveys of their own and requested that questionnaires not be distributed in the public huts between late-December and late-February, when half of all Overland Track usage occurs. In addition, three of the four main commercial tour operators on the Track refused to grant permission for surveys to be distributed to their walkers.

A decision was made to use a convenience sampling method. In the face of the above barriers, the convenience sampling approach had several advantages over a random sampling method. Convenience sampling allowed several different methods of survey questionnaire distribution to be used. Questionnaires could be distributed in such a way as to deliberately target different segments of the walker population using the Track. The Overland Track walker population is very stratified in nature, with quite different types of groups sharing use of the Track. These group types include independent walkers using public huts, independent walkers camping, commercially guided walkers using private huts, commercially guided walkers camping, school groups, and army groups undergoing wilderness training. 'Hard to sample' walkers, for example, walkers with commercial operators, could be directly targeted with alternative methods of survey distribution. The author 'traded in' representativeness to obtain information about the range of groups being surveyed. For instance, it is possible that a small random sample may not have captured responses from the different types of Overland Track users and that the sorts of analysis attempted in this thesis would not have been able to be pursued.

As a result of this approach, only descriptive forms of analysis can be used. The data is not representative and its findings cannot be extrapolated to the total population. The focus of the analysis of the report is describing the different characteristics and attitudes of the different groups using the Track. These characteristics and attitudes can be compared and contrasted, and significant differences can be identified between various group types.

1.2.5.2 Survey distribution

Three methods of distribution were used. These sought to obtain data from walkers using both public and private huts as well as tents. Public huts are used by most walkers for shelter, eating, cooking or accommodation. However, commercial groups, especially those using private huts, make little or no use of the public huts.

Firstly, questionnaires were distributed to every public hut in the southern and central sections of the Overland Track (Plate 1.3). Because the majority of walkers travel from the north to the south end of the Track, walkers were exposed to the questionnaire when they had completed, or had almost completed the Track. 88 per cent of all returned questionnaires were distributed in this way.

Secondly, a commercial operator - Tasmanian Expeditions - provided questionnaires to their clients on completion of the walk. The four main commercial operators on the Overland Track were asked to assist in providing questionnaires to their clients on completion of the walk. Tasmanian Expeditions was the only one willing to participate in the survey. Six per cent of all returned questionnaires were distributed this way.

Lastly, questionnaires were directly distributed by the author to walkers on completion of the walk. This group included independent walkers and commercially guided hut-based walkers. Six per cent of all returned questionnaires were distributed this way.

1.2.5.3 Survey response

452 questionnaires were distributed by the author. However, the actual number of surveys distributed that were available to be completed and returned was 352, because Parks and Wildlife Service rangers removed 100 uncompleted questionnaires soon after they were distributed. 229 questionnaires were returned completed, giving a response rate of 65 per cent.

In 1994-95, the total registered population of Overland Track walkers was 4,763. Very few walkers were surveyed during the 'peak period' January and February 1995, due to PWS limitations, mentioned above. In the 'shoulder

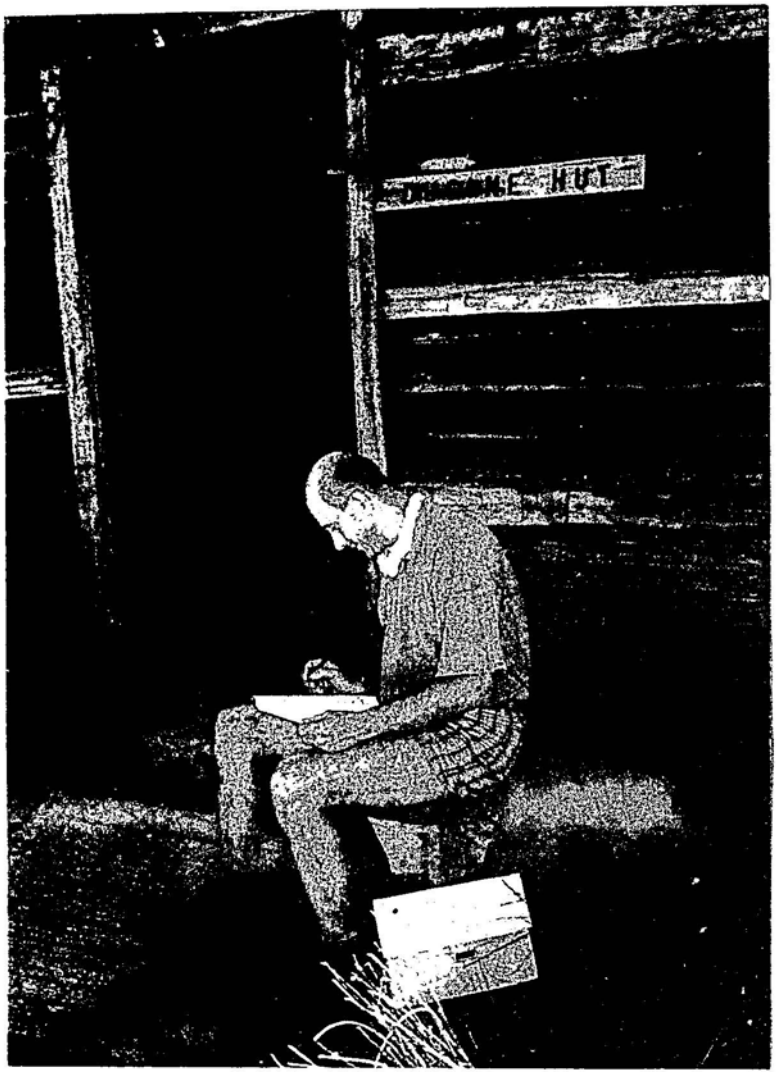


PLATE 1.3

Walker filling in the Overland Track Walker Survey
(note the highly-visible yellow folder, holding unused questionnaire forms and envelopes, with note requesting participation)

periods', November - December 1994 and March - April 1995, the total registered population of Overland Track walkers was 1,979 walkers. This total more accurately approximates the number of walkers on the Track during the actual time the survey was being conducted. The survey was completed by five per cent of the total recorded population of Overland Track walkers in one year, and by 11.5 per cent of walkers on the Track during the 'shoulder periods' when the survey was mainly conducted.

The use of the convenience sampling approach to obtain data about all groups of walkers proved relatively successful. Responses were received from all walker types identified. In particular, large numbers of surveys were returned by commercially guided and independent walkers.

The characteristics of the surveyed population were as follows:

- 60 per cent (n=137) of the survey respondents were walking in groups comprised of friends and/or family;
- 27 per cent (n=61) of survey respondents walked the Overland Track in commercially guided groups. Of these, Cradle Huts' clients account for 15 per cent (n=34), while clients of tent-based operators account for the remaining 12 per cent (n=27);
- 8 per cent (n=18) were solo walkers;
- 5 per cent were either bushwalking club (n=6), school/scout (n=3), or other (Army Reserve or Army Adventure Training) (n=4) group members.

Although not a random sample, the author believes that the characteristics of the sample surveyed, shown above, parallel those of the total Overland Track walker population. Whilst the survey's findings can not be extrapolated to the total population, they are strongly indicative of trends in that population.

On the other hand, this approach had only limited success in the case of some walker groups. The author was not aware before the survey of the extent to which army groups were using the Park and so could not target them. School, scout and bushwalking clubs were not adequately sampled by surveys distributed in the public huts. It is not clear why this is so. It could be due to the smaller proportion of the total walker population walking in these types of group at the times surveyed, or to characteristics of these groups that made them less inclined to visit the public huts or complete and return survey questionnaires. There were insufficient responses from army groups, school/scout and bushwalking clubs for these findings to be considered to adequately exemplify these types of walker.

Appendix C provides an overview of the quantitative data obtained by the survey, listing means and frequencies where appropriate. The data was also analysed in subgroups, such as by type of group, and by use of cross-tabulation. Appendix D contains qualitative data obtained by the survey, mostly referring to walkers' reactions to different types of walkers, and their comments regarding negative impacts that effected them.

1.2.5.4 Potential sources of bias

In addition to the issues reported above there are several sources of bias which could possibly affect the survey, and these require qualification:

1.2.5.4.1 Sampling error

The distribution of most of the questionnaires in public huts limited the possible survey population to those visiting a hut and noticing the questionnaire. Not all walkers visited huts or noticed the survey. However, the number not visiting any of the huts containing surveys is estimated to be less than five per cent. Even commercial groups using private huts make regular use of the public huts for lunch stops. The direct targeting of commercial groups also minimises this error. Those not noticing the survey would largely be independent walkers not making any use of the huts or using them when crowded at night.

1.2.5.4.2 Non-response

Because the survey was not compulsory, only concerned or helpful walkers responded. It is possible that those who were less interested in the welfare of the Track or the environment, and thus more likely to cause impacts, decided not to fill out the survey. Identification of the attitudes of these people and details of their use of the Track is very important in investigating impacts. As one respondent claimed: 'I think it is quite difficult to get an objective survey. I am interested in protecting the environment, so I filled it. I met other people with totally other interests, nearly no interest in nature, just wanting adventure and exercise. Those people don't have any interest in a survey, they wouldn't fill in a questionnaire'. While this source of bias cannot be refuted, it is the author's opinion that the range of attitudes sampled included those of most types of walker.

1.2.5.4.3 Prestige

Walkers are normally keen to credit themselves with experience, and as the survey is self-administered there is an enforced artificiality about some data. This difficulty in being objective must be borne in mind when interpreting the survey results. Most people seemed to be honest and behaviour patterns tended to be wide ranging.

1.2.5.4.4 Non-sampling error

Inaccuracies may occur because of imperfections in reporting by respondents and errors made in coding and processing data. These inaccuracies may occur in any enumeration. Every effort was made to reduce the non-sampling error to a minimum by careful design of questionnaires, and taking care in coding and processing data, all performed personally by the author.

1.2.6 Track Condition Survey

The author assessed the condition of the Overland Track during a visit between 16th - 21st January, 1995. An inventory form was designed, using the Overland Track sections identified in the *Overland Track Management Plan* (Tasmania, Department of Lands, Parks and Wildlife 1988a) and the types of impact used in the *WHA Track Management Strategy*'s (Tasmania, Parks and Wildlife Service 1994) track inventory. This involved the compilation of an inventory comprising estimates of the percentage of each Track section subject to local braiding (multiple tracks), mud at least ten cm deep, or eroded to at least ten cm deep. Estimates of the percentage of each section hardened were also made. The three types of impacts measured can be mutually exclusive, and the presence of only one type of impact can be sufficient to lower the condition of that section. Therefore, when each Track section's condition was categorised, the maximum percentage recorded out of the three types of impact measured was used. Track sections were categorised into four categories, each one being a quartile, according to the percentage of each segment subject to at least one of the three types of impact measured:

Track condition	**Percentage subject to impact**
good	0 - 24 %
fair	25 - 49 %
bad	50 - 74 %
very bad	75 - 100 %

CHAPTER 2
BACKGROUND: NATURAL SETTING

2.1 Geology, glacial geomorphology, and soils

2.1.1 Geology

The oldest rocks found in the Cradle Mountain-Lake St Clair National Park are Precambrian, laid down by sedimentary processes about 1,100 - 1,000 million years ago (Jennings 1959). These sediments were heated and complexly folded over the next 200 million years, metamorphosing into hard white quartzites. These rocks dominate the South West of Tasmania, forming most of that area's mountain ranges. They are found throughout the northern half of the Cradle Mountain-Lake St Clair National Park, extending as far south as Old Pelion Hut (Figure 2.1). These old rocks form the basement layer and are mainly exposed in the low valleys. They are exposed at 1,200 metres on the Cradle Plateau and 1,000 metres on the moors north of Lake Windermere. In the southern half of the Park and on mountain tops they are covered by younger rocks.

During the Devonian, around 400 to 380 million years ago, granite was intruded into the quartzite around the upper Forth Valley and in the Granite Tor area to the west of Barn Bluff (Jennings 1959). Some copper, tin and wolfram mineralisation was associated with this igneous activity.

In the Permian and Triassic, 270 to 180 million years ago, flat sedimentary deposits, known as the Parmeener Supergroup, were laid down by marine and fluvial (river) deposition (Jennings 1959). These rocks include conglomerates of glacially-eroded quartzite, sandstones, siltstones, mudstones and thin coal measures. The lower layers contain marine shellfish fossils, whilst upper layers contain terrestrial plant fossils. These sedimentary layers occur throughout the National Park, forming horizontal benches and horizontally-layered cliffs on the slopes of most of the mountains.

During the Jurassic, about 175 to 165 million years ago, deep fractures in the Earth's crust allowed massive amounts of molten rock to rise through the underlying Precambrian basement rocks. Once this molten rock reached the flat sedimentary rocks it was intruded horizontally underground along the weak bedding planes. Here the molten rock cooled, solidifying into an

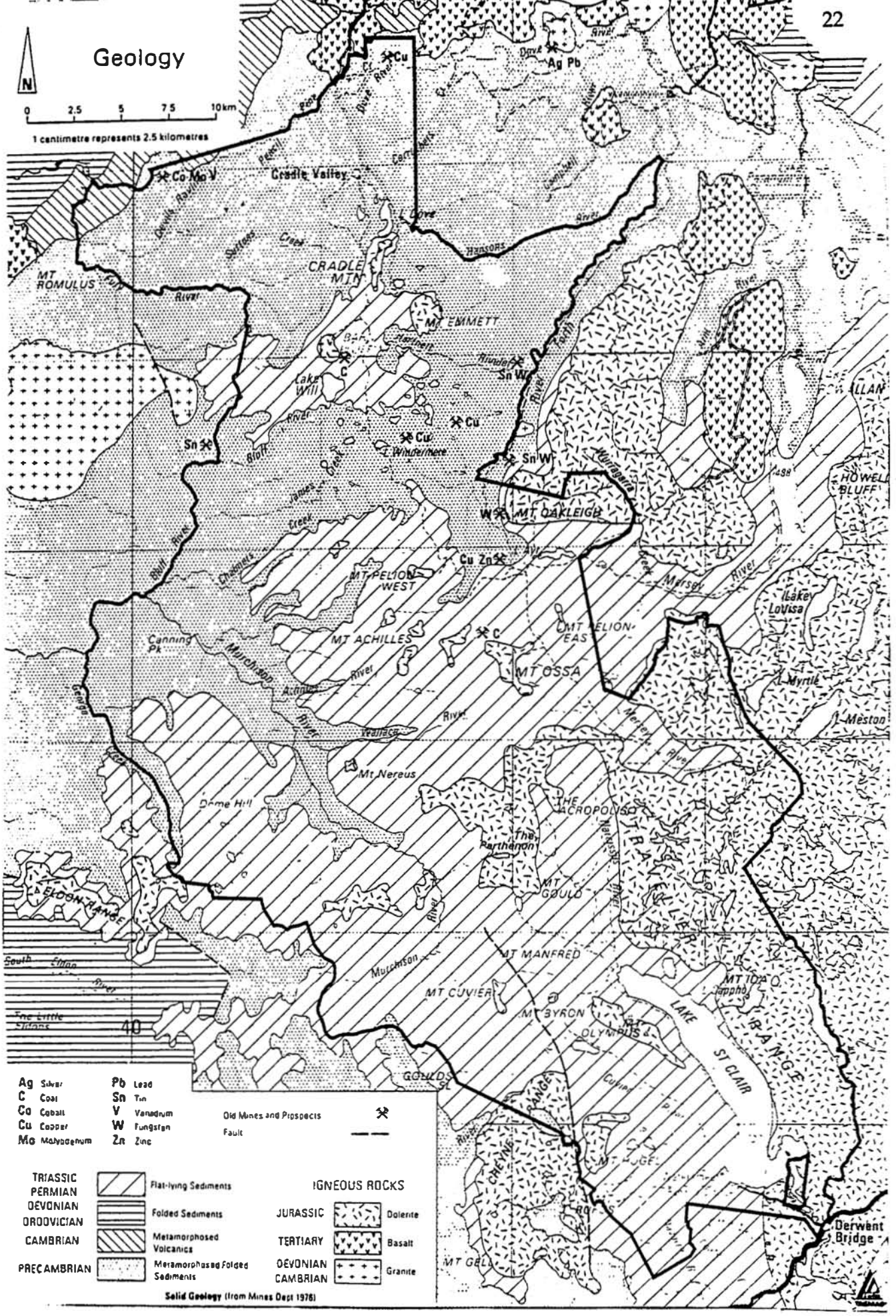


FIGURE 2.1

Geology of the Cradle Mountain-Lake St Clair National Park

Source: Department of Lands, Parks and Wildlife 1988b

extensive columnar dolerite sill over three hundred metres thick. The intrusion of dolerite resulted in the displacement of some of the sedimentary rock above. This caused instability and block faulting. The sedimentary rocks above the dolerite layer were relatively easily eroded by later erosion and were removed. The harder dolerite sill proved quite resistant, protecting the five hundred metres of sedimentary rocks lying below. Dolerite-capped mountains dominate the whole Park.

In the Cretaceous and Tertiary, 130 to 2 million years ago, the Gondwana supercontinent broke up. New Zealand separated from Australia 85 to 80 million years ago. Antarctica separated from Australia 55 to 50 million years ago, tearing Tasmania from the mainland in the process. The extreme tectonic stresses produced massive faulting and the uplift and depression of blocks by up to 600 metres, creating a series of north - south valleys across the island. These valleys were subsequently to be deepened by fluvial and glacial erosion (Plate 2.1).

2.1.2 Glacial geomorphology

There have been at least three and possibly up to six glaciations during the last 2 million years (Tasmania, Department of Lands, Parks and Wildlife 1988b). The most recent glacial began around 25,000 years ago and lasted until about 10,000 years before present. These glaciations dramatically affected the geomorphology of the area through their related erosional and depositional processes. Ice caps covered the highlands in the Park, one stretching from Cradle Valley, across Pine Forest Moor to Mount Pelion West; another extending from the Central Plateau to the Du Cane Range, Narcissus and upper-Mersey area; a third occupied the Labyrinth plateau; another covered the Eldon Range. These smoothed the terrain beneath them, creating the flat lake-dotted moorlands such as those north and south of Lake Windermere. The high mountains were nunataks, standing free of ice whilst completely surrounded by it.

Valley glaciers fed by the ice caps in the area carved out the upper sections of the Forth, Mersey, Narcissus, Derwent, Franklin, Murchison, Fury and Dove river valleys, forming U-shaped valleys. After the ice caps had receded, cirque glaciers ate into the sides of the mountains, forming horn peaks such as Cradle Mountain, Barn Bluff and Mount Pelion West (Plate 2.2), and arêtes such as Mount Geryon (Plate 2.3). These continued to feed the valley glaciers. Glaciers flowing from the Narcissus, Cephissus and Marion valleys

PLATE 2.1

Fergusson Falls on the Mersey River, produced by fluvial erosion

PLATE 2.2

Mount Pelion West from Mount Ossa, showing dolerite boulders and cliffs

PLATE 2.3

Mount Geryon, a dolerite arête

converged to carve out the deep basin of Lake St Clair, the deepest lake in Australia at 167 metres (Tasmania, Department of Lands, Parks and Wildlife 1988b). Many cirques left rock basins now filled by lakes such as Lake Wilks, Crater Lake and Lake Will. The glaciations produced many depositional landforms, such as lateral, terminal and ground moraines, outwash deposits and erratics.

2.1.3 Soils

These glacial deposits form the base material from which most soils in the area have since developed. Soil formation has been limited as it is only 10,000 years since the last glaciation. Other limiting factors include the cold climate, which has restricted chemical weathering, the steep slopes, which have favoured erosion rather than deposition, and the resistance of quartzite deposits to weathering (Tasmania, Department of Lands, Parks and Wildlife 1988b). Shallow alpine humus soils cover most of the area, their depth varying according to drainage. On the upper slopes of the mountains, soils are skeletal or even absent due to continuing frost and snow erosion and the harsh climate, which limits plant growth and prevents the accumulation of organic material (Tasmania, Parks, Wildlife and Heritage 1991). On free draining sites, the humus is often less than 30 cm deep. Where drainage is poor, such as on the flat moors, peats have formed due to the accumulation of saturated organic matter. These peats are often 50 cm deep.

2.2 Climate

Tasmania lies in the path of the Roaring Forties, the westerly winds that cross the South Atlantic, Indian and Southern oceans in the latitudes between 40 and 60 degrees south. These ocean winds bring cold fronts containing air saturated with moisture to Tasmania. This moist air is forced upwards by the West Coast mountains and those inside the Park. This uplifting condenses the moisture, forming clouds, rain or snow. The Park experiences extremely high levels of rainfall, which falls throughout the year but at higher levels during winter (Figure 2.2). These high levels of rainfall occur fairly evenly between Cradle Valley and the Narcissus River, at the northern end of Lake St Clair, but diminish dramatically along the length of Lake St Clair (Figures 2.3 and 2.4). The high levels of precipitation lead to soil saturation and a high potential for soil erosion.

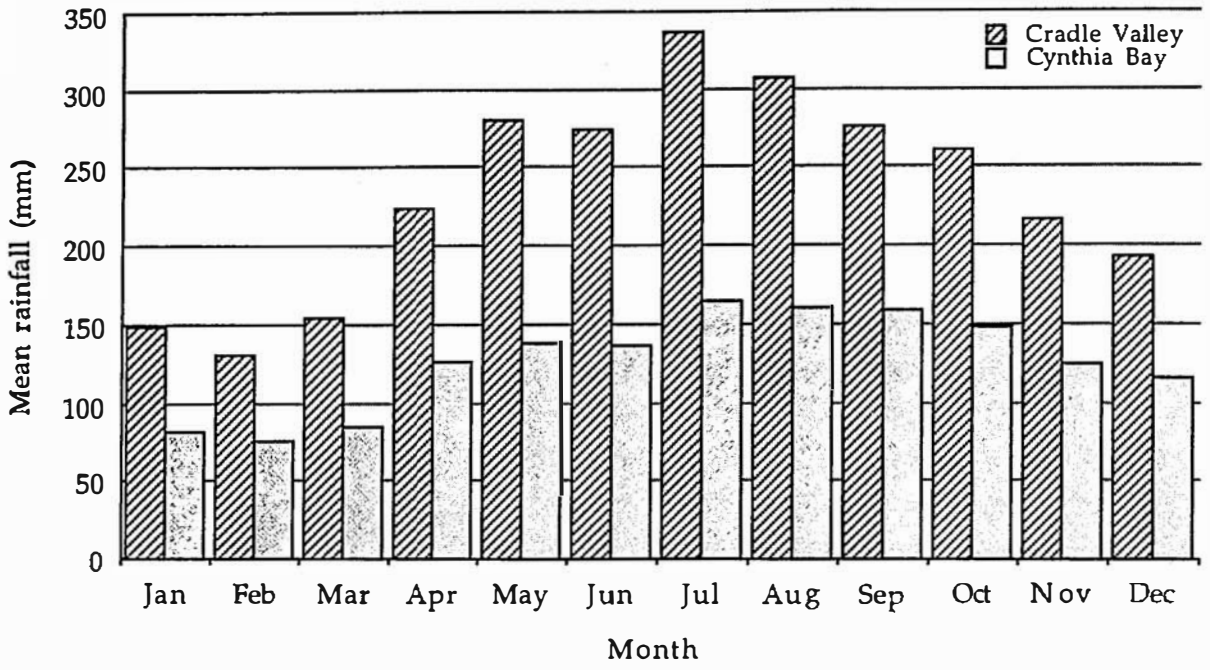


FIGURE 2.2

Mean rainfall - Cradle Valley and Cynthia Bay

Source: Bureau of Meteorology

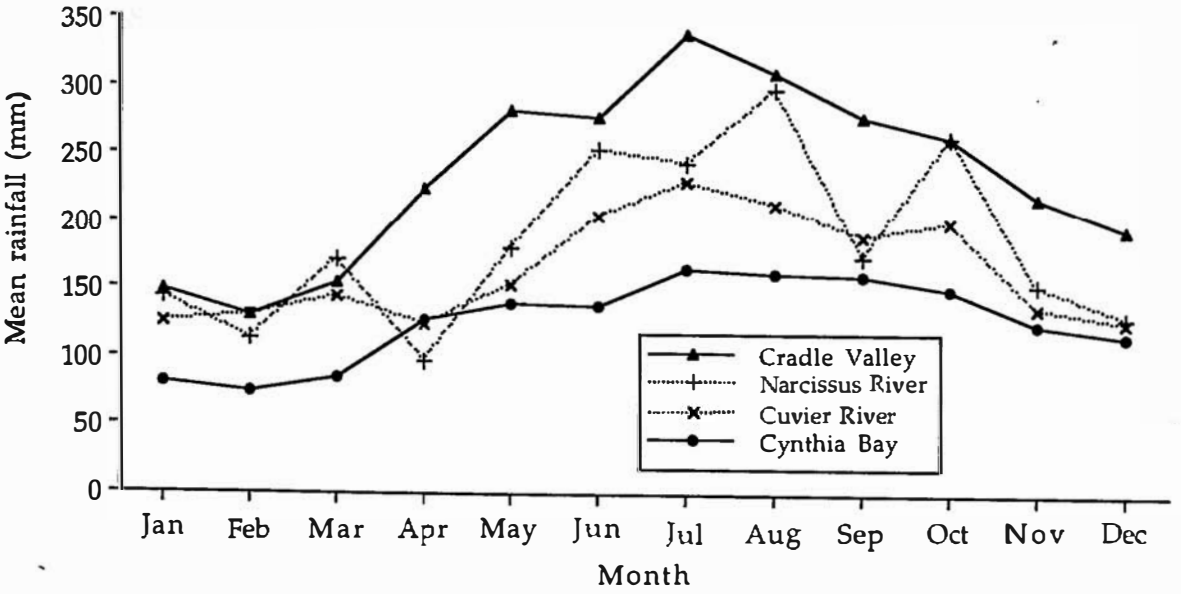


FIGURE 2.3

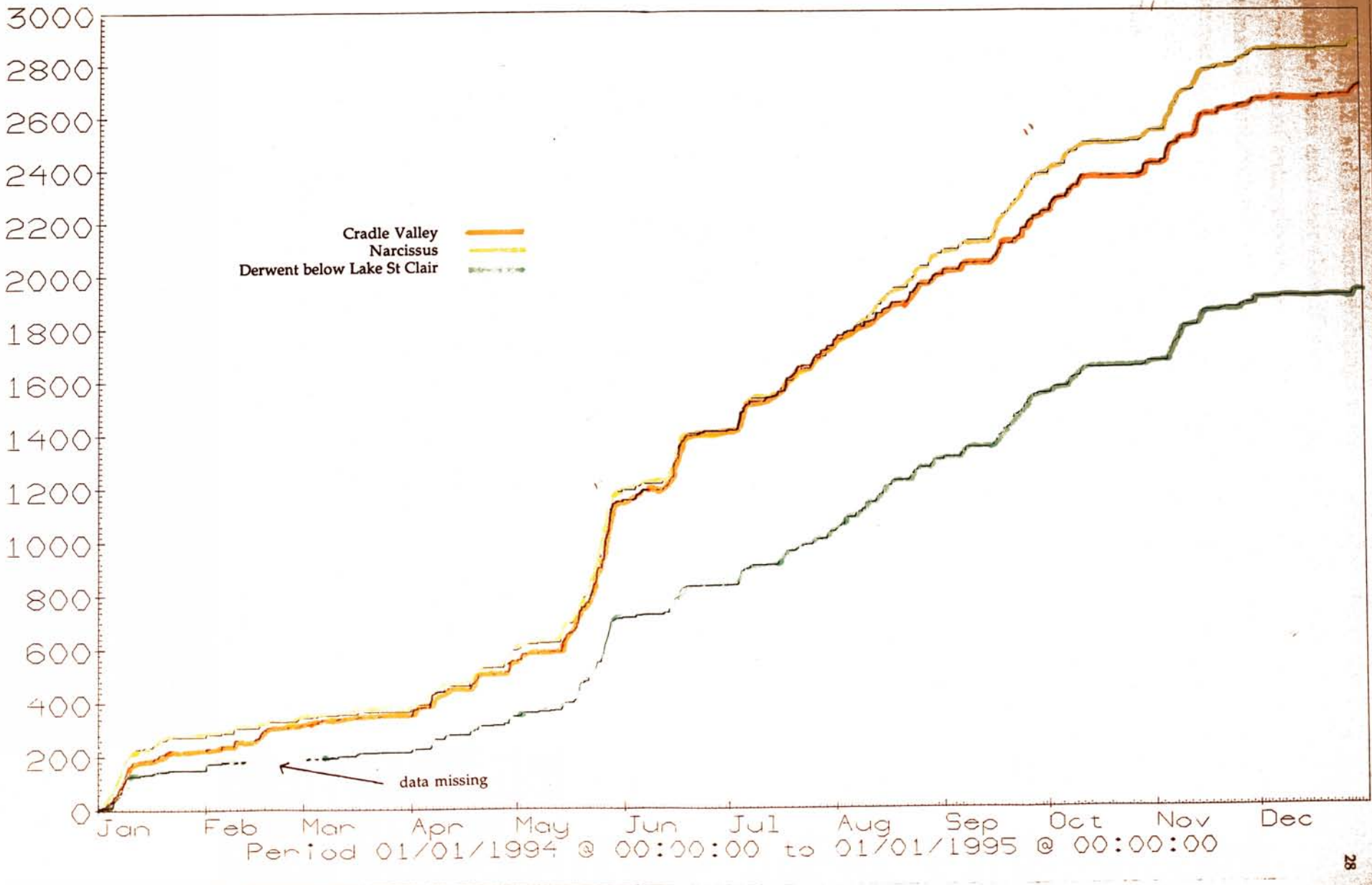
Mean rainfall in the Cradle Mountain-Lake St Clair National Park

Source: Bureau of Meteorology

FIGURE 2.4

Cumulative rainfall levels - Cradle Valley, Narcissus, and Derwent River below Lake St Clair

Source: Hydro-Electric Commission Water Resources Department



There is considerable seasonal variation in the Park's climate, shown in Tables 2.1, 2.2, and 2.3. Summer brings warmer weather due to the long sunshine hours and clear skies (Figures 2.5 and 2.6). This is mainly due to the presence of anticyclones, as in summer the anticyclonic belt crosses over Tasmania. Anticyclones move slowly eastwards over the state in late summer and autumn, bringing stable weather. As the anticyclones leave they direct hot north-westerly winds from Central Australia over the state. Some summers can be so dry that streams cease to flow and deep mud bogs dry. Cyclonic depressions tend to move to the south of Tasmania. Fronts still affect the state, but are not intense.

Autumn brings cooler temperatures, as daylight hours shorten (Figures 2.5 and 2.6). Clouds and rain are more common. Cold air drainage produces fogs and frosts.

In winter weather is dramatically affected by broader-scale meteorological conditions. The anticyclonic belt moves to the north and is centred over the mainland, directing a westerly airstream onto Tasmania. Westerly cold fronts and cyclonic depressions are most common in winter months. Their passage is usually accompanied by strong winds, low cloud and heavy rain. Approaching anticyclones direct even colder south-westerly airflows over the state, resulting in freezing winds and snowfalls. Deep snow often lies on the mountains and alpine plateaux for several months. The fronts are interspersed with periods of extremely stable weather with little wind. At these times nights with little cloud cover are dominated by cold air drainage, forming fogs at night which may last throughout the next day. The ubiquitous cloud leads to extremely low sunshine levels and temperatures (Figures 2.5 and 2.6).

In spring mean wind speeds increase as daylight hours lengthen. Increased solar warming breaks down fogs more efficiently (Figure 2.6). The weather is changeable. Fronts continue to bring cold south-westerly winds and snow. Strong north-westerly winds are common as the anticyclone belt moves southwards, bringing warm air from the Australian mainland.

Station	Period	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean rainfall (mm)														
Cradle Valley	1917-1993	149	131	154	224	281	275	336	307	276	261	216	193	2834
Narcissus River	1943-1950	144	113	171	96	179	252	241	296	172	261	153	128	2606
Cuvier River	1942-1950	125	131	144	124	153	203	228	211	188	197	135	125	2038
Lake St Clair	1937-1991	81	75	85	127	138	137	164	160	159	148	124	115	1518
Number of raindays														
Cradle Valley	1917-1993	17	14	18	20	22	22	25	24	22	22	19	19	244
Lake St Clair	1937-1989	14	12	15	18	21	19	22	22	21	21	19	18	222
Mean daily sunshine duration (hrs)														
Lake St Clair	1964-1988	7.9	7.8	5.5	4.1	2.8	2.5	2.5	3.2	3.8	5.6	6.3	6.4	4.9

TABLE 2.1

Mean rainfall, raindays and sunshine duration - Cradle Mountain-Lake St Clair National Park

Source: Bureau of Meteorology

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean daily maximum temperature (°C)	16.7	17	14.4	10.8	7.9	5.1	4.6	4.9	7.5	10.5	12.8	15.2
Mean daily minimum temperature (°C)	5.2	5.9	4.7	3.1	1.6	-0.2	-0.2	-0.5	0.3	1.5	2.5	4.1

TABLE 2.2

Cradle Valley mean temperatures

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean daily maximum temperature (°C)	18.5	18.8	16.3	12.9	9.7	7.5	6.6	7.7	9.7	12.1	14.1	16.1
Mean daily minimum temperature (°C)	7.2	7.4	6.1	4.5	2.8	1.2	0.4	0.8	1.6	3.2	4.5	6.1

TABLE 2.3

Lake St Clair mean temperatures

Source: Bureau of Meteorology

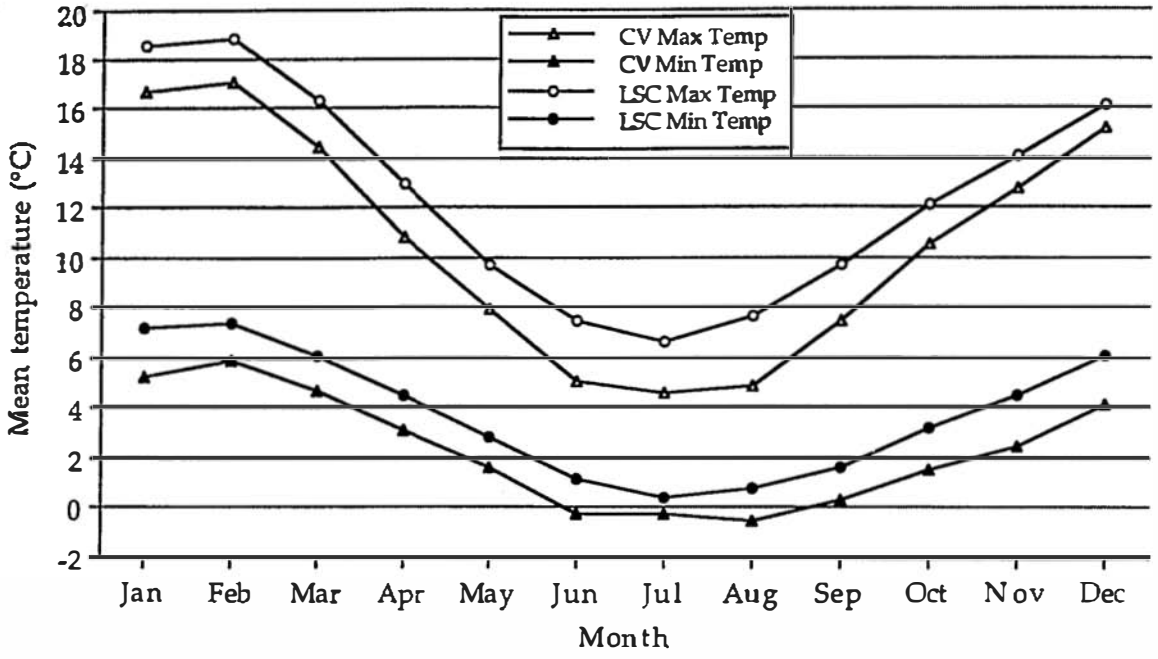


FIGURE 2.5

Mean daily maximum and minimum temperatures -
Cradle Mountain-Lake St Clair National Park

Source: Bureau of Meteorology

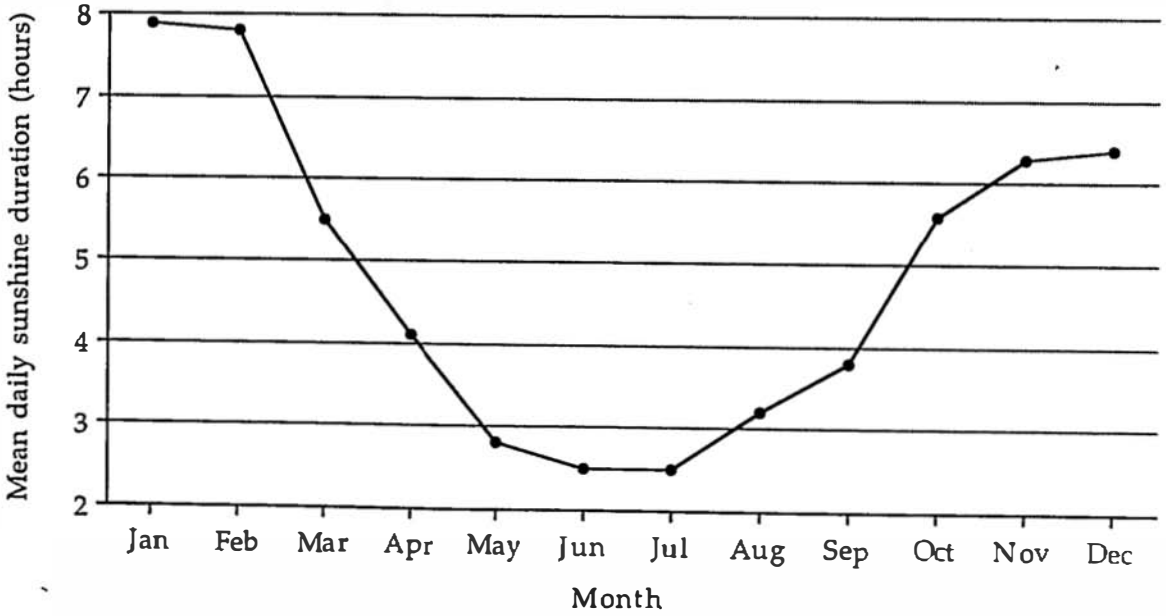


FIGURE 2.6

Mean daily sunshine duration - Lake St Clair

Source: Bureau of Meteorology

2.3 Vegetation

The Cradle Mountain-Lake St Clair National Park plays an invaluable role in the conservation of plant species and communities. Two thirds of Tasmania's endemic higher plant species are found in the Park, and many rare or threatened species are only reserved there (Tasmania, Department of Lands, Parks and Wildlife 1988b). Over half of the plant species found in the Park are endemic to Tasmania. Much of the vegetation survives in its natural condition because there has been only limited permanent or seasonal human occupation of the area.

The distribution of each plant species is controlled by a variety of environmental factors, including climate, fire, soil, relief, other species, and water availability. Communities of plants are created where different plant species tolerate similar environmental conditions, sharing a common distribution. While some species can be found in several quite different communities, others are restricted to one quite specific community. The distribution of plant communities in the Park forms a complex and unique mosaic. Those found in the Park range from alpine and sub-alpine communities, temperate rainforest, eucalypt woodland, buttongrass moorland, scrub, tall eucalypt forest, to grassland and sedgeland (Figure 2.7) (Tasmania, Department of Lands, Parks and Wildlife 1988b).

Alpine communities are found on the mountains and ridges above the treeline, which occurs around 1,200 metres in the Park. They can be found down to 1,000 metres in areas with poor drainage and severe exposure to wind. The harsh environments of these locations are dominated by low shrubs and trees less than two metres tall. Kirkpatrick (1983) identified several environmental niches within these communities: deciduous heath dominated by deciduous beech (for example, the slopes around Cradle Mountain) (Plate 2.4); coniferous heath dominated by native conifers including plum, strawberry and dwarf pines (for example, on Cradle Plateau); bolster heath dominated by cushion plants (for example, covering Mount Ossa's summit plateau); alpine heath dominated by shrubs (for example, the slopes of Barn Bluff and Mount Ossa); fjaeldmark occurring in extreme conditions with a sparse cover of prostate shrubs, mosses and lichens (for example, on Mount Ossa's summit plateau); fen occurring in mires around lakes and streams (for example, around the outlet of Lake Ayr); bog occurring in acidic mires and peat soils (for example, around the Pelion Plains); tall alpine herbfield dominated by Milligania lilies, pineapple

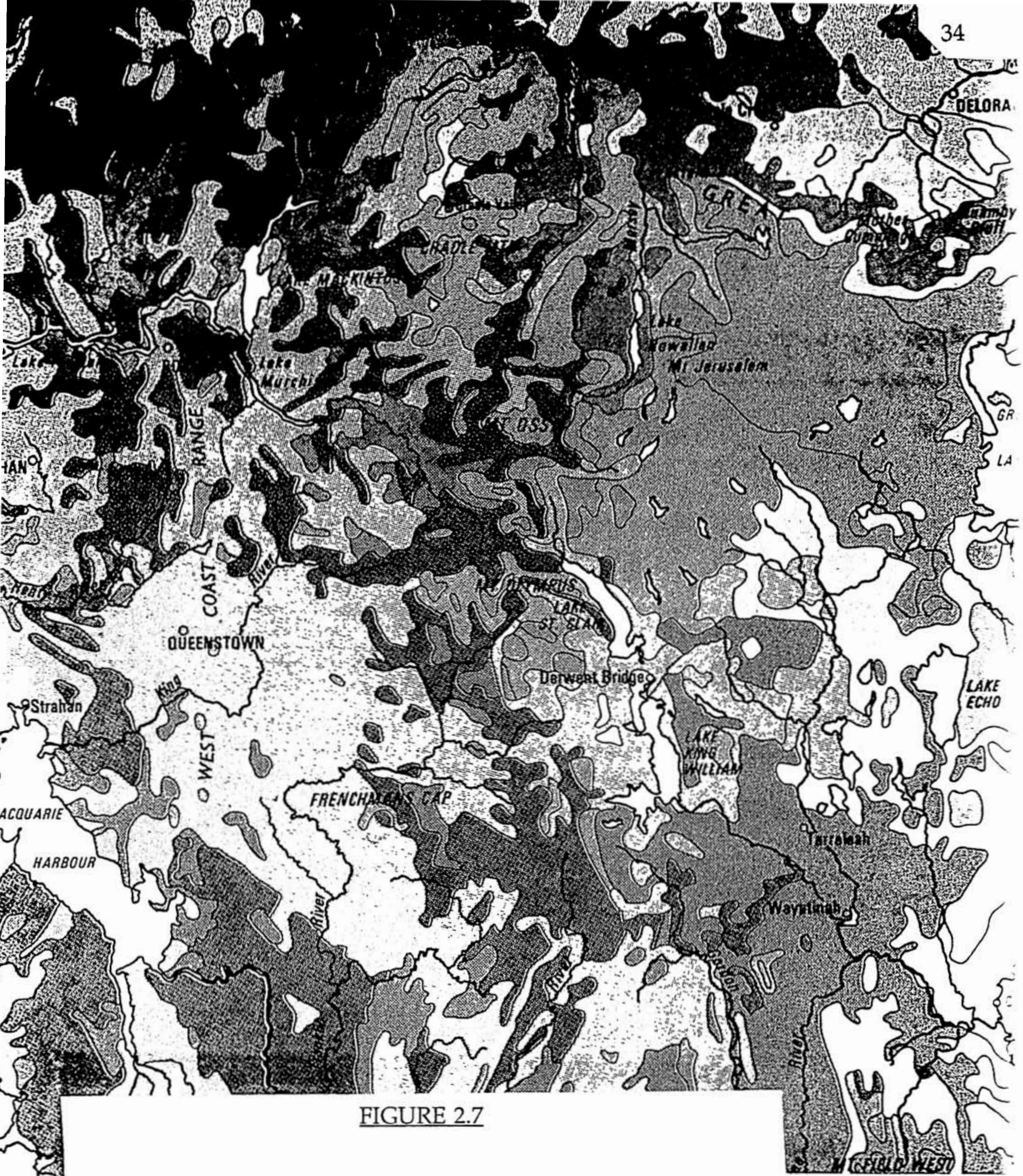


FIGURE 2.7

Vegetation of the Cradle Mountain-Lake St Clair National Park

Derived from Kirkpatrick and Dickinson 1984

- Rainforest
- Blackwood swamp forest
- Mixed forest / Wet sclerophyll forest
- Wet sclerophyll / Dry sclerophyll mosaic
- Dry sclerophyll forest and woodland
- Dry coastal vegetation
- Moorland and scrub
- Alpine vegetation
- Native grassland

grass and herb species (for example, among the cliffs of the Du Cane Range) (Plate 2.5); short alpine herbfield dominated by small herb species occurring in areas with extended snow cover (for example, the snow-patches on Cradle Plateau); and tussock grassland dominated by Poa grasses (for example, on top of Cradle Cirque).

Sub-alpine communities are found in altitudes below the treeline which still commonly receive winter snow. The growth of tree species is limited by the cold winter conditions, and trees are short and stunted. The dominant tree species include myrtle, deciduous beech, King Billy pine, celery top pine, snow gum and Tasmanian alpine yellow gum (Plate 2.6). These are surrounded by a shrubby understorey. Examples include the snow gum forest south of the Fury River, the deciduous beech forest below Innes Falls (Plate 2.7), and the King Billy pine forest on the moraine south of Waterfall Valley.

Rainforest occupies areas between the sub-alpine zone and the lowlands that have a high rainfall of over 1500 mm, spread throughout the year, and have had a low fire frequency. Rainforest is dominated by Gondwanan species, including myrtle, leatherwood, sassafras, King Billy and pencil pines. These have close relatives in New Zealand and southern South America. Their understorey is rich in ferns, mosses and fungi (Plate 2.8). Rainforest species are extremely sensitive to fire. There are four basic types of rainforest, identified by the dominant canopy and understorey species: callidendrous is dominated by myrtle with some sassafras, with an open or ferny understorey, as in the rainforest west of the Pelion Plains; thamnic contains a canopy of myrtle, leatherwood, celery top pine and sassafras with a shrubby understorey, as on the slopes of Pelion West; implicate has a low canopy merging with a dense shrub understorey, few ferns and moss covering the ground and tree trunks, as in upper Pine Valley; open montane is dominated by short pencil pines above a dense shrub understorey, as found on the northern side of the Fury River. Open montane rainforest, occurring in conjunction with open buttongrass moorland, is often restricted to lakeside and streamside locations due to the occurrence of infrequent fires (Plate 2.7). Gallery rainforest is a more restricted type found along the margins of streams and lakes, often only several metres wide, for example along Douglas Creek by the ranger's hut.

PLATE 2.4

Deciduous beech

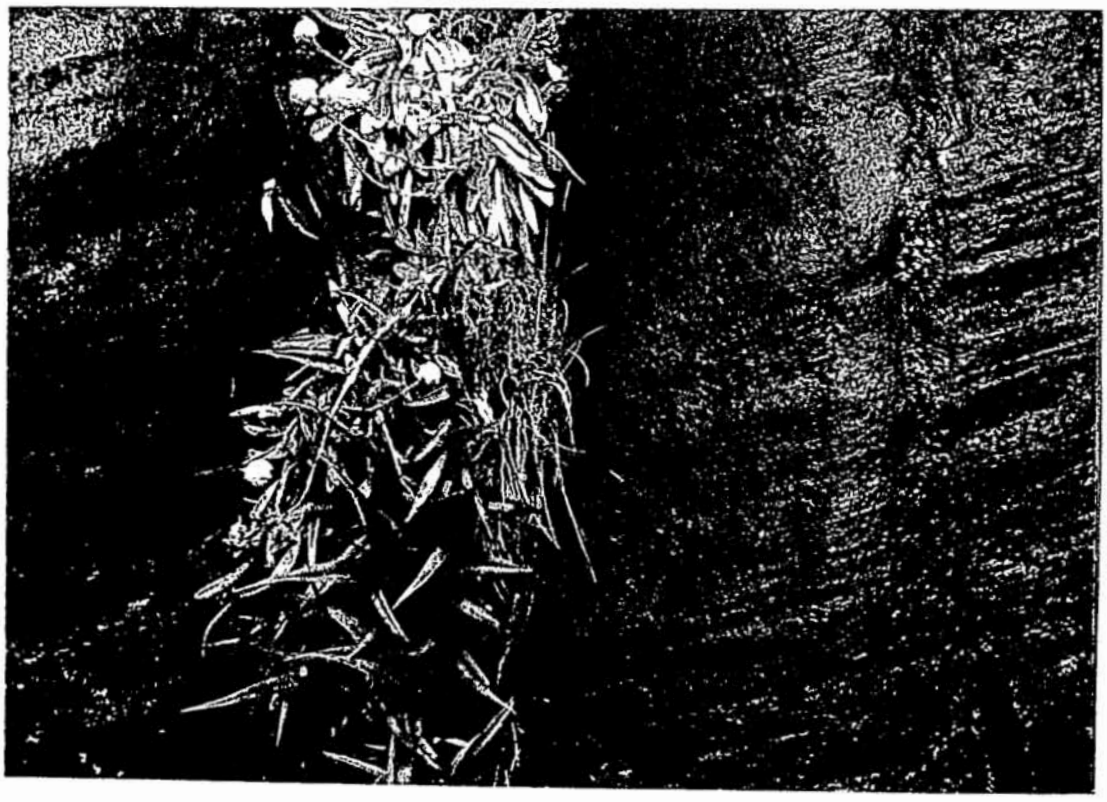


PLATE 2.5

Milligania lilies and herbs growing in cliffs below the saddle between Mount Ossa and Paddy's Nut

PLATE 2.6

Sub-alpine vegetation below Barn Bluff, including scoparia, snow gums, myrtle and deciduous beech

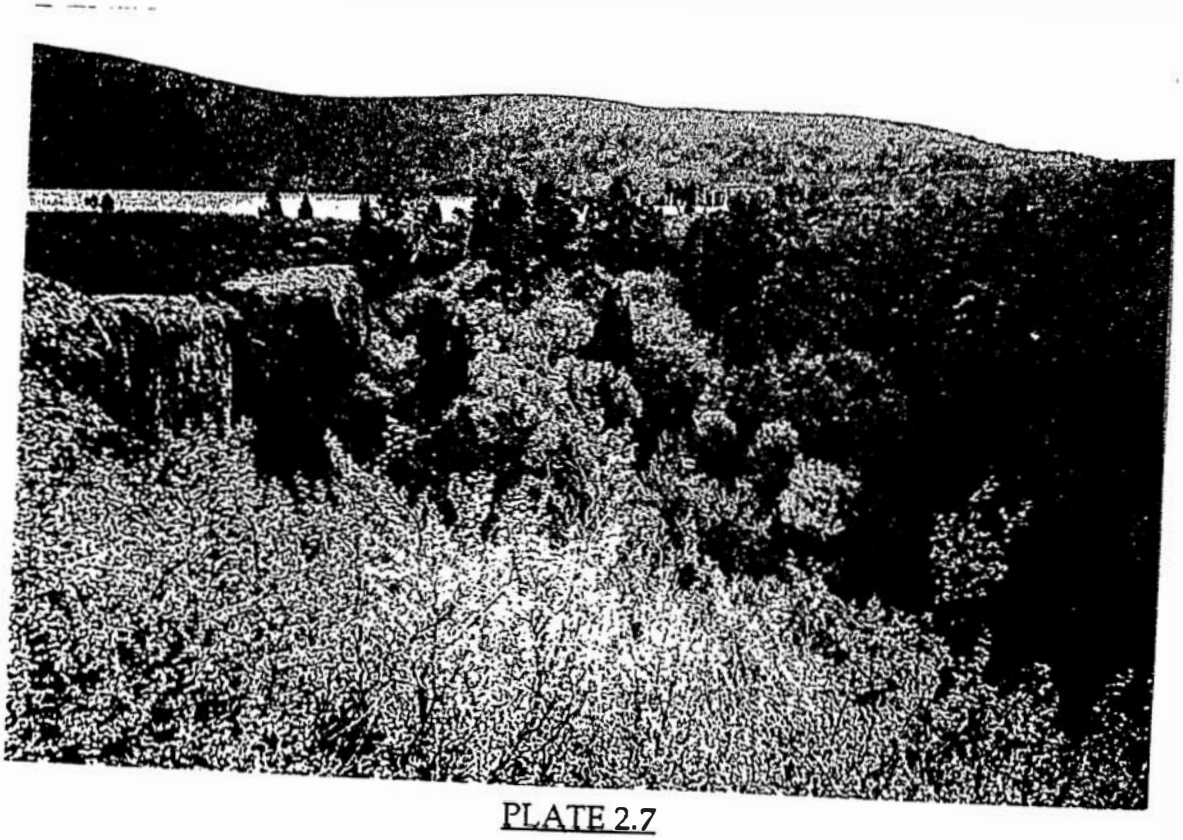


PLATE 2.7

Deciduous beech growing in a sheltered valley below Lake Will, King Billy pines growing on the lakeside

PLATE 2.8

Strawberry bracket fungi and moss growing on a myrtle, surrounded by hard water ferns

Eucalypt forest occupies areas between the sub-alpine zone and the lowlands that have had a higher fire frequency. Fire plays an important role in eucalypt forest communities as it kills species that would otherwise dominate. Eucalypts are able to dominate because they have an elaborate variety of fire survival techniques. Mixed forests contain a mixture of eucalypt and rainforest species, and will develop into pure rainforest if they remain fire-free for several hundred years. A good example of mixed forest is on the south side of Du Cane Gap. Wet eucalypt forests are dominated by an understorey of soft leaved shrubs, as in the Forth and Mersey valleys. These forests contain gum-topped yellow gums, and swamp gums, stringybarks growing up to 60 metres high. Dry eucalypt forests are dominated by hard leaved shrubs, as in the lower Narcissus Valley.

Buttongrass moorlands are dominated by buttongrass, which can be pure or mixed with other sedges, rushes and scrub species. They occur on sites with poor drainage and soils, where fires occur occasionally, such as Pine Forest Moor and the lower Narcissus Valley. Many of these sites are too waterlogged to support tree growth.

Scrub communities, dominated by tea trees and paperbarks, cutting grass and Bauera, occur in wet areas and on the edge of buttongrass moors. Examples include north of the Kia Ora moor and in the lower Narcissus Valley.

Grassland communities are dominated by Poa grasses and are found in flat areas with better soils and drainage, such as Cradle Valley, Pelion Plains and the Bowling Green. In these areas forests have been restricted by fire or frost.

2.4 Wilderness values

Wilderness describes any reasonably large tract of the Earth, together with its plant and animal communities, upon which the hand of humans and human technology has had little permanent impact (Godfrey-Smith 1979). The difficulty is in deciding what level of human presence or ecological disturbance can be tolerated. Every individual's perception of a place is subjective, and views as to what constitutes wilderness can vary considerably, though at least one author has no doubt that it is certainly a designation that applies to the area of the present study:

> Wilderness is a feeling: an experience that each one of us finds within himself. Some of us find this exhilaration and peace in a remote corner of a desert mountain range. Others have the same feeling in a quiet part of a city garden or parkland - or even in their own gardens which they have made into tiny corners of nature belonging to themselves alone. A wild place acts as a 'gene pool' from which one may draw the essential needs of the human character. It is a place to stop and recharge mental and physical batteries: the recreational release value from the everyday world of urban stress. Cradle Country, a wild and rugged area fringing the alpine lands of central Tasmania, is a place such as this (McKelvey 1976: 7).

By contrast, Mackie (1978) surveyed walkers who spent between five and twenty one days walking the Overland Track and side-tracks in the Cradle Mountain-Lake St Clair National Park. Walkers saw huts and constructed walking tracks as intrusions within the wilderness. They believed that the existence of huts and the damage resulting from large numbers of visitors, such as track erosion, disqualified the Overland Track area as wilderness.

Some people may perceive an area to be wilderness, while others visiting the same area at the same time may feel that it is over-developed or crowded. This has led to several attempts to produce an objective, management-relevant definition which can be used to quantify and identify wilderness values in Tasmania.

Russell, Matthews and Jones (1979: 42) defined wilderness as 'a large area of land perceived to be natural, where genetic diversity and natural cycles remain essentially unaltered', a definition that fails to recognise remoteness as an component of wilderness. The criteria used for the identification of such areas were: a minimum core area of 25,000 ha; a core area free of major indentations; a core area of at least 10 km in width; a management (buffer) zone surrounding the core area of about 25,000 ha or more. The authors sought to use natural topographic boundaries to determine core area boundaries. Walking tracks generally were not considered to be disturbances, but the Overland Track was: 'Many people who have walked this route gave the opinion that its immediate surrounds can no longer be designated wilderness because of the large number of visitors and consequent evidence of human activity' (Russell, Matthews and Jones 1979: 61). The authors identified the Overland Track as a wilderness buffer zone, bounded by the ridge-lines to either side. Two wilderness core areas lay on either side of the Overland Track, each partly inside and partly outside the then park boundaries: one on the Central Plateau, the other in the Murchison Valley-Eldon Range area.

Kirkpatrick and Haney (1980) attempted to quantify and classify wilderness in Tasmania using a strict definition of remoteness and primitiveness. They believed that only these values were intrinsic to wilderness, and that nature conservation and scenic values could be obtained outside wilderness areas. Use of a remoteness criterion to define wilderness incurs an inevitable anthropocentricity, as remoteness means remote from humans: 'Wilderness can only be defined as a recreational resource - as land remote from access by mechanised vehicles, and from within which there is little or no consciousness of the environmental disturbance of Western man' (Kirkpatrick and Haney 1980: 331). Remoteness was calculated by travel time, while primitiveness, which has 'visual, aural and mental components', was based on the arc of visibility of disturbance and distance to the disturbance. The authors assumed that wilderness value started to be gained after four hours' walk from mechanised vehicle access, with 50 per cent of the value 'remoteness' being gained after 8 hours' walk, and 100 per cent after 48 hours. Walking tracks, huts, and historic artefacts were not regarded to be disturbances. Most of the Park was thought to have very high wilderness values, including the area along the Overland Track between Waterfall Valley and Windy Ridge huts. This approach has been adopted and updated by the PWS (Tasmania, Parks, Wildlife and Heritage 1991).

This approach has received broad support. Thus Hawes and Heatley (1985) also assessed wilderness values according to remoteness, measured by the distance from the nearest major intrusion and access time. Wilderness had to be over eight kilometres remote from major intrusions. Walking tracks were not considered to be major intrusions.

Lesslie, Mackey and Schulmeister (1988) used a Geographic Information System database to combine four indicators of remoteness and primitiveness: remoteness from settlement, remoteness from access, aesthetic primitiveness, and biophysical primitiveness, producing a total wilderness quality index. This method failed to include the impact of visible disturbances. However, it avoided the use of absolute terms, instead using a relative wilderness quality continuum. Referring to the Cradle Huts operation, the authors stated that: 'developments associated with the Overland Track somewhat impact on wilderness quality'. The Overland Track corridor was classified as wilderness of the second and third highest categories, and is bordered by wilderness of the highest category along its entire western side, and to the east of the Narcissus Valley (Figure 2.8). This approach has been used by the Australian Heritage Commission to form a National Wilderness Inventory.

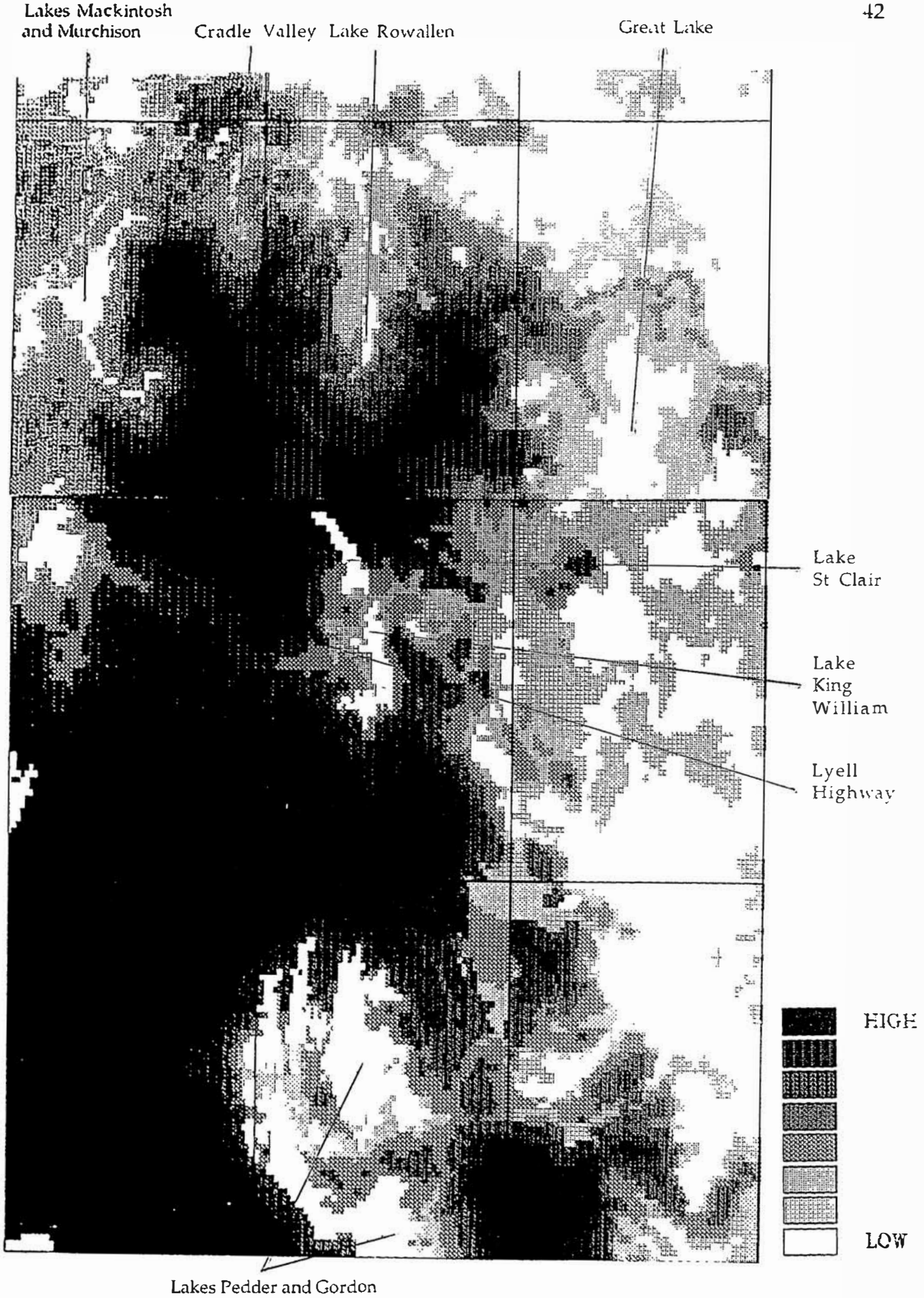


FIGURE 2.8

Wilderness quality of the Cradle Mountain-Lake St Clair National Park
(Source: Lesslie, Mackey and Schulmeister 1988)

Wilderness is a valuable recreational resource, and its benefits in this regard will be examined in Chapter 6. Wilderness also has considerable ecological value as it comprises large natural areas which are relatively undisturbed. However, the recognition of wilderness values need not necessarily conflict with the recognition of cultural values. Wilderness should not seek to create a demarcation between natural and cultural values, as the two coexist. To consider humans as separate from the environment is an artificial division, albeit a convenient one. What we should focus on is the interaction of man and the rest of the environment. Human beings have interacted with other species for thousands of years. Some areas have been completely transformed, while others have remained relatively untouched. Even those relatively untouched areas have been modified by human exploration and exploitation, and are used and managed by humans today. The nature of this interaction between humans and the rest of environment has changed over time, and will be examined in the following chapter.

CHAPTER 3
BACKGROUND: HISTORY OF THE CRADLE MOUNTAIN-LAKE ST CLAIR NATIONAL PARK AND THE OVERLAND TRACK

3.1 Prehistory

During the last glacial, 25,000 to 10,000 years before present, the high country between Cradle Mountain and Lake St Clair was covered by ice and snow, making it unavailable for human occupation. Even in the lower valleys, a lack of sheltering caves or forests meant that people would have had to camp in the open, limiting any occupation to warmer months (Thomas 1987).

By 10,500 years ago the glaciers had begun retreating from the Mersey, Forth and Narcissus valleys. Forests slowly expanded up these valleys, providing increased shelter and food resources (Thomas 1987). People began exploring and using the valleys for occasional hunting expeditions, repeatedly burning moors and forests to create favourable conditions for the animals they hunted. The only dated site from this period is a rockshelter at Wurragarra Creek, off the upper Mersey valley. This shelter was first occupied about 10,000 years ago and was used intermittently as a hunter's camp for several thousand years. The shelter was occupied more intensively from 3,400 years before present onwards (Lourandos 1983).

Archaeological evidence of Aboriginal occupation in the Lake St Clair area includes stone quarries found on Mount Rufus (Sutherland 1972), a site on the Traveller Range (Cosgrove 1984), and a site in the Cuvier Valley and 37 other sites on the Navarre Plains to the south (Kiernan 1985). Sites have been found in the Cradle Valley and Pencil Pine areas (Ranson 1983, Thomas 1987). A survey of the Overland Track (Thomas 1987) found 25 small sites, predominantly in the Pelion region and lower Narcissus River Valley. Large sites have been found in the upper Mersey and Forth valleys (Noble 1993). du Cros (1992) found eight sites around the northern, eastern and southeastern sides of Lake St Clair, and one near Forgotten Lake.

3.2 Aboriginal use of the Overland Track

Jones (1974), Stockton (1975), and Ryan (1982) proposed that the Overland Track followed a regularly used Aboriginal road or access route between the territories of the Big River and Northern tribes. This proposition was largely based on information given to George Augustus Robinson in 1834 by two Aboriginals at the Middlesex Plains. They claimed that ' ... the native track was by the Cradle Valley where the lake is. Said the natives go this way into the Larmairre country, and I feel persuaded the difficulty is not great' (Plomley 1966: 889). The Larmairremener were a band of the Big River tribe living in the upper Derwent Valley and high country west of the River Dee (Ryan 1982).

Thomas (1987) rejected the Overland Track theory. He claimed that the information given to Robinson did not clearly point to the use of the Overland Track route. It indicated that people from the Northern and Big River tribes passed close to Cradle Valley, but no particular direction for the path was suggested, other than that it connected the Surrey Hills to the lake country. Many alternative routes were possible, and the route of the Overland Track would not have provided a logical and safe pathway by Aboriginal standards, crossing exposed moorlands that offer little shelter or food. A more logical route would pass over the Central Plateau, then cross the Mersey and Forth valleys.

Thomas claimed that the sites found by his survey of the Overland Track did not support theories of Aboriginal transit use. They were predominantly found in the Pelion region and Narcissus River valley, pointing to the possibility of 'real' site clustering in these two locations. No sites were found on the higher plateau tops despite higher visibility. No large complex sites were discovered and small sites were not equally distributed along the length of the track. Stone material did not appear to have been transported from one end of the area to the other, and distinctively different stone artefact materials were found at each end. None of the sites contained more than one stone type.

Thomas hypothesised that movement would have occurred along the sheltered river valleys, with occasional visits to higher elevations. The lack of sites on the Overland Track north or south of Pelion suggested that people preferred to retrace their steps to the Forth and Mersey valleys rather than enter more difficult country. Thomas thought that the Narcissus

Valley sites were probably left by an outpost of the Big River people. He thought it unlikely that they travelled past Du Cane Gap due to the difference in artefact stone types found at Narcissus and Pelion.

du Cros (1992) found sites around the northern, eastern and southeastern sides of Lake St Clair containing artefacts constructed from a variety of stone types. Some sites contained more than five types of stone, including types which Thomas (1987) found only at the Pelion Plains sites. Some sites had moderate numbers of artefacts, and a basalt hammerstone was found, indicating long-term stays in multi-functional campsites. These findings cast some doubt on Thomas' dismissal of the Overland Track theory, indicating that some trade and interaction between Pelion and Lake St Clair may have occurred.

3.3 Aboriginal contact with whites

Early white accounts of Aboriginal occupation of the area are fragmented and limited in scope. When the first whites penetrated the area its nomadic Aboriginal inhabitants had already come into conflict with settlers and their traditional lifestyle had been disrupted. By the 1830s the number of people from the Big River tribe still living in the area, estimated at 400-500 people prior to 1803, had been reduced to 26 (Ryan 1982, Noble 1993).

Several records of Aboriginal occupation of outskirts of the area now reserved as the Park exist. In 1827 Fossey noted Aboriginal huts in the Forth Valley and actually heard voices on Hounslow Heath. In 1828 Hellyer noted recently burnt land between Cradle Mountain and the Eldons, which he concluded had been done for hunting purposes. In 1832 Sharland observed native huts on the plains south of Lake St Clair. The plains had been recently burnt, and he supposed this formed part of a native track (Thomas 1987).

In 1828 Lieutenant-Governor Arthur declared martial law throughout the colony, approving and rewarding the capture of any Aboriginals still at large. George Augustus Robinson, missionary and government agent, visited the Cradle Mountain area several times in order to persuade free Aborigines to come in for resettlement on Flinders Island (Pink 1982, Thomas 1987, Binks 1981). He was accompanied by several Aboriginal assistants including Truganini. In 1834 Robinson's party searched the Middlesex Plains, Mount Roland, and Black Bluff areas, finding a sickly family of eight near the Black

Bluff Range. The last native people supposedly to remain free in the colony were a family of six that Robinson's sons met near Cradle Mountain in 1936 (Binks 1981, Ryan 1982, Noble 1993, Thomas 1987). Boss-Walker (1950) claims they were found between Barn Bluff and Lake Windermere. These people, John Lanna, his wife and five sons, were finally captured in 1842 by two sealers on the coast near the Arthur River (Binks 1981, Pink 1982). One of the boys, William Lanne (also Lanna or Lanney), survived another 26 years to gain the title King Billy, last pure-blood male of the Tasmanian Aborigines to survive (Mollison and Everitt 1976, Ryan 1982).

3.4 White exploration

The surveyors of the Van Diemen's Land Company (VDL) are generally credited with being the first whites to explore the north-west corner of the island. They had the task of locating and claiming 250,000 acres of suitable sheep grazing land granted to the Company (Binks 1980, Binks 1981). The Cradle region was first visited in April 1827 by VDL surveyor Joseph Fossey, who climbed out of the Forth Valley to Mount Kate, just south of Dove Lake (Figure 3.1). Fossey skirted Cradle Valley, departing across Hounslow Heath. He returned in 1828, whilst marking a road from Mole Creek to the Surrey Hills via the Middlesex Plains. He had been instructed to look for a possible route to the Surrey Hills from the Central Plateau, and he probably made the first ascent of Cradle Mountain to overlook the surrounding country (Binks 1980, Binks 1981). Fossey returned to Cradle Mountain with Henry Hellyer later in 1828, climbing out of the flooded Fury Gorge and over Little Plateau to rest in the shelter of Cradle Valley. In 1831 Hellyer climbed Cradle Mountain to take bearings of the VDL Company Surrey Hills block's boundaries (Bergman 1959, Binks 1981, Dutton 1979, McKelvey 1976). Most sources credit this as the first ascent of Cradle Mountain (for example, Bergman 1959, McKelvey 1976), but Hellyer made no reference to making the first ascent.

The colonial government's surveyors were the first whites to explore the area around Lake St Clair. Jorgen Jorgenson is often credited with first sighting the lake during his 1926 expedition to the Central Plateau, but this has been convincingly discounted by Meston and McCulloch (1954) and Binks (1980). In 1832 Assistant Surveyor William Sharland became the first white to sight Lake St Clair and its surrounding mountains, but he did not approach the lake (Binks 1981). In 1835 Surveyor-General George Frankland led a large expedition up the Derwent Valley to Lake St Clair, becoming the

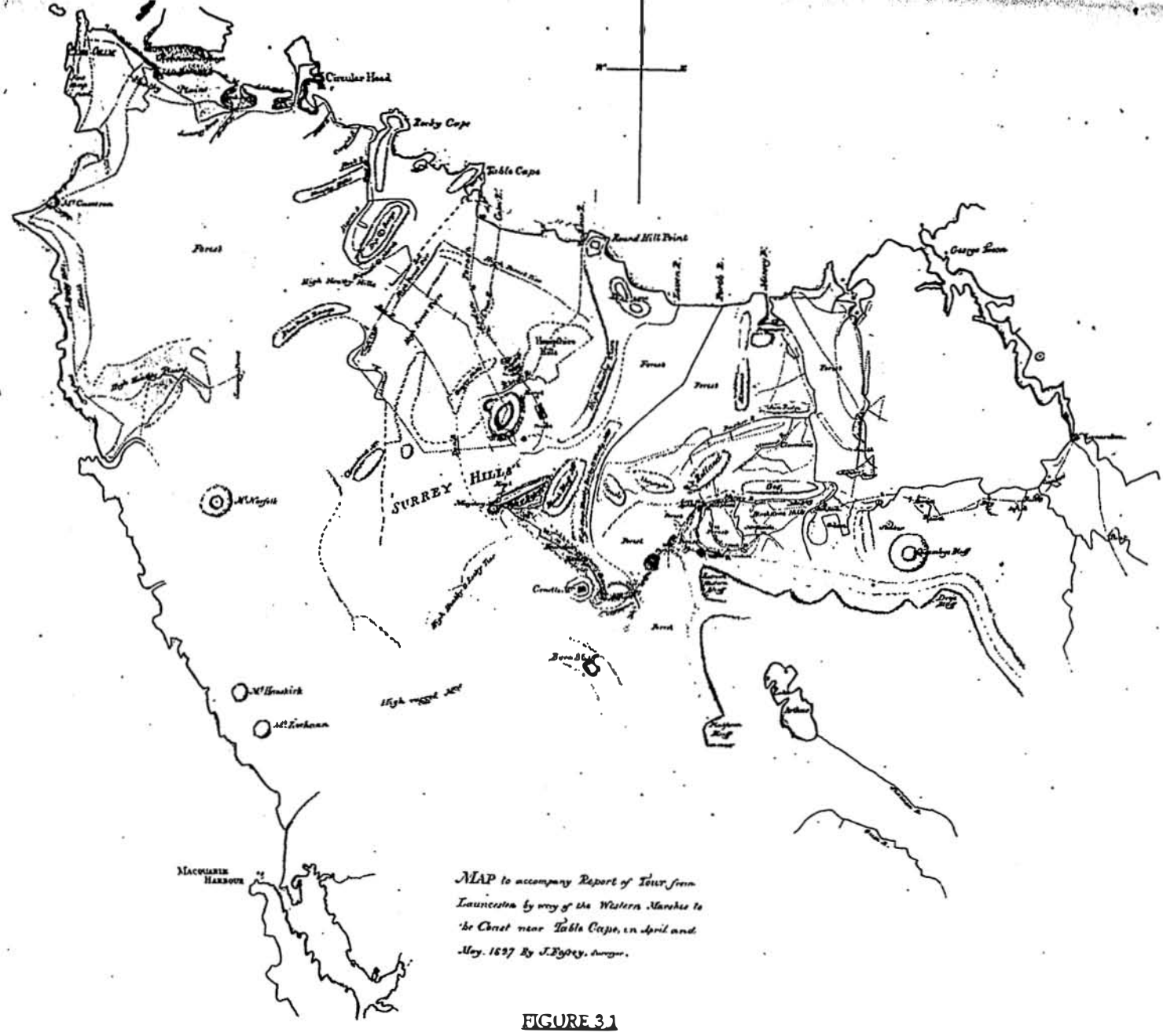


FIGURE 3.1

Fossey's map of his 1827 journey through north-western Tasmania

first whites to actually reach the lake. Camping at Cynthia Bay on the southern end of Lake St Clair, they climbed Mount Olympus via the Cuvier Valley and visited Lake Petrarch (Binks 1980). In 1840 surveyor James Calder was ordered by Governor Sir John Franklin to cut a track from Lake St Clair to Macquarie Harbour. During the summers of 1840-41 and 1841-42 they cut a foot track from a base camp at Lake St Clair to the Franklin and Gordon rivers. In 1842 Calder guided Governor and Lady Franklin along the track to the West Coast (Binks 1981).

In 1851 Reverend W.B. Clarke, the visionary of the New South Wales goldfields, suggested that gold might be found in the area between Lake St Clair, the Eldon Range and Frenchman's Cap (Binks 1980). This led to several searches of the area. In 1852 surveyor Gordon Burgess cut a track up the Cuvier Valley, along a ridge south of the Eldon Range, then over the West Coast Range to the West Coast. This was the first practicable overland route to the West Coast (Binks 1981). In 1859-60 Charles Gould, the newly-appointed Geological Surveyor, was sent to explore the Eldon Range. Gould's party of twenty-two cut a cart track around the shore of Lake St Clair to the Cuvier River and established a base camp at the top of the Cuvier Valley, where a log hut was built. Gould's party followed and recut Burgess' track along the ridge south of the Eldons before crossing the Eldon Range to the Murchison River (Binks 1980, Binks 1981). Gould made a quick reconnaissance from there to Cradle Mountain. He followed the Bluff River to the moors south of Lake Will then followed the present route of the Overland Track through Waterfall Valley, across the Cradle Cirque and Cradle Plateau into Cradle Valley (Binks 1980, Binks 1981).

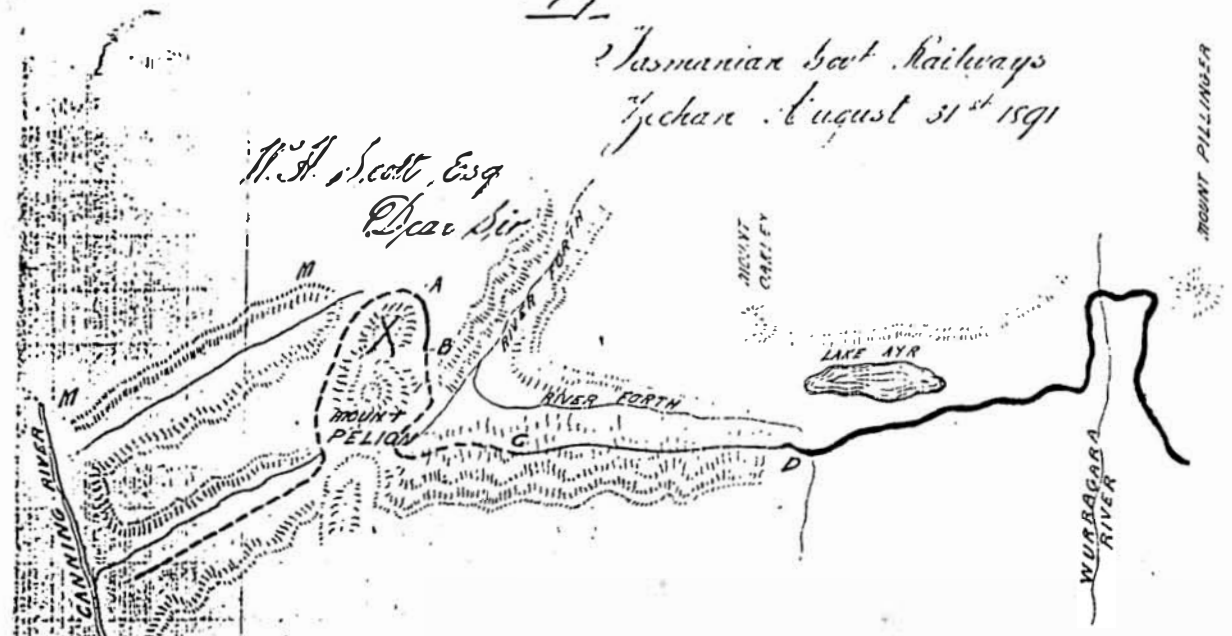
Burgess' and Gould's track along the ridge south of the Eldon Range was recut in 1877 by Tom and John Moore, who then crossed the Tyndall Range to the future site of Zeehan. This route was used extensively for the next decade by prospectors and miners to gain access to the West Coast. It was high and exposed, prone to bad weather and often covered by snow in winter. In 1883 Tom Moore was sent by the government to find a low level route from Lake St Clair to the Linda goldfields to replace his previous route. This new track became known as the Linda Track, passing from Lake St Clair, through the Franklin and King valleys to Mount Lyell. It was the precursor of the West Coast Road/Lyell Highway (Binks 1980, Binks 1981, Binks 1988, Moore 1883).

3.5 Railway surveys to the West Coast

By 1890 the West Coast mineral belt was known to extend over a wide region and to encompass many ore types including silver, lead, gold, copper, zinc, tin, nickel and osmiridium (Lambert 1976). The main problem hindering development of the mineral fields was their poor access, limited to the dangerous ports of Strahan and Trial Harbour. Construction of an overland track to the West Coast from the north or south of the colony was seen to be a necessity. In the 1890s the government committed itself to railway construction, conducting surveys for several railway lines. Proposed lines to the West Coast included the Emu Bay Railway from Waratah, the Great Western Railway from Ouse, a line from Sheffield, and the Mole Creek - Zeehan Railway (Binks 1988). Most of these proposed lines had impractical routes across rugged mountain country which would prove too expensive and difficult to build. The Emu Bay Railway was the only line actually constructed (Binks 1988, Lambert 1976). Several surveys passed through the area later to become the Park.

Various attempts were made to establish a rail link between the Derwent Valley and the West Coast. Routes were surveyed or companies formed in 1890, 1891, 1896 and 1907 (Binks 1980, Cooley 1987, The Great Western Railway and Electric Power Company Limited 1897, Rhys-Jones 1907). These all passed, or had spur tracks to, Lake St Clair. One route led along the western shore of Lake St Clair and across the Cuvier Valley. The companies involved planned to develop the mineral and hydro-electric resources along the route. These projects all failed due to inadequate funding and opposition from northern Tasmanian business interests.

In 1890-91 the government appointed railway engineer Allan Stewart to survey a railway route from Mole Creek to Zeehan, voting £4,200 for the survey work (Tasmania, Public Works Department (PWD) undated a: 31 August 1891). Stewart's track led up the Mersey Valley to the Pelion Plains, before descending to the Forth River at Frog Flats (Figure 3.2). Having reached the middle of the route, Stewart's supply-line broke down. He began working on the western section, from Zeehan to the Tyndall Range. The survey was cancelled before completion in late 1891, after £3,700 had been spent on wages and other expenses. Permanent reference points were left along the track to aid future surveys (Stewart 1891, Tasmania, PWD undated a: 19 September 1891).



The above sketch of the neighbourhood of Mount Pelion I send you to illustrate the tracing of the line which I sent you from Hobart, and to shew you the exact state of the work as I left it. You have tracings up to the first branch of the Forth at D. from which point to C about 3 miles the traverse is run but but no levels or Cross Sections are taken over it and the centre line is therefore not fixed. From C to B is not run at all, but a traverse is run from B to A which however is 50 feet too low at A, and will require to be run again for half the distance from A, or about 30 chains. On talking over the matter again with the Engineer in Chief it was decided that you should direct your whole attention to the nearest and best route to Lake Rolleston not troubling at present with the alternative line from Mt Pelion to Lake Augusta on the Eldon Gap. The dotted line gives only a general idea and you are in no way confined to it. It would be desirable if you could as soon as possible explore to the Murchison & fix a camp at the junction of the Canning with the Murchison & flying a flag. If I am there before you I shall do the same.

FIGURE 3.2

Letter from Stewart showing the section of his 1891 survey between the Mersey Valley (right) and the northern side of Mount Pelion West (point A), now followed by the Overland Track

The Launceston and North West Direct Route Association was formed in 1896 and successfully lobbied the government to survey another route through the Pelion region. In 1896-7 Edward Innes surveyed a track from Liena to Rosebery (Figure 3.3). The Innes Track crossed the Borradaile and February plains, intersecting with Stewart's route at Lake Ayr. The Track then followed Stewart's route to the Forth River at the base of Mount Pelion West. An incline was cut through the forested eastern slopes of the mountain. Open moorland was followed between Pelion West and Barn Bluff. Innes climbed Barn Bluff and Cradle Mountain to view the surrounding country (Innes 1897). The track crossed Mount Inglis and Granite Tor to Rosebery.

The Innes Track met with much newspaper criticism due to the length and height of its route, and the railway failed to be developed (Beattie 1900). The completion of the Emu Bay Railway to Rosebery in 1899 ended plans of constructing a railway along the Innes Track. The Track did become a major access route to the West Coast for poor miners who could not afford a sea passage or the train. It was widened to allow the passage of packhorses, cattle and sheep to the West Coast (Lambert 1976). The route of the Innes Track is now followed by the Overland Track between the Pelion Plains and Lake Windermere, while the Arm River Track follows it between the February and Pelion plains.

3.6 Prospecting and mining

Local farmer James 'Philosopher' Smith was one of the first to prospect the Cradle Mountain area in the 1860s (Binks 1981, Giordiano 1987). In 1871 he discovered tin at Mount Bischoff, later to become the richest tin mine in the world. By 1889 the mine had already paid over one million pounds to shareholders. This success created a huge influx of prospectors to the West Coast and the highlands between Cradle Mountain and Lake St Clair. Prospector Henry Andrews claimed that from 1868 to 1891 he had explored the area between Mole Creek and the Pieman River (Tasmania, PWD undated a: 24 October 1891). In 1883 John McKenna prospected around the Murchison and Mackintosh rivers and Cradle Mountain (Tasmania, PWD undated a: 6 November 1890). In 1888 the Minister for Lands and Works directed McKenna to investigate the practicability of constructing a horse track between Liena and Mount Lyell via the Mersey Valley and the Eldon Range. In 1890 John Millar prospected up the Mersey Valley to the Kia Ora Valley area before turning north to Cradle Mountain (Tasmania, PWD undated a: 4 November 1890).

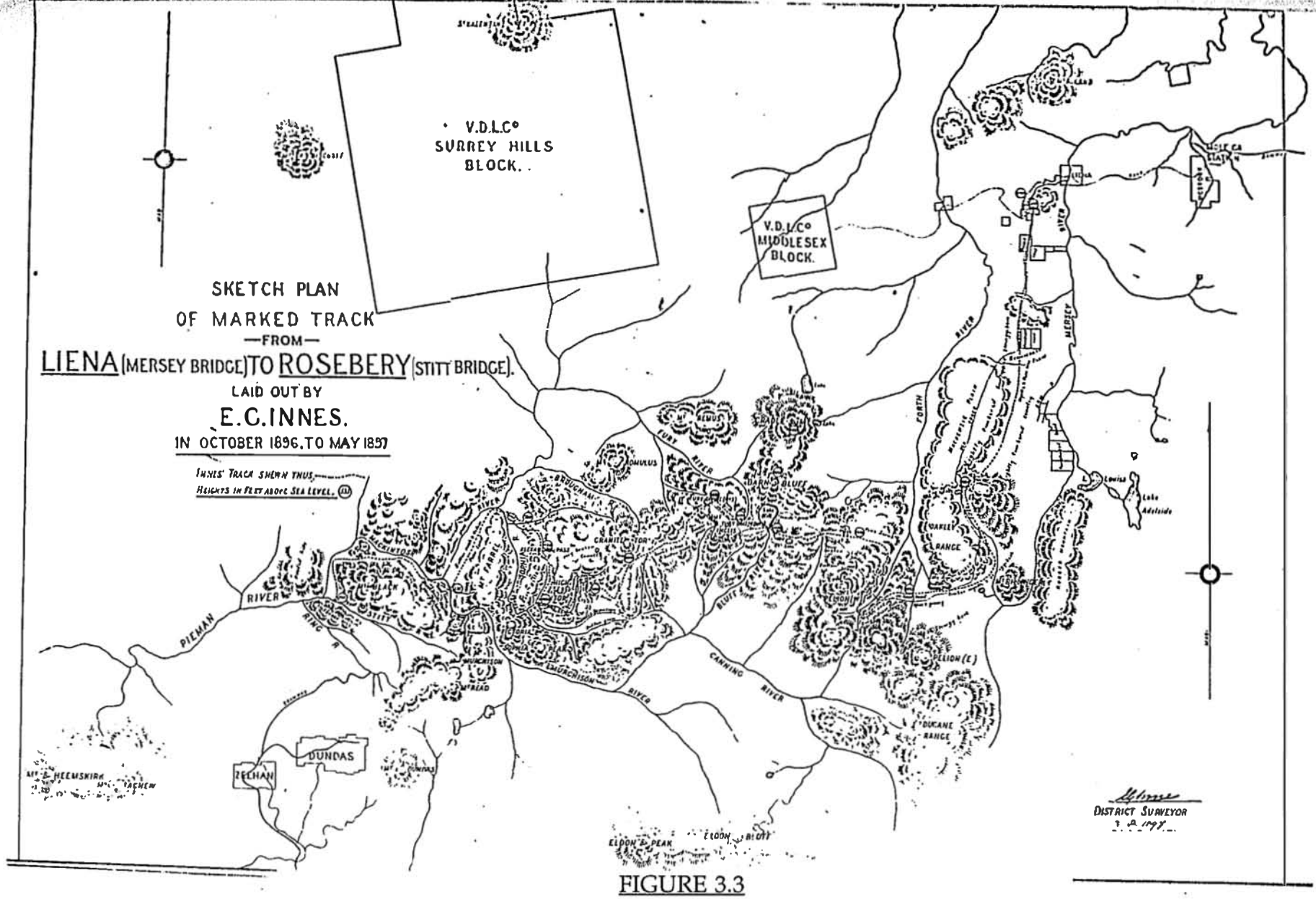


FIGURE 3.3

Map of the Innes Track, followed by the Overland Track between Lake Windermere and the Pelion Plains

James Stewart's 1891 track greatly improved access to the Pelion and Cradle Mountain areas, and his report encouraged prospectors to explore there. During the next few decades several mines were established between Barn Bluff and the Pelion Plains.

3.6.1 Coal

In 1892 members of the Mole Creek and Zeehan Mineral Prospecting and Exploration Company found several coal deposits in the Pelion mountains (Figure 3.4) (Bacon 1991, Bacon and Banks 1989). Several trenches and tunnels were dug on the eastern slope of Mount Pelion West and below the saddle between Mount Ossa and Paddy's Nut (Beattie 1900, Waller 1901). The seams were found to be narrow and of low quality.

In 1891 coal was discovered at Barn Bluff by F. Holmes and William Hart (Reid 1919). Montgomery (1893) credits the discovery to members of the Mole Creek and Zeehan Mineral Prospecting and Exploration Company, and it is possible that Holmes and Hart were these members. In 1891, reward claims of 320 acres were awarded to each to extract coal and oil shale (Figure 3.4). This they did from the ground moraine at the base of the mountain. Hills (1922) credits Joseph Will with the discovery in 1892-93. Although this is doubtful, Will did establish a camp and prospect the coal seams in 1893, extracting a small amount from the moraine.

In 1920 Percy Evans and others sought help from the Public Works Department in clearing the track from Forth Valley to their leases at Lake Will, via Commonwealth Creek (see below). In 1922 the Tasman Oil and Products Company continued to extract coal from the moraine (Hills 1922, Tasmania, PWD undated b: 11 January 1922). At that time, the Great Pelionite Petroleum Oil and Products Company held leases in the Barn Bluff area. Access was gained by a staked trail from Waldheim, which passed over the Cradle Plateau and Waterfall Valley, or via the Forth Valley and Commonwealth Creek mines, mentioned below (Figure 3.4). The leases had been abandoned by 1931 (Emmett 1952). Fireplaces, forges, decomposing hut materials and clothing, drill bits, mullock heaps and trenches are still visible around the Lake Will track.

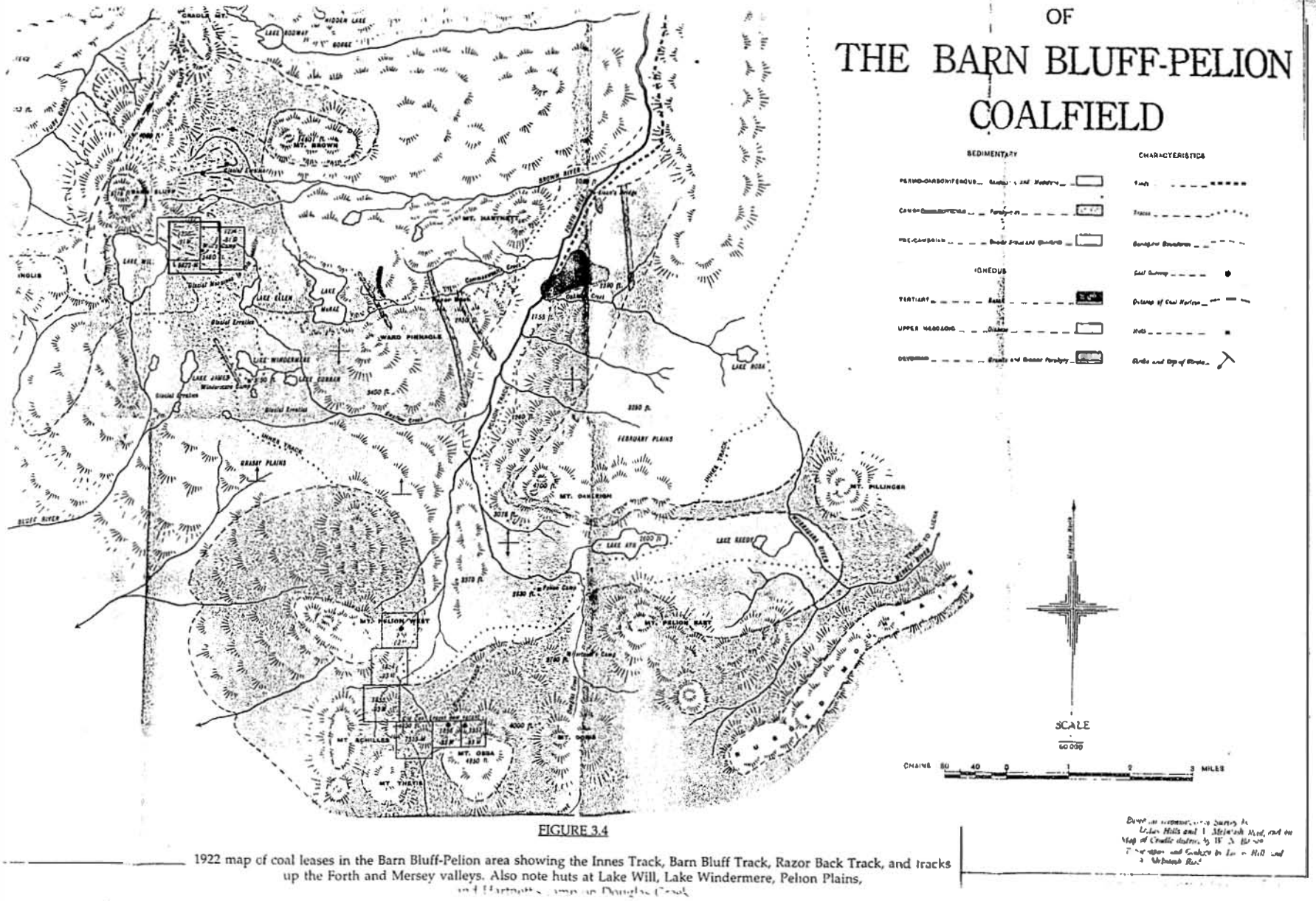


FIGURE 3.4

1922 map of coal leases in the Barn Bluff-Pelion area showing the Innes Track, Barn Bluff Track, Razor Back Track, and tracks up the Forth and Mersey valleys. Also note huts at Lake Will, Lake Windermere, Pelion Plains, and Hartnett's camp on Douglas Creek.

In 1921 the Adelaide Oil Exploration Company held oil exploration leases at Barn Bluff, the Pelion mountains, the Pelion Plains, and through the Du Cane Range to Lake St Clair (Hills 1922, Tasmania, PWD undated b: 10 October 1921). The company stated an intention to prospect for oil and oil-producing substances, which would be mined, liquified into oil at an on-site plant, then pumped to a refinery on the coast. In 1926 the company had set aside £25,000 for drilling around the Pelion region (Tasmania, PWD undated b: 17 February 1926). Government Geologist Hills condemned these operations and advised potential investors to keep clear.

3.6.2 Pelion copper

In January 1892 Henry Andrews and Richard How discovered a copper-bearing lode on the Pelion Plains (Noble and Travalia 1994). From 1893 onwards, several sections along Douglas Creek were intermittently worked by individuals and syndicates (Montgomery 1893). The Mount Pelion Consolidated Copper Mining Company worked several leases between 1897 and 1900, spending £1,200 to develop them with open cuts, trenches, and shafts, and to construct two accommodation huts for miners (Noble and Travalia 1994). In 1900 the company was forced to cease work due to its inability to transport the ore out (Cubit 1988, Waller 1901). Between 1916 and 1918 the Mount Pelion Company held and worked the most valuable leases (Figure 3.5). It dug a 200 foot tunnel into a lode and cut an access track up the Forth Valley (Reid 1919, Tasmania, PWD undated b: 30 May 1918). The company built two accommodation huts, a manager's hut and a blacksmith shop (Plates 3.1 and 3.2) (Tasmania, PWD undated b: 31 July 1917). The existing Old Pelion Hut is probably one of these huts (Noble and Travalia 1994). In 1921 the company presented Old Pelion Hut and another nearby hut to the Scenery Preservation Board for tourists to use.

3.6.3 Forth Valley wolfram

In 1916 Paddy Hartnett discovered several wolfram veins in the Forth Valley during construction of the track to the Mount Pelion Company's mine (Figure 3.5) (Reid 1919). In 1917 the Mount Pelion Company began driving a tunnel into the main wolfram lode, and worked the mine until 1923 (Tasmania, PWD undated b: 30 May 1918). The Wolfram mine was reopened by Central Tasmanian Tungsten Pty. Ltd. in the late 1970s and operated until 1981, closing because of disappointing results (Noble and Travalia 1994).

An agreement between the Old Company and Mr J. McKinley Wilson, on behalf of this Company, setting out the terms upon which this Company will take over the Old Company's interests has been prepared and executed and this and a statement showing the interests of the provisional Directors in the old Company may be inspected at the office of Mr Arthur Phillips, 60 Queen Street, Melbourne, the Company's Solicitor, at any time during the usual business hours.

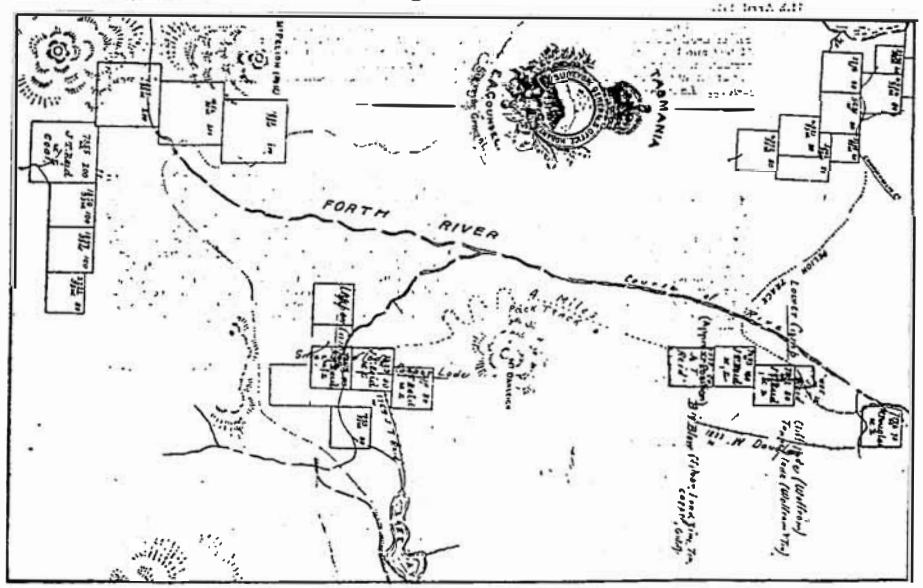
It is intended to provide by the Rules and Regulations of this Company that the Directors shall adopt and carry the said agreement into effect with full power nevertheless to agree to any modifications thereof from time to time.

The leases will be transferred subject to the rents reserved and the covenants and conditions contained therein.

The Company will be incorporated when 3500 of the shares offered for subscription have been applied for. If no allotment is made the money lodged with application will be returned and in case a lesser number of shares is allotted than is applied for the surplus money will be carried to allotment.

The Old Company will pay all preliminary expenses except law charges.

Plan Showing Location of Leases.



PROSPECTUS

OF THE

MOUNT PELION COMPANY NO LIABILITY

FORTH RIVER, TASMANIA.

To be incorporated under the No Liability Provisions of Part II. of the Companies Act 1915.

Capital - £12,000 divided into 12,000 Shares of £1 Each.

6,000 Shares are now offered for subscription, payable 2/6 on application, 2/6 on allotment, balance in calls as required.

4,500 Shares to the Vendor Company.

1,500 Shares in Reserve.

PROVISIONAL DIRECTORS.

E. S. HALLENSTEIN, Lonsdale Street, Melbourne.
C. FARNBACH, Irving Street, Footscray.
E. JOHNSTONE, Hyde Street, Footscray.
R. S. STAUGHTON, St. Kilda Road, Melbourne.

BANKERS.

BANK OF AUSTRALASIA, Collins Street, Melbourne, and Sheffield, Tasmania.

SOLICITOR.

ARTHUR PHILLIPS, 60 Queen Street, Melbourne.

MANAGER *pro tem.*

J. MCKINLEY WILSON, National Mutual Buildings, corner of Collins and Queen Streets, Melbourne.

FIGURE 3.5

Mount Pelion Company prospectus showing mining leases in the Forth Valley (wolfram), Pelion Plains (copper), and Mount Ossa (coal)

Source: Archives Office of Tasmania (PWD undated b)

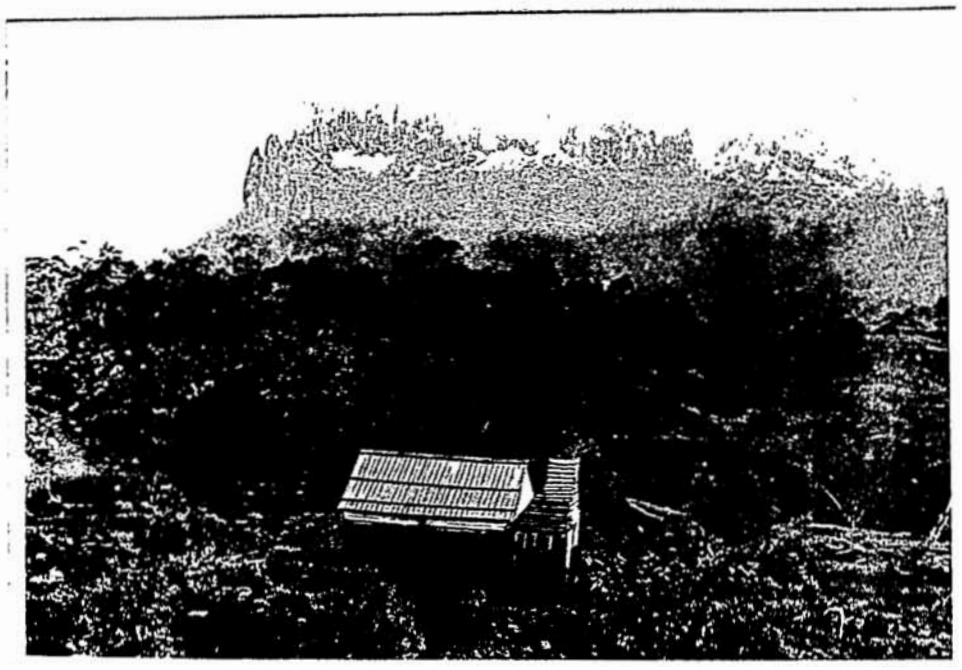


PLATE 3.1

[Old] Pelion Huts - looking north to Mount Oakleigh, Easter 1920
NS 573/4/12/163, Smithies Collection, Archives Office of Tasmania

PLATE 3.2

[Old] Pelion Hut, Du Cane Range Trip via the February Plains, Xmas 1929-30
NS 573/4/10/60, Smithies Collection, Archives Office of Tasmania

3.6.4 Windermere - Commonwealth Creek copper

In 1891 C.P. Smith and J. Swallow discovered copper-bearing lodes in the Commonwealth Creek valley (Figure 3.6) (Noetling 1907). They prospected and pegged out two claims of 80 acres each. Reid (1919) credits Henry Andrews, and J. Swallow with the discovery of the lodes, claiming that C.P. Smith and Thomas Cook rediscovered them in 1899. Smith and Cook each established companies and spent £350 to develop their leases with surface trenching and open cuts. Access was provided by the Innes Track from Liena. In late 1900 the leases were sold to the Barn Bluff Options Development Mining Company. The company constructed a pack track to the mine from the Forth Valley, steeply climbing up the Razorback Hill. Over £10,000 was spent on developmental works, constructing accommodation huts and erecting a air-compressor, driven by a Pelton wheel powered by water from Commonwealth Creek (Noetling 1907, Reid 1919). A 448 foot main tunnel and two smaller tunnels were driven, and a massive ore body was exposed by 18 open-cuts. Although the ore body was enormous, the copper was of very low grade. The company failed, work stopped in 1901, and the prospect was abandoned in 1903. In 1907 the Derwent Prospecting Association investigated the lodes, collecting promising samples, but failing to obtain development funds. In 1911 the mines were again being prospected by C.P. Smith and the track up the Razorback was cleared. A German company was interested in working the mine, but the outbreak of war in 1914 ended that venture (Church 1959).

In 1893 Joseph Will discovered several copper-bearing lodes to the west of Lake Windermere (Figure 3.6) (Reid 1919, Waller 1901). In 1898 the Windermere Copper Mines Company cut trenches to the south-west, west, and north-west of Lake Windermere. In 1907 C.P. Smith held a claim, including the southern and south-western shores of the lake, with several lodes, while the Derwent Prospecting Association held two leases west of this (Noetling 1907). In 1900-01 Lord, Swallow, and Trick formed the Cradle Mountain Copper Mines Company (Noetling 1907). They cut trenches to east of Lake Windermere, at the junction of Curran and Swallow creeks (Waller 1901). In 1907 the Derwent Prospecting Association prospected the lodes with trenches and shallow cuts (Noetling 1907). Although small, the lodes contained veins of very high-grade copper ore, also high in silver. Hawson's vein, shown in Plate 3.3, was trenched to a depth of 18 feet, returning 20 per cent copper. These leases were abandoned after 1907 (Reid 1919). The Derwent Prospecting Association found encouraging samples and printed a pamphlet seeking investment, but failed to gain adequate funding to develop its leases. The first Windermere Hut was probably built to accommodate prospectors during these searches (Allnut 1987).

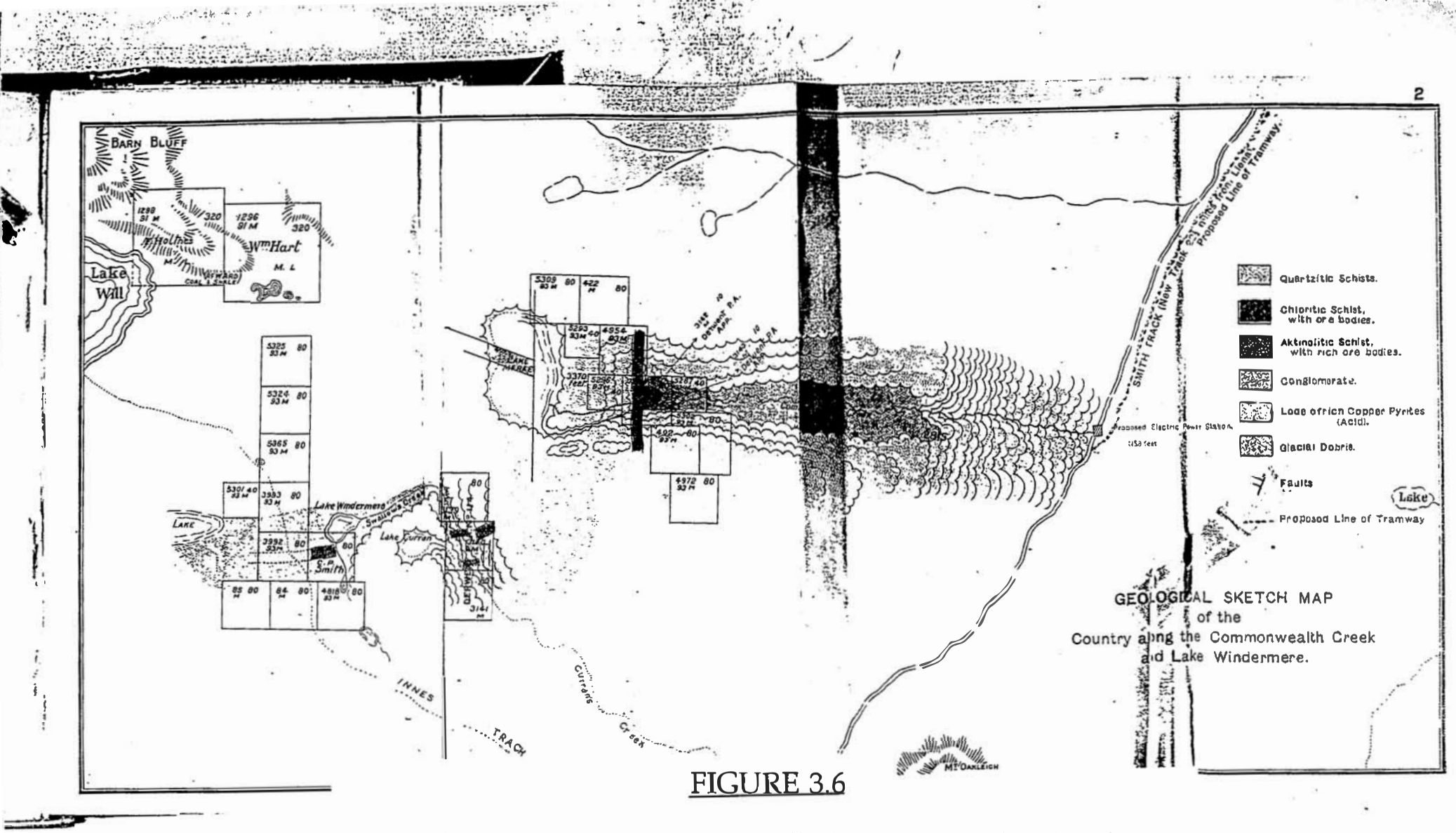


FIGURE 3.6

Map of mining leases at Lake Will, Commonwealth Creek, and Lake Windermere

Source: Noetling 1907

PLATE 3.3

Hawson's vein, Cradle Mountain Copper Mine,
Curran's Creek (near Lake Windermere) 1907
NS 181/6/6-7, Archives Office of Tasmania

3.6.5 Mount Inglis tin

In 1910 William Aylett, guide on both Stewart's and Innes' surveys, applied for reward tin claims at Mount Inglis (Tasmania, PWD undated b: 23 May 1910). At the time over 20 sections in the area had been taken up by several prospectors. Several companies worked the leases until 1928, one using hydraulic sluicing. The Innes Track from Tullah was partially cleared to provide access. By 1923 the mines were accessed by a track passing through Weindorfer's Cradle Valley land (see below), following a staked route over the Cradle Plateau (Tasmania, PWD undated b: 1 February 1923).

3.7 Hunting and snaring

Ronald Smith (1937: 54) described the period between the early surveyors' visits and 1920 as:

> ... the Dark Age, because scarcely anyone except hunters and prospectors visited the country, and these men are well known to be the most silent of people about where they go and what they do. But evidence of their past existence is not uncommon in the most unlikely places. The remains of huts, drying fireplaces, axe marks on trees, stumps of trees cut for firewood or building, scattered meat and jam jars, a log hollowed out for tanning skins, and other signs can be found in the sheltered places near creeks. Probably some of these camps may have been so well hidden that many years may pass, and all traces may disappear, before someone by chance may happen to visit the place.

The hunters spent their winters in the mountains snaring native marsupials for their skins. Possums, wallabies and pademelons were the animals most commonly caught, but Tasmanian devils, quolls, wombats, platypus and even Tasmanian tigers (in the early days) were also caught. Most snarers came from the small farms or towns bordering the highlands. Each snarer or group of snarers controlled an exclusive territory, chosen on a first come, first served basis (Cubit 1987, Cubit 1995, Jetson 1989). They built rough huts where they slept and cooked, often also drying and storing their skins in the same hut. Snarers prepared for the coming winter by burning their area in late-November or early-December to encourage fresh growth to attract game, in a manner similar to that previously used by Aboriginal hunters.

Local accounts suggest that snaring was established in the area by the 1860s (Bannear 1991). Trappers began to visit Cradle Valley and the Pelion Plains in the early 1870s (Binks 1981). By the turn of the century furs were in demand for the world fashion market (Cubit 1995). This demand remained

strong until the end of the 1940s. Before the First World War and during the Great Depression snarers operated wherever there was game, and snaring developed into a professional industry. In a good winter season an experienced hunter could make the equivalent to a couple of year's normal wages (Cubit 1987). During the early 1950s, lower prices and an aging population of snarers led to many retirements and a sharp decline in their number (Cubit 1987).

Former snarer's runs that are now inside the Park include those of Paddy Hartnett, Bert Nichols, the Lee family, the Connell family and Tommy McCoy. After the area was reserved most of these snarers adapted, becoming bushwalking tour guides, track workers or rangers (see below).

Paddy Hartnett (Plate 3.4) snared around the Pelion and Du Cane areas between the late 1900s and 1925, building several snaring huts. Du Cane Hut was built around 1908 for accommodation while snaring and prospecting. Cubit (personal communication) and Travalia (1994) argue that the hut was built as a cottage with permanent occupation in mind. This is supported by Hartnett bringing his family to live at Du Cane Hut for three winter seasons, and by his 1910 selection of the surrounding 82 acres. This purchase was forfeited in 1923 after Hartnett had failed to pay for it. Hartnett prospected for coal and copper between Barn Bluff and Lake St Clair. In 1916 he found the wolfram lodes in the Forth Valley. In 1925 Hartnett left the area to work in mines elsewhere.

Tommy McCoy snared around the Pelion and February plains and the Du Cane Range between the 1915 and the 1930s (Bannear 1991, Cubit and Murray 1988). In 1915 he selected a small block of land east of Lake Ayr, sowing grass and erecting a hut which he used as a mountain base for several decades (Tasmania, PWD undated b: 5 May 1915). He had other huts at Wurragarra Creek, the Never Never, and Pine Forest Moor. In the 1950s McCoy worked for the Cradle Mountain Reserve Board, clearing the Overland Track and building and repairing huts.

Bert Nichols (Plate 3.5) snared throughout the area, from north of Cradle Valley, east to the Mayfield Flats in the upper Mersey Valley, and south to the Cuvier Valley (Basil Steers, Central Plateau Oral History Project 1991). He often trapped out of season, boating his skins out across Lake St Clair where they would be picked up by a truck. In the early 1920s Nichols built several snaring huts around Lake St Clair. Lord (1923) found lines of snares

PLATE 3.4

Paddy Hartnett with Mr and Mrs F. Smithies,
[Old Pelion Hut], Pelion Trip, Easter 1920
NS573/4/12/168, Smithies Collection,
Archives Office of Tasmania

PLATE 3.5

Bert Nichols - part Aboriginal trapper
in the Lake St Clair area, August 1926
NS 573/4/9/113, Smithies Collection,
Archives Office of Tasmania

and the remains of carcasses in the Cuvier Valley. In early 1927 the National Park Board became aware that there were still snarers huts around Lake St Clair (Tasmania, National Park Board undated a: 5 April 1927). The scenic reserve was given parallel protection as a wildlife sanctuary, and hunting declared illegal. A special police patrol was organised to catch any snarers operating around Lake St Clair. Snaring huts were found at Watersmeet, Hugel Creek, Cuvier Valley (two), Lake Petrarch, Narcissus River and Mount Ida. Nichols was found drying fresh skins in a hut in the Cuvier Valley.

The Cradle Mountain Reserve Board found that snarers were operating around the Du Cane and Pelion areas in 1931 and 1937, and around Pencil Pine Creek in 1937 and 1942 (Tasmania, Cradle Mountain Reserve Board undated a: 8 May 1931, 6 July 1937, 12 July 1942). In 1946 ranger Fergusson reported that snarers had been deliberately lighting fires and setting snares at the Pelion Plains. Snaring within the Park ceased only when the market for skins declined in the 1950s.

3.8 Timber cutting

In 1863 James Smith discovered extensive stands of King Billy pine in Cradle Valley, along Pencil Pine Creek and the Dove River (Smith 1937). He cut pines along the Dove River, leaving them for floods to wash downstream. In 1868 sawmillers Crosby and Raymond cut 200 logs and rolled them into the Dove River (Binks 1981). In the 1870s 25,000 super feet of King Billy pine were cut along the Dove River and in Cradle Valley (Dutton 1979). Logging operations continued in the Cradle Valley area in the 1910s (Smith undated, Dutton 1979). Most of the timber was cut from the Dove River and Pencil Pine Creek areas. The rough access track meant that only whole logs could be removed from the valley.

James Smith's son Ronald cut King Billy Pine on private land in Cradle Valley between 1943 and the 1970s. This was used to build minesweepers for the Australian navy during the Second World War, and for house construction later (Plowman 1992). During 1947 there was considerable public protest over Smith's pine cutting (Tasmania, Scenery Preservation Board undated a: 1 April 1947). Smith finally resigned from the Cradle Mountain Reserve Board, but logging continued. Between 1964 and 1969, over one million super feet of pine were felled in the area (Tasmania, Parks and Wildlife Service 1993). In 1971 Smith's land on which the mill stood was resumed by the Crown for inclusion in the Park, and in 1972 logging ceased and the mill was removed.

3.9 Summer grazing

For many years the rich alpine grasslands found in the area were used for summer grazing. Sheep and cattle were driven up from the lowlands at the start of summer and brought down again in autumn (Cubit 1987, Cubit and Murray 1988). The graziers managed the grasslands to meet their needs, burning them in spring to promote new growth. Exotic grasses were introduced to some areas to improve pastures.

Local accounts suggest that stock grazing was established by the 1860s (Bannear 1991). Reid (1919) claimed that stock owners brought cattle, sheep and horses to the Pelion area soon after the first explorers had reported on the favourable conditions. In the late 1860s cattle were driven up the Mersey River, and south over the Borradaile and February plains, probably to the Pelion Plains (Binks 1981). Stewart (1891) found wild cattle at Lee's Paddocks in 1890. At that time tracks already existed between the Paddocks and Liena, and between the Paddocks and Pelion Plains. The Lee family gradually bought Lee's Paddocks in the Mersey Valley between 1892 and 1934, using the grasslands for summer cattle grazing and winter snaring (Cubit 1987). The Paddocks are still owned privately by the Lee's descendants, surrounded by the Park. Around the turn of the century, herds were moved from the Clarence River into the valleys round Mounts Hugel and Rufus (Binks 1981). Lord (1923) found mobs of large horned cattle wandering the Cuvier Valley in 1923. Between 1937 and 1939 Bert Fergusson grazed cattle at Cynthia Bay which frequently strayed into the reserve, including the Cuvier Valley (Tasmania, National Park Board undated a: 3 June 1937, 9 May 1939).

In 1909 George Sloane leased for summer grazing 4000 acres around Lake Ayr - Pelion Plains, known as the Arm Run (Tasmania, PWD undated b: 7 November 1911, 17 February 1926). He shared the lease with Charles Day from 1914. The Day and Cox families held this lease until 1936. Cattle was driven up the Forth Valley to the plains. In 1932 316 sheep and 76 cattle were driven to the plain (Cubit 1988). Old Pelion Hut was used as a base by the graziers when bringing stock in or out, and graffiti left by graziers in the early 1930s is still evident. Stockyards and boundary fencing were built in the area (Bannear 1991). Wild cattle roamed the Pelion Plains area from the 1890s until 1948 (Cubit and Murray 1988). They were quite aggressive, and would sometimes attack trappers or bushwalkers. Emmett (1952) described his 1931 party's crossing of the Pelion Plains as a 'dangerous adventure', due to the wild cattle which 'stared menacingly'.

Between 1910 and the 1930s cattle and sheep were run in Cradle Valley and at Lake Windermere, reached via the Innes Track (Binks 1981). Weindorfer and Smith charged stock-owners, including Lionel Connell and Charlie Day who grazed 400 sheep and 100 cattle in 1920, to use their land in Cradle Valley. In 1920 Smith saw cattle on the plains around Lake Windermere belonging to Day and Wilson (Smith undated).

3.10 Tourism and park management

3.10.1 Early tourists

Walch's 1871 Tasmanian Guidebook described Lake St Clair as the 'grandest and wildest of all lakes', mentioning the superb alpine scenery and the boat on the lake for tourist use. The journey from Hobart took over three days and a guide was needed for the final few miles (Bonhardy 1993). For many years only adventurers such as photographers Morton Allport, in 1863, John Watt Beattie, in 1879, and James Backhouse Walker, in 1892, visited the lake. Walker found the old boat in fairly good condition, rowing to the top end of the lake, before climbing Mount Olympus. By 1894 the government had spent £300 erecting two accommodation houses and a boat shed at Cynthia Bay, a horse paddock had been enclosed, the boat repaired and the track from the road at Derwent Bridge improved (Binks 1981, Morris 1975).

In 1915 Dr and Mrs McClinton were the first to drive by motor car to Lake St Clair. There they attached a motor to the boat and travelled up the lake to the Narcissus River.

> This was the first time the perfume of petrol had mingled with the sweet scent of the woods; nor had a propeller before churned the placid waters of the lake. So with motor car and motor boat there has been introduced in the year 1915 the most modern means of transport by road and water to the most beautiful locality of Tasmania (*Courier* 21 January 1915: page unknown).

In 1891 Cradle Mountain was climbed by W.D. Weston, E.M. Law and Richard Smith of Launceston, who walked in from Mole Creek (*Examiner* 11 March 1891: page unknown, Smith 1937: 54). In 1898 C. Packet climbed the mountain. During 1900 Beattie (1900) followed the Innes Track over the Borradaile and February Plains to the Pelion Plains. He then visited the mines at Old Pelion, Lake Windermere and Commonwealth Creek. In 1905 photographer Steven Spurling, G. Dodery, R. Roberts, K. Roberts and G. Lithgow climbed Cradle Mountain, followed in 1907 by Ronald Smith and

Charles Riggs of Forth, and again in 1908 by Ronald Smith, Edgar Adams and Robin Adams (Smith 1937, Bergman 1959). In 1909 botanists Gustav Weindorfer and Dr Charlie Sutton visited Cradle Mountain (Tasmania, Department of Lands, Parks and Wildlife 1988b).

3.10.2 Gustav and Kate Weindorfer

In 1910 Gustav and Kate Weindorfer and Ronald Smith visited Cradle Mountain (Bergman 1959). There they discussed the possibility of opening up the area to tourism, making it a national park, and commercially exploiting Cradle Valley's forests and grasslands. Standing on the summit of Cradle Mountain, Weindorfer said: 'This must be a national park for the people for all time. It is magnificent, and people must know about it and enjoy it' (Smith 1937: 32). Weindorfer claimed that they 'must build a chalet and get a road and then people will come from everywhere to see this place. ... We will build a house ourselves and then when people start coming the government will make a road and the house can be made bigger' (Bergman 1959: 27).

The Weindorfers and Smith each selected properties at Cradle Valley containing forests of King Billy Pine and areas of grassland. In 1912 the Weindorfers built Waldheim chalet, which started accommodating tourists in 1913 (Giordiano 1987). Kate Weindorfer died in 1916, leaving Waldheim and its land to Gustav. It soon became fashionable for 'polite society' to spend a holiday at Waldheim (Plate 3.6). Guests included the Governor of Tasmania, and Members of Parliament, including the Treasurer and the Attorney-General. Prices were high, eight shillings per day for board and lodging, but as most guests at Waldheim were well-off they could afford them (Bergman 1959). From 1922 Evelyn Temple Emmett, Director of the Tourist Bureau, organised tours to Waldheim from Hobart and Launceston. Weindorfer cut and blazed tracks to Cradle Plateau, Hounslow Heath and Dove Lake. He charged guiding fees of ten shillings per day to take people up Cradle Mountain or Barn Bluff (Plate 3.7).

Weindorfer also engaged in grazing, hunting, gardening and limited timber cutting (Tasmania, Department of Parks, Wildlife and Heritage 1991). He spent his early winters at Waldheim snaring in Cradle Valley and Hounslow Heath with the Connells. He hunted during the tourist season whenever time permitted. Weindorfer's plans to directly export skins to Austria and Germany were spoilt by the First World War (Bergman 1959).

PLATE 3.6

Gustav Weindorfer (blurred) and group inside Waldheim, February 1922
NS 573/4/10/3, Smithies Collection, Archives Office of Tasmania

PLATE 3.7

Gustav Weindorfer leading party up 'goat track' above Dove Lake, March 1930
NS 573/4/10/7, Smithies Collection, Archives Office of Tasmania

Weindorfer and Smith also attempted to exploit their forests (Smith undated, Bergman 1959), and in 1920 they entered a joint-contract with Burnie timber-merchants Hodgman, Rockliffe and Causby to sell all the King Billy pine and other marketable timbers on their land, except for four acres around Waldheim. No work was ever done as timber prices slumped and the contract was cancelled in 1921.

3.10.3 Reservation of the area

In 1885 the Executive Council of the colonial government passed a minute instructing that all Crown Land within 800 metres of Lake St Clair, Lake Petrarch, Travellers Rest Lake and the lakes of the western Central Plateau be withdrawn from selection and reserved under the *Waste Lands Act 1863* (Government of Tasmania 1863). The Act provided for the reservation of land for any purpose of public safety, convenience, health or enjoyment (Mosley 1963), protecting otherwise worthless land for tourism.

According to Mosley (1963), in 1916 Freycinet and Mount Field became the first national parks in Tasmania, gazetted under the *Scenery Preservation Act 1915* (Government of Tasmania 1915). During 1916 Emmett, Director of the Tourist Bureau, visited Cradle Valley for the first time, staying at Waldheim and climbing Cradle Mountain. As a member of the Scenery Preservation Board, he was able to recommend that the areas around Cradle Mountain and within 800 metres of Lake St Clair be proclaimed reserves under the *Scenery Preservation Act 1915*. In response to this, 35,000 acres around Cradle Mountain were withdrawn from selection and given the status of a 'proposed scenery reserve' (*Examiner* 12 July 1921: page unknown).

The actual establishment of the Cradle Mountain and Lake St Clair reserve depended on the cooperation of two pressure groups in successfully lobbying the government. These groups were motivated respectively by the desire to protect the area for tourism, and to prevent the wholesale slaughter of native fauna by snarers whilst protecting the unique vegetation from logging and fires lit by snarers and prospectors (Mosley 1963). During 1920 and 1921 Gustav Weindorfer, Fred Smithies and E.T. Emmett each vigorously campaigned for a Cradle Mountain national park, excluding the Pelion and Lake St Clair areas. Each conducted lecture tours with slide shows and sought media coverage. They won considerable local support, describing their proposal as a 'National Park for Northern Tasmania'. Clive

Lord, Curator of Natural History of the Tasmanian Museum, Secretary of both the Royal Society of Tasmania and the National Park Board, and one of the founders of the Field Naturalists' Club, was also recruited (Giordiano 1987). Special meetings to support the proposal were held by the Tasmanian Field Naturalist Club and the Royal Society.

Weindorfer, Emmett and Lord discussed what strategy to lobby for a national park (Giordiano 1987). Emmett and Weindorfer had previously only considered protection of the Cradle Mountain area, but Lord advised that they try for a larger park extending down to Lake St Clair. They agreed on this, but understated the size of the area protected, claiming it would only be 32 kilometres long and 8 to 11 kilometres wide. They also decided to push for a lesser degree of protection than national park status, which made areas absolute sanctuaries.

Instead, they proposed that the area should become a 'scenic reserve' in which some game could be taken, timber marketed, and minerals mined, from all of which revenue could be derived for upkeep and supervision (*Mercury* 26 July 1921: page unknown, Lord 1923). Lord suggested that red deer and chamois might be introduced for tourists and hunters, that streams could be stocked with fish, and the area planted with conifers for forestry purposes (*Mercury* 30 July 1921: page unknown). This utilitarian stance may have been taken in order to counter expected opposition to reserving such a large area. The proponents emphasised that they were against the 'locking up' of any area that might be of commercial value for mining, timber or grazing purposes (*Examiner* 12 July 1921: page unknown). Because of this, they found it necessary to exaggerate the 'uselessness' of the area for these purposes. They also emphasised the revenue the area would produce as a tourist resort.

Weindorfer, Emmett and Lord met Minister for Lands Hean, who was sympathetic to their proposal and took it to cabinet (Giordiano 1987). The Chairman of the Scenery Preservation Board, E.A. Counsel, also the Surveyor-General, lent his support conditional on mining, grazing, and timber interests being protected (*Examiner* 30 March 1922: page unknown). The *Scenery Preservation Act 1915* was accordingly amended in late 1921 to allow the reserve to be exempted from the provisions of the Act. Then, in early 1922, 63,943 hectares between Cradle Mountain and Lake St Clair were gazetted as the Cradle Mountain-Lake St Clair Reserve under the amended *Scenery Preservation Act 1915*. Mosley (1963) argues that the reason for the

comparative ease with which such a large area was reserved was related to the close link between the Scenery Preservation Board and the Tourist Bureau through Emmett, the existence of large areas of Crown Land with no immediate foreseeable commercial value, and the fact that the reservation was not potentially permanent.

The new reserve was initially administered by the Scenery Preservation Board. It consisted of a narrow rectangle bounded by Dove Lake and Cradle Mountain at its northern end; Lake St Clair at its southern end; Lake Will, Mount Ossa and Mount Olympus along its western side; and Lake Ayr and Mount Ida along its eastern side. In 1923 the National Park Board, which already administered the National Park at Mount Field, was given charge of the southern half of the reserve (Tasmania, National Park Board undated a: 24 July 1923). In 1927 administration of the northern half was given to the specially formed Cradle Mountain Reserve Board, led by Ronald Smith and Fred Smithies. Also in 1927, the same 63,943 hectare area was proclaimed a wildlife sanctuary under the *Animals and Birds Protection Act 1919* (Government of Tasmania 1919) (Tasmania, Department of Parks, Wildlife and Heritage 1991). Until 1971 the reserve had parallel protection under the two Acts, one protecting its scenic and tourist values, the other protecting its fauna and flora.

In 1934 the boundaries of the sanctuary controlled by the Animals and Birds Protection Board were greatly extended to conform with natural features, and marked on the ground so that snarers and rangers could easily determine whether or not they were inside the sanctuary (Tasmania, Cradle Mountain Reserve Board undated a: 6 March 1934). The Scenery Preservation Board tried to extend the boundaries of the scenic reserve at the same time, but met opposition from forestry and mining interests, creating a disparity between the area protected as a scenic reserve and that protected as a wildlife sanctuary. In 1936 the enlarged wildlife sanctuary boundaries were finally adopted for the scenic reserve as well. A row in 1947 over logging by Ronald Smith, Honorary Secretary of the Cradle Mountain Reserve Board, on his private land at Cradle Valley led to several major changes. The Scenery Preservation Board dissolved the subsidiary Cradle Mountain Reserve Board and the National Park Board lost its control of the southern portion of the reserve. The scenic reserve was upgraded to national park status and its administration transferred to the specially formed Cradle Mountain-Lake St Clair National Park Board. This body managed the Park until 1971 when administration of all reserves, national parks and wildlife sanctuaries was amalgamated under the National Parks and Wildlife Service.

3.10.4 The growth in popularity of bushwalking

Recreational walking was slow to develop in Tasmania. Even after the First World War, walkers and nature-lovers still represented a small minority of the general population. 'Walking is not very popular, especially when a concomitant is the humping of a swag weighing from 25 to 45 pounds; but there are a hardy few who find pleasure in this sort of a holiday' (*Weekly Courier* 7 January 1931: page unknown). Horse riding was the main form of transport in the late 1920s. After walking to Cradle Valley in 1927 the Danish Consul General Vogg Lunn claimed:

> The few people whom we encountered greeted us with head shaking, because walking as a recreation is unusual in Australia. Here, one rides on horseback, and if one has no horse, one stays at home. The sense for nature is in the average Englishman or Australian not so much developed as one generally believes (Bergman 1959: 23).

Before the Second World War many walkers hired guides. The route between Cradle Mountain and Lake St Clair was largely unmarked, and guides were thought necessary for most walkers:

> Without a guide it would have been as difficult to find the way as in Robinson's day. Though the century has seen tracks cut here and there, they had all been erased by the undergrowth. Now and again guide Nichols informed us that he had struck the track, but it is a stretch of courtesy to allow it such a designation (Emmett 1952: 65);

> ... how Bert found his way was a mystery. Pushing, stumbling, crawling, slithering and sliding our way along, through tangled and soaking undergrowth, hemmed in on all sides by dense forest ... over logs and fallen trees, wading through fern-fringed streams, and under the spray of splashing waterfalls (Brearley 1933: 9).

Many guides were local bushmen who knew the area well from snaring or prospecting trips. The bushmen who usually guided tourists in the area between Cradle Mountain and Lake St Clair were Dan Davies (prior to ~1910), Paddy Hartnett (~1907 to 1925), Bert Nichols (~1925 and 1935), and the Connell family (between 1936 and 1947). Many parties entered the Pelion area by ascending the Forth or Mersey valleys.

According to Paddy Hartnett's obituary (*Advocate* 18 October 1944: page unknown) he was the first man to guide tourists from Cradle Mountain to Lake St Clair. However, Hartnett rarely if ever guided groups along the length of the modern Overland Track. Instead, his tours explored the Pelion-Du Cane area, well-known to Hartnett through prospecting and trapping trips, entering or exiting from the Forth or Mersey valleys. He guided many early wilderness photographers such as Steven Spurling, government groups such as geologist Mackintosh Read, and tourist groups. In 1907 Hartnett and Dan Davies took George and Florence Perrin on their honeymoon trip to the Pelion Plains and Du Cane Range (Cubit and Murray 1988, Branagan 1981, Branagan, personal communication). Hartnett Falls were named by Spurling in 1913 after Hartnett led his party to the falls, en route from Lee's Paddocks to Lake St Clair (Plate 3.8). In 1914 Hartnett guided the Perrins through the Du Cane Range to Lake St Clair, climbing Mount Gould and Falling Mountain (Luckman 1951). In 1920 he led the Perrins and Charlie McFarlane to Barn Bluff, Commonwealth Creek, Lake Windermere, Mount Pelion West, Mount Thetis, Perrins Bluff and Mount Ossa (Plate 3.14) (Perrin 1920). In 1921 Hartnett led Fred Smithies' and Dr McClinton's party to the Pelion Plains, climbing several peaks including Mounts Ossa and Oakleigh (Plates 3.9, 3.10, 3.11, 3.12, and 3.13). In 1929 he offered his services to the Tourist Bureau to guide walking parties between Cradle Mountain and Lake St Clair, but was turned down (Tasmania, National Park Board undated b: 22 January 1929). Hartnett was an alcoholic and spent a large portion of his earnings on rum. He eventually spent time in the Hobart lunatic asylum (Hartnett undated).

Bert Nichols guided many trips along the Overland Track from the late 1920s until 1935. In 1929 he guided a party from the Melbourne Walking Club (Smithies 1929). After marking the route of the Track in 1930, Bert wrote to E.T. Emmett and offered his guiding services (Emmett 1952). Emmett had recently co-founded the Hobart Walking Club and organised a party which Nichols guided along the Track in January 1931. The three women in this group were the first to walk through the reserve from end to end (Luckman 1951). The party stayed in the old mining and trapping huts along the Track, which were found to be in poor condition (Figure 3.7). Windermere Hut had been used as a stable by graziers and had to be cleared of horse manure before it could be used, whilst '... rain came through what was once the roof and extinguished the fire we had lit in what was once the fireplace' (Emmett 1952).

PLATE 3.8

Near Lake St Clair, [party guided by Paddy Hartnett], 1914 or earlier,
George Perrin [left], Steve Spurling [middle], (right hand person not known)
QVM:1992:P:2154, Branagan Papers, Queen Victoria Museum and Art Gallery

PLATE 3.9

Paddy Hartnett making bread, Xmas 1921
NS 573/4/4/36, Smithies Collection, Archives Office of Tasmania

PLATE 3.10

Climbing Mount Ossa, Xmas 1921 [Paddy Hartnett on left]
NS 573/4/4/46, Smithies Collection, Archives Office of Tasmania

PLATE 3.11

On top of Pelion West [Mount Ossa], Xmas 1921 - Dr McClinton, Frank Heyward, [Ida Smithies, person unknown], Paddy Hartnett, Doug Smith
NS 573/4/4/31, Smithies Collection, Archives Office of Tasmania

PLATE 3.12

Paddy Hartnett on top of Mount Ossa, Xmas 1921
NS 573/4/4/34, Smithies Collection, Archives Office of Tasmania

PLATE 3.13

Tea break on top of Mount Oakleigh, Xmas 1921 [note gun]
NS 573/4/4/40, Smithies Collection, Archives Office of Tasmania

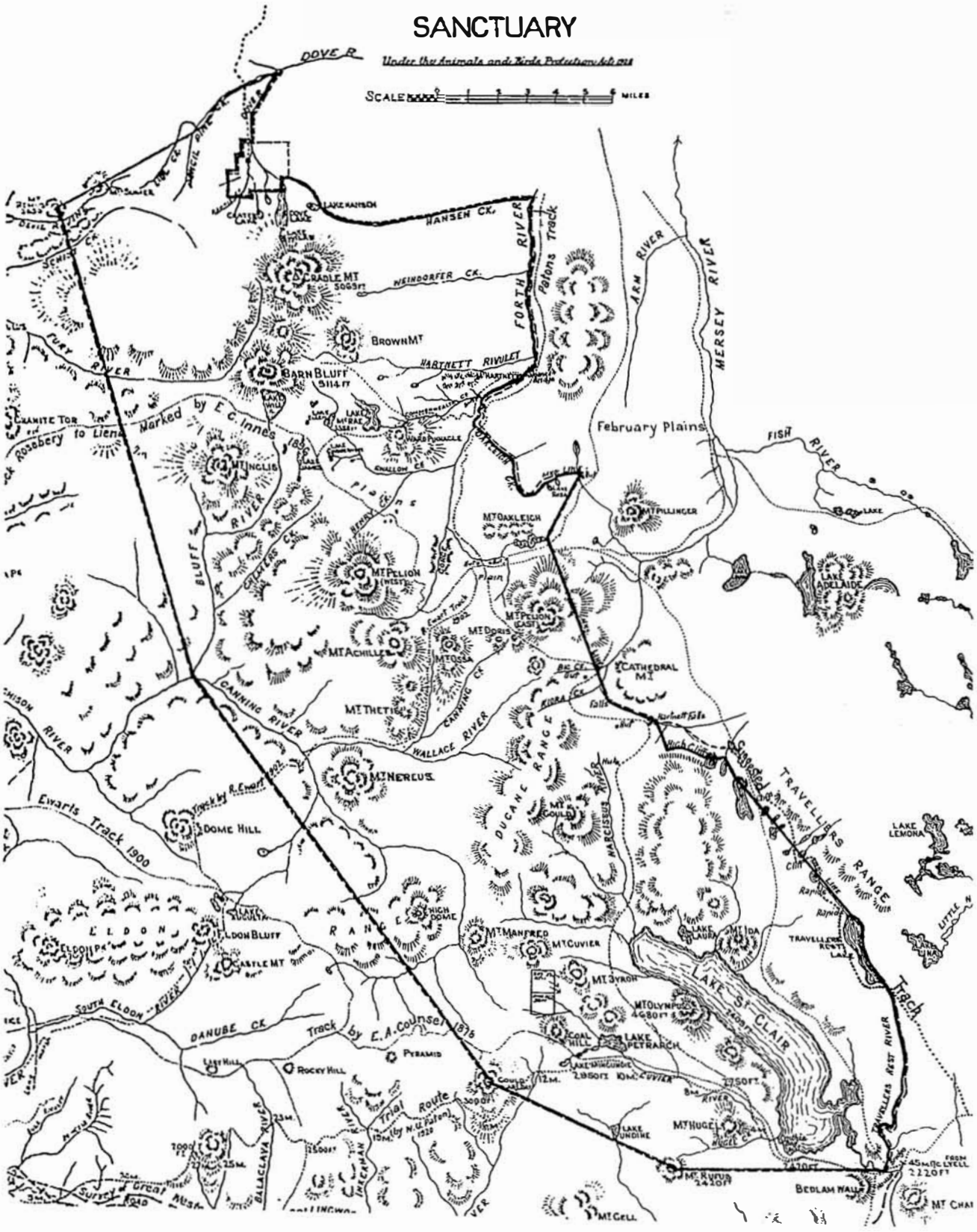


FIGURE 3.7

1936 map of the Cradle Mountain-Lake St Clair Fauna Sanctuary showing old tracks and huts

Source: Archives Office of Tasmania (National Park Board undated b)

This walk set the pattern for later guided trips (Plates 3.15, 3.16, 3.17, and 3.18). Nichols advertised his availability to guide parties along the Overland Track in the Hobart Walking Club's magazine *Tasmanian Tramp*. Emmett organised conducted walking tours along the Track for the Tourist Bureau until 1940, and would lead the walk, guided by Nichols. These Tourist Bureau walks helped to establish a regular traffic and reputation for the Overland Track (Mosley 1963). By 1937 Nichols' guiding services were no longer needed due to upgrading of the Track and huts, tasks largely executed by Nichols himself.

Several loosely organised walking groups existed in Tasmania prior to 1929, but these were short lived (Mosley 1963). Walch's 1906 Tasmanian Almanac noted the existence of the Northern Tasmanian Walking Club based in Launceston. The Tasmanian Field Naturalist Club was formed in 1904, holding regular walking excursions and an annual camp-out, mainly to coastal areas of southern and eastern Tasmania. In 1929 the Hobart Walking Club and the Northern Tasmanian Alpine Club, which was both a walking and a skiing club in its early years, were founded (Branagan 1984). These clubs popularised bushwalking and made it relatively easy for urban-dwellers to journey through wild areas. In the 1930s members of these clubs were active in exploring and climbing mountains in the Cradle Mountain-Lake St Clair Reserve. The Launceston Walking Club was formed in 1946, as by then the Northern Tasmanian Alpine Club had become chiefly a skiing club.

Walkers were motivated by enjoyment of the area's unique scenery, landforms and vegetation (Plates 3.19 and 3.20). They revelled in the challenge, adventure, wilderness experience and escape from city life that walking entailed:

> Oh our West Coast is a wild and rugged place, how I love it! We spent two hours on top then made our way down and home to camp after a perfect day, the memory of which will always live with me, the mountains just put their arms round me and hold me and when I am away long they pull and pull till I must go back (Perrin 1920: 3);
>
> It is quite beyond my powers adequately to describe the wonders that followed thick and fast in the course of the next five days. The lakes still awaiting names, the colossal mountain shapes, the sweetness of the wildflowers, the stupendous gorges, the forests of scarlet waratah and green pandanifolia, the tangle of myrtle and tree-fern, the shy creeks and bold rivers, the noisy waterfalls, and the pervading sense of being shut away from the whole universe. The world we knew seemed a dream. A wireless set would have been a sacrilege (Emmett 1952: 65).

PLATE 3.14

Pack-horses on track, Pelion Trip, Easter 1920
NS 573/4/12/172, Smithies Collection, Archives Office of Tasmania

PLATE 3.15

Windsor Castle [Du Cane Hut], Cradle to St Clair, Xmas 1933
[group led by Bert Nichols]
NS 573/4/9/56, Smithies Collection, Archives Office of Tasmania

PLATE 3.16

Nichol's Hut - north end of Lake St Clair
NS 573/4/12/145, Smithies Collection, Archives Office of Tasmania

PLATE 3.17

[Solicitor General W.D. Weston standing above Bert Nichols],
Cradle to St Clair Trip, Xmas 1933
NS 573/4/9/62, Smithies Collection, Archives Office of Tasmania

PLATE 3.18

Passing Pelion East heading south, Cradle to St Clair Trip, Xmas 1933
NS 573/4/9/65, Smithies Collection, Archives Office of Tasmania

PLATE 3.19

Doug Smith on highest point of Ossa, Xmas 1921
NS 573/4/4/29, Smithies Collection, Archives Office of Tasmania

PLATE 3.20

Mrs Ida Smithies and Mrs Florence Perrin with Mount Oakleigh in background, Xmas 1921 [note rifle and dog]
NS 573/4/4/41, Smithies Collection, Archives Office of Tasmania

3.10.5 Construction of a track between Cradle Mountain and Lake St Clair

In 1911 Surveyor Wilks pointed out to the Surveyor General the desirability of marking a track to link Cradle Valley with the Innes Track (near Lake Windermere): 'Apart from the benefit to the travelling public, this track would be of very great use for tourists to these magnificent highlands' (Wilks, in Tasmania, PWD undated b: 13 December 1911). He claimed that there was already a lot of traffic through this route, but that staking was needed. The project was deferred because of its cost.

During its early years little money was spent on the reserve and little was done to develop it for tourism. In early 1929 the National Park Board and Tourist Bureau had to refuse an offer by Hartnett to construct a track from Lake St Clair to Cradle Mountain as it had no funds for the work (Binks 1981). Hartnett was desperate for work to feed his eight children. The two bodies requested funding from the Minister of Lands and the Director of Public Works, but none was granted.

Despite periodic use by snarers and pioneer bushwalkers, the rough tracks between the Pelion Plains and Lake St Clair were still very hard to follow in 1929: 'the track, which we had found again, had become very bad, and was once more quite indistinguishable' (Smithies 1929). The marking of a route between Cradle Valley and Lake St Clair was largely prompted by the desire for walkers to be able to walk unguided with safety, as several unguided bushwalkers had become lost or delayed:

> In January last [1931], two Victorian university students went overland from Cradle Valley to Lake St Clair without a guide. ... they encountered great difficulties owing to the track not being marked in the most difficult places. With a guide the journey should be made in four days, it took them ten. With the track insufficiently marked there is a danger of persons getting lost ... the consequences could be very serious (Smith, in Tasmania, Cradle Mountain Reserve Board undated b: 11 March 1931).

In 1930 the two boards responsible for managing the reserve pressured the government for increased funding in order to appoint a ranger. Nichols was recommended by Emmett (Smith undated, Binks 1981). The appointment of a ranger was not to eventuate for several years, however. In 1931 the boards sought a small vote for an experienced bushman, who knew the area, to mark a tourist walking route between Cradle Valley and Lake St Clair. Volunteer working parties would then have a definite line to work on. The

government provided £15, and during Easter 1931 Nichols marked the route now known as the Overland Track (Tasmania, National Park Board undated b: 26 April 1931). The route he chose incorporated sections of earlier tracks and routes, including the access route from Waldheim to the Barn Bluff and Mount Inglis mines, the section of the Innes Track between Lake Windermere and the Pelion Plains, and his own lightly blazed snaring routes between the Pelion Plains, Du Cane Hut and Lake St Clair (Figure 3.7). Nichols' route also connected existing mining and snarers' huts at Windermere, Pelion, Du Cane and Lake St Clair.

Nichols was assisted by volunteers from the National Park and Cradle Mountain Reserve Boards, including Ronald Smith, Fred and Jean Smithies, and Karl Stackhouse. After showing the volunteers the northern section of the route, Nichols left them to concentrate on the more indistinct section between the Pelion Plains and Lake St Clair. Work marking the track was interrupted by the falling of waist-deep snow (Binks 1981). £12 was spent in 1931 repairing Windermere and Old Pelion huts.

Evidently the lightly-marked route was still hard to follow in 1934: '£10 has been spent to partially mark a track through the reserve, but the small sum available did not allow much to be done, and few people can follow it without a guide to show them the way' (*Mercury* 31 July 1934: page unknown). Emmett (*Voice* 14 July 1934: page unknown) publicly called for a ranger to be employed and funds provided to upgrade the route to a track that could be used by packhorses, with comfortable huts and side-tracks to the surrounding mountains. The government acted on this in early 1935, improving access to each end of the reserve and providing £200 to upgrade the route to accommodate packhorses and assist visitors to the reserve (*Mercury* 13 June 1935: page unknown). The two boards managing the reserve decided to adhere to the existing route, any deviations being left for the future.

In 1935 Nichols was employed by the National Park Board to work on the southern section of the Track, between Pelion Gap and Cynthia Bay, clearing scrub, staking the way with wooden poles, and bridging all creeks and rivers. Nichols also patched and rain-proofed Du Cane Hut, adding a second room with fireplace, bunks and a table. He built a new hut near to his own trapping hut on the Narcissus River. Lionel Connell (Plate 3.21) was employed by the Cradle Mountain Reserve Board to clear and stake the northern section of the Track, between Cradle Mountain and Pelion Gap,

making it fit for packhorse traffic. He also erected a new two-roomed hut next to the old miners hut at Lake Windermere, with fireplace and a table (Plate 3.22). While working on the Track both Nichols and Connell were appointed honorary rangers of the reserve and paid a regular salary by the Tourist Department (*Mercury* 15 May 1935: page unknown 22 May 1935: page unknown). After completing the Track from Pelion to Narcissus, Nichols cut a track around the western shore of Lake St Clair and began constructing a hut at Narcissus (*Mercury* 13 June 1935: page unknown).

In mid-1936 the positions of ranger at both Lake St Clair and Cradle Mountain were advertised (*Mercury* 15 July 1936: page unknown). Lionel Connell had already been appointed ranger at Cradle Mountain, so advertising the position was done in hindsight by the Cradle Mountain Board in order to protect itself. Although Nichols had been working for the National Park Board for several years, he was dismissed with one month's salary in lieu of notice. Nichols was not even considered for the advertised Lake St Clair position. Possibly this dismissal was due to a belief by the National Park Board that Nichols, Aboriginal and scruffily-dressed, was the 'wrong type' of person to represent them in dealing with tourists, who were predominantly professional and well-off. Nichols moved to Devonport, where he worked as caretaker at the showground.

3.10.6 Naming the Overland Track

In 1931 Ronald Smith referred to two walkers who ' ... went overland from Cradle Valley to Lake St Clair' (Tasmania, Cradle Mountain Reserve Board undated b: 11 March 1931). In 1937 Smith invited the Premier, the Minister responsible for the Tourist Bureau, and the Minister for Lands and Works to 'make the trip between Sheffield and the West Coast Road, traversing the overland track via Cradle Mountain and Lake St Clair' (Tasmania, Cradle Mountain Reserve Board undated a: 6 October 1937). These are the earliest instances recorded in print of anyone describing the route or track between Cradle Mountain and Lake St Clair as 'overland' or the 'Overland Track'. Previously, the route/track had simply been described as the Cradle Mountain to Lake St Clair route/track. From 1937, the Cradle Mountain Reserve Board unofficially adopted the name and it soon gained common usage, being shorter and easier to use.

PLATE 3.21

Lionel Connell, ranger at Cradle Mountain, 22 March 1943
NS 573/4/9/99, Smithies Collection, Archives Office of Tasmania

PLATE 3.22

Windermere Hut, Cradle to St Clair Trip, Xmas 1933
NS 573/4/9/61, Smithies Collection, Archives Office of Tasmania

The name 'overland track' had previously referred generically to the routes surveyed and tracks cut to provide access routes to the West Coast in the 1890s and 1900s. Formerly accessible only by sea, the tracks made access over land possible. The railway surveys of Stewart and Innes were two such routes which were largely unsuccessful. The name was commonly adopted to refer to Moore's Linda Track, which successfully provided access to the West Coast from southern Tasmania. This usage remained until the early 1930s (Lord 1923, Hobart Walking Club 1950). Once the road to Queenstown was completed and named the West Coast Road, the 'Overland Track' name became available for use elsewhere. As the central portion of the Cradle Mountain to Lake St Clair track followed the Innes Track, an old overland track, a historical link was probably made and the old name revived.

3.10.7 The Connell family

After Weindorfer's death in 1932 his Launceston friends formed a syndicate which purchased Waldheim and surrounding land (Giordiano 1987). Lionel and Margaret Connell ran Waldheim for the syndicate as tourist accommodation. Margaret looked after the guests at Waldheim, whilst Lionel found work with the Cradle Mountain Reserve Board, first as a contract track-worker and honorary ranger, then as permanent ranger from 1935. Lionel and his sons had annually snared in Cradle Valley since 1912, building huts on Smith's property and at Lake Rodway. He continued snaring on his own land bordering the reserve whilst working as a ranger (Central Plateau Oral History Project 1991).

Lionel Connell marked and cut tracks between Cradle Mountain and Pelion Gap, assisted by his four sons. Many of the side-tracks in the Cradle Mountain area were established in the 1930s and 1940s by the Connells. They built Windermere, New Pelion and Kitchen huts. Guests at Waldheim were guided up Cradle Mountain for free.

From 1936 packhorses were used by walkers on the northern half of the Overland Track (Plates 3.23 and 3.24). Walking parties hired horses from Lionel Connell and were guided along the Track by one of his sons, costing £4.10 to Pelion. The Horse Track was cut between Cradle Valley and Cradle Plateau to make this possible. By Christmas 1937, the entire Track from Cradle Mountain to the northern end of Lake St Clair was passable by packhorses. It cost £9 to hire both horse and guide for the whole Track. In January 1940 Connell had several of his sons guiding different parties at the same time, picking up new parties at Lake St Clair for their return trips (Tasmania, Tourist Bureau undated: 10 January 1940).

PLATE 3.23

Walkers near Pelion Gap, Cradle to Lake St Clair Trip, April 1937
[note dog and pack-horse led by one of the Connell boys]
NS 573/4/10/53, Smithies Collection, Archives Office of Tasmania

PLATE 3.24

Men and packhorse [by Lake Windermere], Barn Bluff in distance, c1935
QVM:1988:P:107, R.E. Smith, Queen Victoria Museum and Art Gallery

The syndicate sold Waldheim to the Connells in 1943. Lionel Connell resigned as ranger in 1946 when the government decided to compulsorily acquire most private land in Cradle Valley. He continued as honorary ranger until late 1947, when the purchase was finalised. The government acquired the land owned by the Connells around Waldheim for £1,772, that retained by the Launceston syndicate for £2,370 plus interest, and most of the land owned by Smith in Cradle Valley, except his land at Mount Kate, for £860. Lionel Connell's departure ended the use of packhorses along the Track (Tasmania, Tourist Bureau undated: 22 March 1948).

Lionel's son Es, and his wife Mildred took over Waldheim until 1951, acting as honorary ranger and hosting tourists. Es' brother Wal took over as ranger when Es left Cradle Mountain for Lake St Clair in 1953, where he worked as ranger until 1959 (Central Plateau Oral History Project 1991).

3.10.8 Bert Fergusson

Between 1928 and 1930 Bert Fergusson ran freight trucks carrying stores and equipment to the construction gangs working to complete the West Coast Road (Thwaites 1972). As construction of the road neared its 1932 completion he built and operated for several years an accommodation house at Derwent Bridge, providing accommodation to motorists on the new Lyell Highway and to tourists visiting Lake St Clair. 'Break the Overland Journey to the west at the guest house and see St Clair' exhorted the *Tasmanian Tramp* in 1932. Fergusson also started a speed boat service on the lake.

In the early 1930s the road to Cynthia Bay was improved and Fergusson established a tourist camp at Cynthia Bay, on the south shore of Lake St Clair (Plate 3.25). The Scenery Preservation Board granted him a ten year lease of the area. He had several huts to rent to tourists, and a dining room filled with ferns and moss in which Devonshire teas were served (Plate 3.26). Fergusson and his assistants guided visitors on walks in the area. He discovered Fergusson and D'Alton falls in 1934. In 1939 Fergusson applied for a 25 year lease and permission to erect an accommodation house. This was finally approved, but his work as ranger disrupted his plans.

Between 1936 and 1938 David Handley was ranger at Lake St Clair. He was replaced in early 1939 by ranger Lane. In 1940 Lane was fired, and in 1941 Fergusson was appointed honorary ranger, becoming a salaried ranger in 1942. He did a lot of contract track work around Lake St Clair and up into Pine Valley. He built Pine Valley Hut in 1941-42, furnishing it with a bath and couch lined with possum skin.

PLATE 3.25

Fergie's camp, Lake St Clair, December 1936
NS 573/4/10/47, Smithies Collection, Archives Office of Tasmania

PLATE 3.26

Fergie's dining tent, Lake St Clair, March 1936
NS 573/4/10/50, Smithies Collection, Archives Office of Tasmania

In 1946 Fergusson received notice to quit his camp due to numerous complaints and his failure to fulfil the conditions of his lease. He was also given a month's notice to quit as ranger. Messrs. Shadforth and Hawker purchased his buildings at Cynthia Bay and continued operating the camp, intending to develop a tourist hotel. Ansett Transport Industries then purchased the camp and hotel proposal, but in 1948 they were forced to close the camp due to its 'shocking' condition (Tasmania, Scenery Preservation Board undated b: 20 February 1948). Later that year, Fergusson's kitchen and dining room burnt down (Tasmania, Department of Lands, Parks and Wildlife 1988b). As Ansett could not say when they would proceed with their hotel their lease concluded in 1949. The huts were still there in 1953 when ranger Es Connell's wife ran the camp, burning down in the 1960s.

3.10.9 Pressure to construct an Overland Road

In 1934 Emmett foresaw that there would probably be pressure in the future to continue upgrading the Overland Track to road standard: 'I hope that a road through it will never be constructed. The scenery is too good to hurry over, and it is my opinion that it should be featured in the way that New Zealand's Milford Track is featured' (*Voice* 14 July 1934: page unknown).

The pressure started in 1938, when the Cradle Mountain Reserve Board passed a motion:

> ... that the Board is of opinion that the extension of the Cradle Mountain Road to the Plateau, passing by Crater Lake, with branch roads to ... Dove Lake, would materially develop the value of the Cradle Mountain Reserve. And in view of this, the Board recommends the government to obtain a report as to the practicability and cost of making the said roads (Tasmania, Cradle Mountain Reserve Board undated a: 6 August 1938).

Although this proposed road only extended to the Cradle Plateau, it was planned as the first stage of a road through the reserve.

Later that year, the goverrunent decided to investigate the possibility of constructing a road through the Cradle Mountain-Lake St Clair Scenic Reserve, claiming that 'a road would open up a wonderful scenic trip closed at present to the majority of visitors to the State' (*Mercury* 5 September 1938: page unknown). The Cradle Mountain Reserve Board claimed that: 'the Minister contemplates preparing for a scheme that we have had in view for some considerable time; but we did not think that the time had arrived

when we could propose it in its entirety' (Tasmania, Cradle Mountain Reserve Board undated a: 8 September 1938). The Board also claimed that the road would be extended 'right through the Reserve, past Cradle Mountain, Barn Bluff, Lakes Will and Windermere, the Pelion Mountains, the Ducane Range, and Lake St Clair to connect with the West Coast Road at the Derwent Bridge. When this is done it will be the main road from the North West Coast to Queenstown, as well as a beautiful scenic road' (Tasmania, Cradle Mountain Reserve Board undated a: 21 September 1938).

In late 1938 the Public Works Department sent surveyor Howell along the Overland Track to investigate the route a road might take. Ranger Connell accompanied him as guide and showed him the scenic points that the road could visit. They encountered heavy rain and snow, which inconvenienced and delayed their examination. In early 1939 Howell spent several weeks making a chain and compass survey of the route (Tasmania, Cradle Mountain Reserve Board undated a: 29 June 1939).

Howell reported to the Public Works Department that:

> It would appear that by exploiting the buttongrass plains and ridges as much as possible, a reasonably good road should be obtainable but certain portions will be difficult and good grades hard to obtain, more particularly in the vicinity of Cradle Mountain. Good stone is available throughout. As the Cradle Plateau has a height of about 4000 feet snow will be extremely troublesome at certain times of the year, and the road is likely to be impassable under certain conditions for some time during the year (Tasmania, Cradle Mountain Reserve Board undated a: 29 June 1939).

He estimated that the probable cost of construction would be £150,000.

The Public Works Department Chief Engineer claimed it would cost between £200,000 and £250,000 to develop the road as a through route.

> In view of the recent decision to proceed with the Hartz Mountain road work and the large program of road construction in hand on the West Coast I cannot see how funds can be made available for this proposal. It would be most uneconomical to attempt this work by means of a series of small votes (Tasmania, Cradle Mountain Reserve Board undated a: 29 June 1939).

Opposition also came from Emmett, who wrote to the Premier to oppose the road: 'I am not alone in my opinion that it would be much better to keep it for pedestrians, if the conditions were made as easy as possible' (Tasmania,

Tourist Bureau undated: 16 December 1938). A decision as to whether or not the road would be constructed was deferred because of this opposition, the death of Premier Ogilvie, and the outbreak of the Second World War.

The road proposal was revived by the Cradle Mountain Reserve Board in 1943, when planning began for post-war development. The Board's post-war works program included the extension of the Cradle Mountain road past Crater Lake to the Cradle Plateau, then its continuation through the reserve, past Lake St Clair to the West Coast Road (Tasmania, Cradle Mountain Reserve Board undated a: 18 February 1943). The Board argued that its duty was 'to make accessible to the greatest extent the scenic beauties of the reserve', and that the road would achieve this (Mosley 1963). Representatives of the two boards managing the reserve met to discuss their proposed works so that compatible programs could be submitted to the Scenery Preservation Board. Emmett stated that all the members of the National Park Board were opposed to the idea of a motor road. The meeting decided that a first class horse and walking track was of great importance. The boards submitted works programs which included the improvement of the main Track to be suitable for riding parties, construction of chalets and stables, and building first class guest houses at Dove Lake and the northern end of Lake St Clair (Tasmania, Cradle Mountain Reserve Board undated a: 10 June 1943).

In 1944 Ronald Smith, Honorary Secretary of the Cradle Mountain Reserve Board, asked that further consideration be given to constructing a road to Lake St Clair, or failing that, to Pelion Gap. Again the National Park Board unanimously opposed this, believing that their existing plans went far enough (Tasmania, National Park Board undated a: 12 July 1944). The Scenery Preservation Board agreed that a good horse track was sufficient, and that a motor road was not necessary or desirable (Tasmania, Scenery Preservation Board undated b: 1 September 1944). The Cradle Mountain Reserve Board continued agitating for a road from Cradle Valley to Pelion Gap until it was dissolved in 1947. Smith continued to press for a road to Lake St Clair until 1950 (*Examiner* 11 January 1950: page unknown). In 1955 and 1960 the Cradle Mountain-Lake St Clair Board opposed further calls for the construction of a through road, but favourably considered a 1958 proposal to extend the Mersey Valley forestry road through the south-eastern part of the Park (Mosley 1963).

3.11 Hydro-electric development

In 1933 the Hydro-Electric Commission decided to develop a large hydro-electric scheme in the upper reaches of the Derwent River, known as the Tarraleah Power Development (Tasmania, Hydro-Electric Commission 1946). Construction commenced in 1934. The scheme involved the erection in 1937 of a control dam on the Derwent River, close to where it left Lake St Clair. This allowed the Derwent's flow to be restricted when desired, raising the lake's level by up to three metres. A workers camp was constructed close to the Lake St Clair dam, comprising of several simple single-mens huts. Three turbines began operating at Tarraleah in 1938, relying on the run of water in the Derwent River and the storage of Lake St Clair. By 1940 a pumping station had been constructed at Lake St Clair, allowing the lake to be drained to six and a half metres below its original level.

The damming of Lake St Clair caused widespread public concern and became the first public conservation dispute in Tasmania (Southwell 1983). Concerned bushwalkers and others were assured by the government that scenic values would be preserved. The lake's damming resulted in the flooding of the Frankland Beaches, erosion of Lake St Clair's shoreline, and the drowning of trees inundated by the higher water levels of the lake. Most of the lake's shoreline and shallows are now a tangle of fallen dead trees. The water level of the lake continues to fluctuate considerably, exposing mudflats, and resulting in the erosion of the Narcissus River's banks.

3.12 Condition of the Overland Track

Even before Nichols' 1931 route-marking, sections of the older routes and tracks between Cradle Mountain and Lake St Clair were in a poor condition. In 1900 Beattie found that the Innes Track between the Pelion Plains and Lake Windermere was 'very boggy ... in places I failed to find bottom with a stick four feet long. It is fit only for the convenience of criminals fleeing from justice!' (Beattie 1900). He added that although the area's scenery was good, he thought that tourists would only venture along the Innes Track once it had been opened up by good roads and accommodation houses. In 1901 Assistant Government Geologist George Waller (1901) claimed that 'much of the track is very boggy, and, after Mount Pelion [West] is passed, traverses button-grass swamps for several miles'. In 1907, Noetling claimed that:

> This route, besides its length, has many disadvantages, the chief of which is that during winter the greatest part is covered with snow. At many places it is boggy, and at others it passes over swampy ground. It is difficult to understand why such a circuitous, impracticable route has been selected, when there was a much easier and shorter way close at hand (Noetling 1907: 7).

Since its marking in 1931 the condition of the Overland Track has suffered through increasing walker pressure aggravated by the extreme weather conditions experienced in the area. Lack of sufficient funding has made regular track maintenance impossible. By 1932 mud had started appearing on Pelion Gap: '... ordinarily easy going over rough grass, the prickly Richea Gunnii and a pink-flowered shrub, which emitted a spicy odour when crushed beneath the feet, but now a quagmire with the melted snow and ice, and full of pit-falls, and mud for the unwary' (Brearley 1933).

The Scenery Preservation Board's (undated a) Cutting Book contains several articles concerning the poor condition of the Track and its huts. During the summer of 1946-47 the huts along the Track were overcrowded. In January 1948 bearers carrying Dorothy Townson's corpse from Pelion Hut to Waldheim 'sank to their knees in mud'. At the same time Pelion Hut was crowded with 27 people, which was not an unusual situation. In 1957 walkers complained that 'the worst feature of the trip was the waterlogged nature of the Track. They had been obliged to wade through water most of the way' (*Mercury* 7 January 1957: page unknown). A 1961 letter to the editor of the *Examiner* complained that 'corduroy tracks and bridges are rotting away. Nothing has been done to clear the Track for years' (*Examiner* 21 December 1961: page unknown).

In 1965 a special inspection of the condition of the Overland Track was made by W.S. Hannon. He reported that '... the greater part of the Overland Track has reached a peak of rapid deterioration. Huts are in a similar condition. The section between Windermere and Old Pelion ... is beyond repair and requires cording and rebridging of creeks' (Tasmania, Cradle Mountain Reserve Board undated b: 14 March 1965).

Henry (1979: 9), a bushwalker from the Northwest Coast, claimed that:

> The fragile Cradle Mountain-Lake St. Clair wilderness area is being trampled to death. Every trip I make I see more evidence of this on the high exposed button grass plains. This will continue as people endeavour to avoid slush that the mud becomes once the ground cover [flora] is broken through. In order of priority I would list these areas as: (1) Kitchen Hut to Pelion Creek, (2) Frog Flats to Old Pelion Hut, (3) Pelion Gap to Du Cane Hut.

3.13 Conclusion

The Cradle Mountain-Lake St Clair area has a complex history. Many different groups of people have lived, explored, and exploited the area, putting it to a wide range of uses. Traces of these past uses are still evident today - relicts such as trappers huts, graziers fencing lines, mine sites, boat sheds, and fire boundaries are seen by most Overland Track walkers. This rich cultural heritage is just as important as the Park's natural heritage, a fact recognised when the Western Tasmanian World Heritage Area was listed. This chapter has traced the changing human involvement in the area, the creation of the Park, and the evolution of the Overland Track. Figure 3.8 summarises the timing of these different uses. Since the reservation of the Park, its main use by humans has been for recreation and tourism.

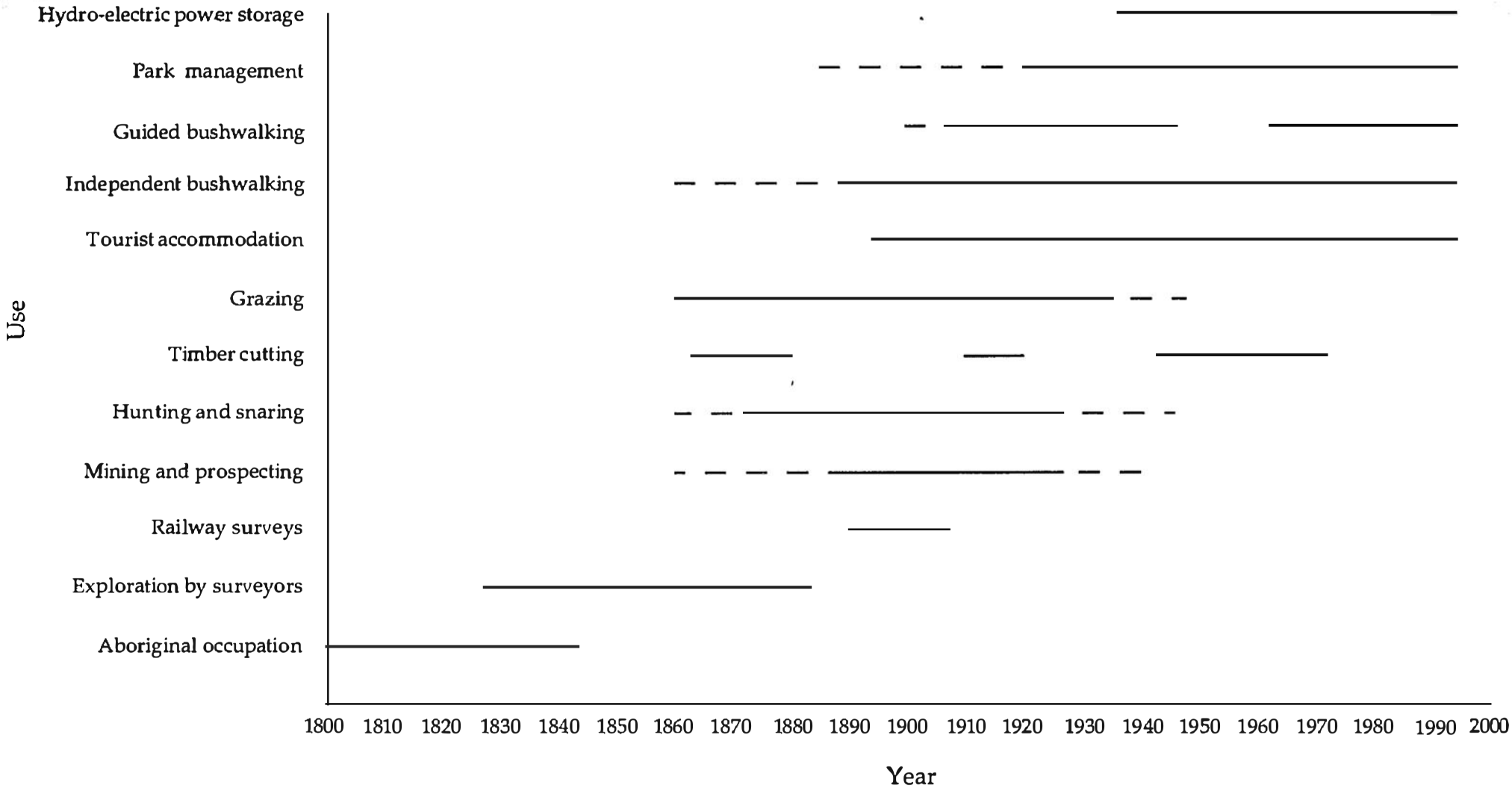


FIGURE 3.8

Historical usage of the Cradle Mountain - Lake St Clair area

CHAPTER 4
BACKGROUND: RECENT POLICY, MANAGEMENT AND PLANNING

4.1 Tasmanian Wilderness World Heritage Area

In 1982 the Cradle Mountain-Lake St Clair National Park was among several Tasmanian national parks entered on to the *World Heritage List* established under the *International Convention for the Protection of the World's Cultural and Natural Heritage.* As a signatory to the Convention, the Commonwealth government is obliged to identify protect, conserve, present and rehabilitate the cultural and natural heritage areas deemed to be of World Heritage Area (WHA) status (Australian National Commission for UNESCO 1988).

The Commonwealth's obligations and management rights in relation to World Heritage Areas were soon tested and proven in the 1983 Tasmanian Dam case (*Commonwealth v Tasmania* (1983) 46 ALR 625). The Tasmanian government attempted to dam the Gordon River in the WHA, but the Commonwealth government enacted the *World Heritage Areas Properties Conservation Act 1983* (Commonwealth of Australia 1983), requiring the dams approval by the Commonwealth government's Environment Minister. Under S.109 of the Constitution, this Act over-ruled the Tasmanian legislation authorising the dam and enabled the Commonwealth government to prevent the dam as it threatened the values of the WHA.

As part of the Commonwealth government's international obligations to protect Australia's natural and cultural environments the reserves making up the WHA are also listed on the Register of the National Estate. This is effected through the *Environment Protection (Impact of Proposals) Act 1974* (Commonwealth of Australia 1974) which cross-references with the *Australian Heritage Commission Act 1975* (Commonwealth of Australia 1975). Under S.30(1&2) of the Act, Commonwealth ministers and authorities must not take any action which would adversely affect places on the register unless no feasible and prudent alternative exists. Under S.30(3) the Australian Heritage Commission must be informed of, and given time to comment on, any Commonwealth action that might significantly affect a place on the Register. The Australian Heritage Commission has no power over the actions of state or local governments, or those of private owners (Australian Heritage Commission 1992).

4.2 Tasmanian policy

Tasmanian governments, particularly conservative ones, have been keen to support economic development of the state's wilderness areas. They have historically treated wilderness areas as unexploited primary resources waiting to be mined, logged, hunted or dammed. More recently state governments have come to treat wilderness areas as a tourism resource, capable of attracting visitors who spend money on accommodation and other services. This change has largely been due to external forces, including pressure from the Commonwealth government and the conservation movement.

The 1983 Dams Case terminated moves to build the Gordon-below-Franklin Dam and forced the Liberal state government of Robin Grey to re-focus its development strategies in Western Tasmania. By way of compensation for lost employment opportunities and other impacts on the state economy, the Commonwealth government provided a $351 million compensation package over a ten year period. The bulk of this was spent on other hydro-electric schemes and roadworks (*Examiner* 26 February 1994: 1). The eligibility criteria set by the Commonwealth were that the projects should 'commence at the first opportunity; have regard to tourism potential; and be in the interests of the persons affected by the termination of the Franklin' (*Sunday Tasmanian* 13 March 1994: 5).

Nick Evers, a private sector consultant who was soon to become the Minister for Tourism, was appointed to conduct urgent studies into developing the tourism potential of Western Tasmania. These studies viewed national parks as unexploited resources, ripe for the development of tourist accommodation and infrastructure. The studies recommended the provision of equity of access to the wilderness to a wide range of people in terms of fitness and age, rather than merely cater for 'a relatively hardy few' (Evers 1984). Several developments were proposed, including a chalet at Sir John Falls on the Gordon River, new or upgraded tracks and quality bushwalking accommodation in the West Coast Range, Gordon Splits and Eagle Creek Track areas, accommodation and interpretation facilities at Lake St Clair, an interpretation centre at Strahan and redevelopment of tourism at the Mount Lyell mine.

These proposed developments were nearly all located outside, but bordering, the WHA. While some of these proposals, such as the Gordon River chalet, were later opposed by the Commonwealth government, others, such as the Strahan visitor centre and the Lake St Clair visitor centre/accommodation complex have been or are being developed. Quality bushwalking ventures did not eventuate in the areas proposed by the report. Later, however, high quality private enterprise facilities were developed instead on the Overland Track in the WHA.

4.3 Tasmanian legislation

National parks in Tasmania are administered and managed under the *National Parks and Wildlife Act 1970* (Government of Tasmania 1970) by the Parks and Wildlife Service (PWS). Under the Act, one of the duties of the Director of the PWS is to prepare management plans for reserved land, and to review management plans where these exist (S.6(1)(e)). Other duties are to exercise the functions of a managing authority for land reserved under the Act (S.6(1)(f)), and to provide effective means to enforce the regulations made under the Act (S.6(1)(g)).

Under S.21(1) management plans may specify the purposes for which, or the manner in which, land is to be used, developed, or managed. The managing authority is required to give effect to, and operate in accordance with, the provisions of any management plan. The Director is the managing authority for any reserved land, and is charged with the management and maintenance of that land (S.23(1)).

The Director may erect or construct, or arrange for the erection or construction of such buildings and other works that he may consider desirable in connection with the use and management of the land. This includes the power to make arrangements with any person to allow them to provide and maintain facilities and conveniences for the use or benefit of people resorting to reserved land (S.23(3)(d)). Such a concession arrangement may include consideration in return for the rights granted (S.23(4)). It is this legal nicety which allows commercial development within State Reserves. All commercial activities conducted within State Reserves must be licensed (S.25B). With the approval of the Minister administering the *Crown Lands Act 1979* (Government of Tasmania), the Director of the PWS may grant leases or licences to occupy any reserved Crown land or buildings erected on that land and to provide services there (S.26(1)).

4.4 Joint management arrangements

In an attempt to resolve the conflict and confusion due to overlapping jurisdictions, and serious communication problems resulting from the Dams Case, the state and Commonwealth governments established joint management arrangements in 1985 to coordinate the planning and management of the Tasmanian WHA. These arrangements involved three bodies: a Ministerial Council, a Standing Committee, and a Consultative Committee.

The Tasmanian WHA Ministerial Council comprised the Premier of Tasmania (Chairman), the Tasmanian Minister for National Parks and Wildlife, the Commonwealth Minister for Arts, Sport, the Environment and Tourism, and the Commonwealth Minister with special responsibility for Tasmania (McCuaig *et al.* 1993). The Ministerial Council was created to oversee management and advise both governments on management plans, management requirements, funding and scientific studies. The Tasmanian WHA Standing Committee was created to provide advice to the Ministerial Council on all matters relating to the WHA and oversee policies, programs, funding arrangements and the administration and preparation of management plans. It comprised representatives of relevant state and Commonwealth departments. The Tasmanian WHA Consultative Committee was created to provide advice to the Ministerial Council and Standing Committee on matters relating to the development and management of the WHA. The Consultative Committee can act on its own initiative. Its chairman is appointed by the Ministerial Council, and six other members are appointed each by the state and Commonwealth governments. These members come from a mixture of government departments and interest groups.

Since the Dams Case there has been considerable ongoing political tension and conflict between the Tasmanian and Commonwealth governments over management powers and financial obligations. The formal system has proven dysfunctional and a de facto system has evolved in its place. The Consultative Committee has largely taken over the management of the WHA, allowing input from both levels of government as well as non-government organisations. Its meetings are held on an informal basis, and conciliation is used to reach consensus between stakeholders. The Standing Committee never meets; the Ministerial Council only meets every couple of years when major disputes arise. It merely rubber-stamps the advice of the

Consultative Committee. Day to day management of the WHA is the responsibility of the PWS within the Tasmanian Department of Environment and Land Management.

Although this de facto system has been effective in providing policy decisions, it is a second best solution. Problems have occurred due to separate organisations exercising management and policy formation functions at different levels - the Consultative Committee oversees management and makes major policy decisions, while day to day management is handled by the PWS. This fundamental divide can result in a serious lack of policy coordination. The failure of the Standing Committee to meet means that there is not the intended degree of ongoing supervision of policy implementation. Supervision of a sort occurs instead at the intermittent meetings of the Consultative Committee. This arrangement severely handicaps manager's capacity to make hard and fast decisions.

Instead of cooperation between both governments at the ministerial level there is ongoing conflict, suspicion and difference of opinion about what type and scale of development is desirable within the WHA. The Tasmanian and Commonwealth governments both wish to encourage 'appropriate' development associated with the WHA. What is perceived to be appropriate varies considerably among the two governments, and elements of the public, especially conservation groups. Several disputes concerning management of the WHA and land bordering it have occurred. At times the state has discussed allowing forestry operations or hydro-electric dams in the WHA. The Tasmanian government is also keen to open up the WHA to 'normal' tourists by providing such facilities as tourist lodges and hotels. This approach has opposed by the Commonwealth, apart from limited developments of the fringe of the WHA. The formal joint-management arrangements have proved to be largely unsuitable and difficult to implement under such a divergence of opinion. As a result the governments must now resolve their problems through negotiation, often public and involving considerable ridicule, and in the courts.

4.5 Funding

While the state government has promoted increased tourist use of Tasmania's wilderness areas it has done relatively little to protect those areas from tourist damage. The PWS's role has increasingly been linked to serving tourist needs and implementing the State Tourism Strategy which was incorporated in parts of the WHA Management Plan (Tasmania, Department of Parks, Wildlife and Heritage 1992a).

Since the WHA's inception most funding has come from the Commonwealth government - $3.7 million per annum plus $1.8 million funding for major capital works (McCuaig, *et al.* 1993), whilst he Tasmanian government provided $1.5 million per annum. This reasonably reflects each government's capacity to pay and their interests in protecting the area. The state government is responsible for protecting the national parks and state reserves within the WHA while the Commonwealth government is responsible for the WHA itself. The funding sharing arrangement also reflected the fact that two-third of WHA visitors came from outside of Tasmania.

In mid 1994 a major row broke out between the Commonwealth and Tasmanian governments concerning future WHA funding. The Commonwealth wanted Tasmania to provide dollar for dollar funding, but the state claimed financial incapacity (*Mercury* 17 June 1994: 4). Talks broke down for a month and Tasmania threatened to suspend the World Heritage Area Management Plan (see below) unless the Commonwealth provided more money. Finally a WHA Ministerial Council meeting was held and annual funding of $8.9 million per annum for four years was agreed by both governments. The Commonwealth dropped its demand for dollar-for-dollar funding arrangements, agreeing to provide $5.1 million per annum if Tasmania provided $3 million per annum. The balance of $800,000 comes from state imposed park entrance fees, and licence and concessionaire fees relating to WHA national parks. Most Overland Track walkers purchase a Backpacker Pass, for $10. The state had previously used most of the fees collected in WHA national parks to cross-subsidise non-WHA national parks, due to a disparity in the latter's funding, their being in receipt of no Commonwealth funds.

4.6 Local government

The Cradle Mountain-Lake St Clair National Park lies in the municipalities of West Coast, Kentish, Meander Valley, and Central Highlands. There is considerable overlap and confusion about the practicalities of sharing planning and building approval powers between the PWS and local government. Prior to November 1994, the PWS was not required to apply to local councils for either planning or building approvals. Since then the PWS has had to abide to the Building Code of Australia and must submit plans to councils for building approval. In 1995 the Tasmanian Government sought clarification from the Solicitor General of Tasmania.

He found that developments within national parks are not subject to the *Land Use Planning and Approvals Act 1993* (Government of Tasmania 1993) or to local planning schemes through the medium of that Act (Government of Tasmania 1995). The Parks and Wildlife Service has jurisdiction over planning approval within national parks. This means that development proposals do not require a development application to the local council. Developers should still liaise with the council and consider its needs. The PWS must approve site plans, landscape and revegetation plans, codes of practice for development and operation, building siting, waste management plans, interpretation materials provided, fire management plans, and what building materials can be used (TASQUE 1995). Local councils have jurisdiction over some building and health matters, and developers must apply to them for building approval in accordance with the requirements of relevant Acts and Codes.

4.7 Management plans

Several management plans have been developed for the Cradle Mountain-Lake St Clair National Park:

4.7.1 Cradle Mountain-Lake St Clair National Park Management Plan 1988

The principal management objective of this plan was the perpetuation of the natural and cultural qualities which gave the Park its World Heritage status, consistent with the continuing use and enjoyment of the area by visitors. The Plan recognised that fulfilment of these objectives required a delicate balancing act, as the goals of conservation and visitor use were not always compatible. More detailed objectives were listed covering the areas of conservation, land management, research, recreation, education and interpretation, and resource provision.

The Plan listed areas adjacent to the Park that were thought worthy of incorporation due to the habitats they contain or the awkward shape of existing boundaries, that make protection difficult. These were the Campbell River area to the east of Dove Lake, the Granite Tor area, the Upper Mersey area, the Nive Headwaters, the St Clair Lagoon area, the Derwent Bridge area, and the Eldons. All but the Granite Tor and the Derwent Bridge areas were later incorporated into either the Cradle Mountain-Lake St Clair or Walls of Jerusalem national parks.

The Management Plan established a system of zoning in order to subdivide the Park for management purposes. Incompatible uses were separated according to the various levels of permitted development. Three zones were used: tourist development, recreation, and natural areas. The natural area zone contained terrain in a natural condition, which was to be managed as undisturbed wilderness with the principal objective of maintaining its natural character and scientific values. No formal tracks were to be developed and walkers would be discouraged from visiting degraded areas. The recreation zone incorporated areas with tracks and public huts outside the tourist development zones. This zone ran along the Overland Track and its side-tracks. Its purpose was to allow bushwalkers with only moderate experience to experience the Park, but they still had to largely depend on their own resources.

The tourist development zone mainly covered areas at the main access points at the northern and southern ends of the Park. The main visitor services and management facilities were concentrated in these areas. Such services included accommodation, camp grounds, caravan parks, visitor centres, and day visitor facilities. They were designed to give large numbers of visitors a brief and undemanding appreciation of the Park, and to cope with the damage caused by large numbers of people.

4.7.2 Draft Overland Track Management Plan 1988

This plan aimed to ensure continuity in the management of the Overland Track, providing directives and priorities for future works programmes. It is a practical document prepared for use by rangers, and is subsidiary to the Cradle Mountain-Lake St Clair Management Plan.

Management of the Overland Track is shared by the Cradle Mountain and the Lake St Clair field management centres of the PWS. The division of control between the two centres is at Pelion Gap. The plan classifies the Track in the 'Track 2B' class, requiring boots and a moderate skill level. Its surface should preferably be medium/well formed and it should be marked well enough to be navigable under all weather conditions. Its use level should preferably be between 2,000 and 5,000 users per annum. The plan details and prioritises management problems, needs and requirements for the whole Overland Track. Side-tracks are given lower priority in restoration/upgrading than the Overland Track itself.

In 1991 The PWS produced a track management plan for the side-tracks to the Overland Track, complementing the above plan.

4.7.3 Tasmanian Wilderness World Heritage Area Management Plan 1992

The WHA Management Plan (WHAMP) replaced several existing statutory plans for sections of the WHA, including the Cradle Mountain-Lake St Clair plan mentioned above. Following extension of the WHA in 1989, it was decided to prepare a single management plan for the entire WHA, incorporating relevant parts of existing plans where appropriate. The overall management objective of the WHAMP is that specified in the World Heritage Convention - to protect, conserve, present and, where necessary, rehabilitate the natural and cultural heritage. The WHAMP has been approved by the World Heritage Ministerial Council and both state and Commonwealth governments.

The main management tool used in the WHAMP is a zoning system, which is largely concerned with separating different levels and forms of recreation, associated facilities, and the protection and conservation of wilderness quality and environmental values. The zoning scheme is designed to ensure the maintenance of a very wide range of experiences for visitors while minimising impacts from recreational use. Each zoning has a corresponding set of objectives and policies. The four zone types are orientated around the level of management input for recreation, and form a spectrum in tourism and recreation development. The major zones used are Wilderness, Self-Reliant Recreation, Recreation, and Visitor Service (Figure 4.1). Overlapping with these are four sub-zones, to provide for special localised recreational, preexisting, or scientific uses: Mechanised Access, Special Use, Primary Production, and Scientific Areas. The scheme largely reflects existing use patterns, seeking to consolidate existing visitor facilities and deter ad hoc incremental provision of new facilities.

The Wilderness zone is similar to the Natural Area zone used in the Cradle Mountain-Lake St Clair National Park Management Plan. In these areas no tracks or facilities are to be provided and management inputs will be minimal. The Self-Reliant Recreation zone includes areas of environmental sensitivity, high wilderness quality, or some degradation from relatively low levels of use. The objective for this zone is to retain a challenging and relatively unmodified natural setting that experienced parties can use for appropriate recreation, such as challenging walking.

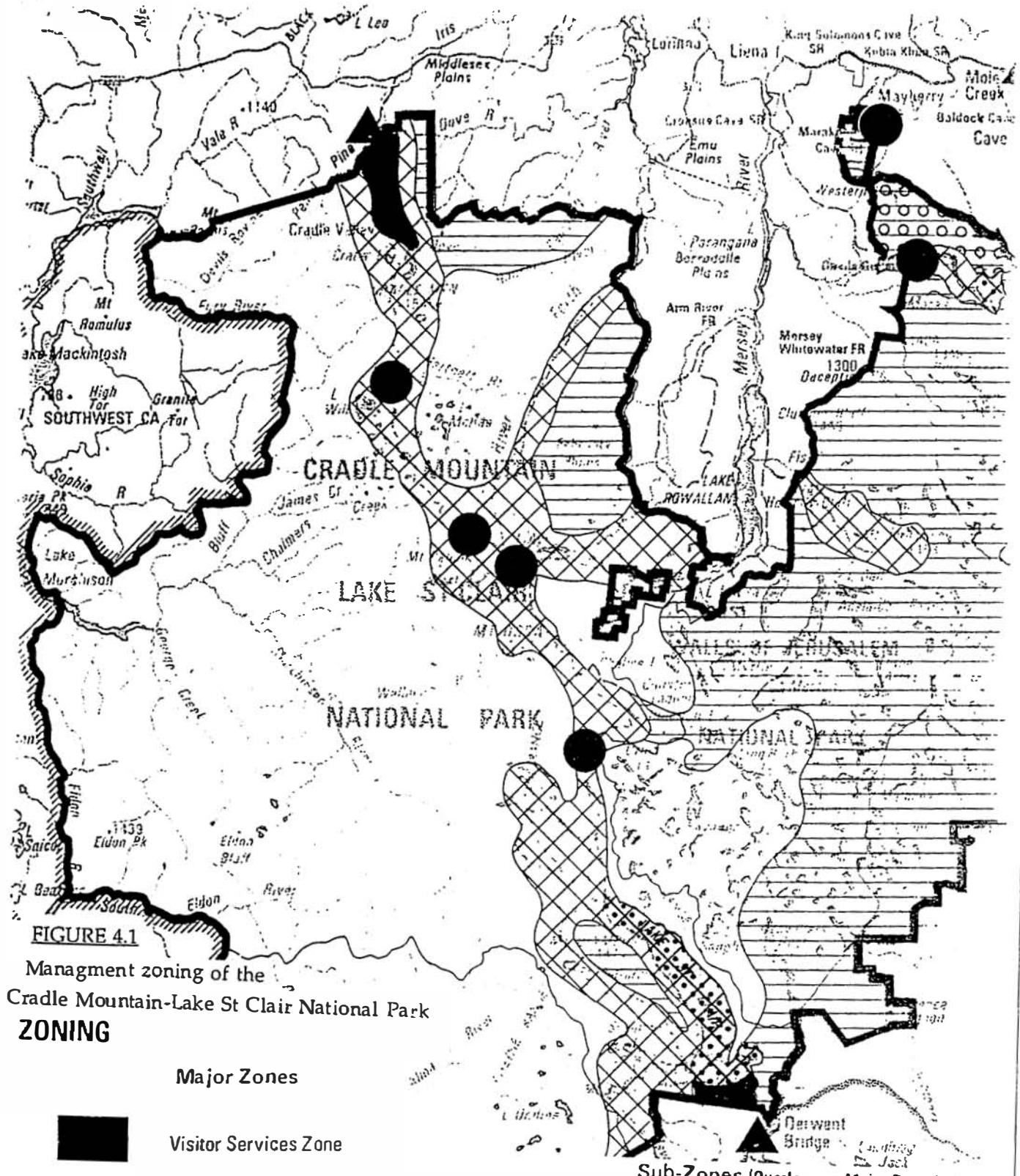


FIGURE 4.1

Managment zoning of the Cradle Mountain-Lake St Clair National Park

ZONING

Major Zones

- Visitor Services Zone
- Visitor Services Site
- Recreation
- Self - Reliant Recreation
- Wilderness

Sub-Zones (Overlays on Major Zones)

- Mechanised Access

Outside WHA

- Visitor Services Centre
- Visitor Services Site

Source: Tasmanian Wilderness World Heritage Area Management Plan 1992

The Recreation zone includes popular recreation areas which are suitable for relatively high levels of use. Tracks and facilities are able to be upgraded and their use promoted. The objectives of the Recreation zone include the provision of a range of recreational experiences for visitors, and to improve access for less experienced people and enable them to gain a rewarding experience of the WHA environment. One policy is that adventure tours be principally conducted in this zone.

The Visitor Services zone is similar to that detailed in the 1988 Management Plan. The zone and sites are nodes for the development of visitor facilities, and are the only sites visited by most who visit the WHA. Most of these zones are at road access points. They aim to allow a range of facilities to provide all visitors (but mainly the less active and less experienced) with an experience of the Park. Visitor services sites may be developed to cater for a range of levels and forms of day and overnight use to suit the varied needs of visitors and provide a range of recreation facilities. Facilities may also include park accommodation to suitable design and scale.

In the Cradle Mountain-Lake St Clair National Park the location of the WHAMP zones largely follows the same boundaries as those used in the 1988 Management Plan. A significant difference is that in the south of the Park, Mount Olympus is now zoned as Self-Reliant Recreation, and Lake St Clair is zoned as a mechanised access sub-zone. The lake is used by a commercial boat service which offers services from end to end. The Park boundaries have been expanded on its northeastern side, annexing the Campbell River, February Plains, and Upper Mersey areas, all zoned as Self-Reliant Recreation. It has also been expanded on its western side, annexing the Lake Murchison and Eldon areas, zoned Wilderness.

Walking track standards vary in each zone and tracks are required to be maintained at the standard thought appropriate. Visitor service zones and sites can have easy 'walks' suitable for people in shoes of all ages and fitness levels, moderate 'tracks' for people in boots of average fitness, and difficult 'routes' requiring a high degree of skill and experience. The recreation zones can only have tracks and routes, whilst the wilderness zones can only have unmarked routes.

Access may be controlled or managed on particular walking tracks or routes and in some wilderness areas. If number limits are imposed, commercial groups are to be restricted to a proportion of the quota to ensure fair access for independent walkers.

The WHAMP specifies that a walking track management strategy for the entire WHA should be prepared and implemented, including an inventory of track and route conditions, use levels and trends, and appropriate management responses (see below). Existing track management plans (including the Overland Track Management Plan) are required to be reviewed and revised as necessary in the light of the strategy.

Commercial tours are restricted to Recreation and Visitor Services zones. However, professional guides may conduct tours throughout all zones in the WHA. Approval for such tours in the Wilderness zone will only be on a once-off trip basis. In both the Self-Reliant Recreation and Wilderness zones approval will be dependent on the operator's demonstrated ability, and subject to appropriate conditions. In sensitive areas tours may be required to completely remove faecal wastes.

The Management Plan notes that operators are desirous of establishing additional commercial hut-based walk in the WHA. A policy to review the need for further concessions for such an operation exists. Any consideration must include public review and must be consistent with the Management Plan and site plans. Proposals will be considered jointly with other government agencies for operators that would complement rather than duplicate the Cradle Huts operation (see below), and that would extend the season of operation. Proposals for permanent structures associated with adventure tours can be considered by the Director if consistent with the zoning and planning policies of this plan, and with the advice of the WHA Consultative Committee.

The WHA Management Plan is currently undergoing its first five year review.

4.7.4 Walking Track Management Strategy for the Tasmanian Wilderness World Heritage Area 1994

This is a non-statutory strategic plan specifically aimed at providing a comprehensive walking track management policy for the entire WHA. It was prescribed by the WHA Management Plan and elaborates on several of its management prescriptions. The strategy covers in depth the issues relevant to managing walkers and walking tracks, provides an inventory of WHA tracks and their condition, and details a management strategy for both walkers and walking tracks. The strategy recognises that problems such as

track and campsite deterioration, unplanned track and campsite formation, and crowding, cannot be solved by merely hardening tracks. The cost of doing so is prohibitive, wilderness values would be destroyed, improved access would spread negative impacts into adjacent areas and displace walkers (and their impacts) to other areas, and track-hardening often only has a limited life-span and then must be repaired or replaced.

Several management objectives are added by the strategy to those from the WHA Management Plan: to limit recreational impacts and track proliferation; to design and maintain tracks to optimise recreational opportunities; and to take long-term impacts and maintenance costs into account when constructing or maintaining tracks.

Management actions prescribed by the strategy include the use of a track classification scheme as a framework for management, specifying appropriate and acceptable levels of track development and recreational impacts; that a similar classification scheme be devised for the management of campsites; that a system of mandatory access permits for access to all parts of the WHA be introduced, the most appropriate type of permit system to first be researched; that usage be restricted and redistributed where necessary; that tracks and campsites be relocated if necessary; that the short-term emphasis of the PWS trackwork program be shifted toward undertaking priority erosion control in order to avoid or reduce track degradation at a minimal cost; that subsequent to this, long-term stabilisation and repair be undertaken; that comprehensive monitoring of track and campsite conditions, use levels and social impacts be undertaken; that the PWS's educational campaign be expanded; that guidelines be established for the publication of routeguides and other materials concerning the WHA; and that research be undertaken and encouraged on track construction techniques, recreational impacts, usage trends and other areas of wilderness recreation management.

Detailed track management plans will be prepared for all tracks in the WHA, incorporating an EIS/resource document and a field document for use by staff involved in planning, survey, construction and maintenance work. The PWS is currently in the initial stages of preparing an Overland Track Management Plan.

The Walking Track Management Strategy classifies the Overland and Pine Valley tracks as 'Track grade 1' within its track classification scheme. This class of track should have a maximum usage of 5,000 per annum and a maximum party size of 13. It should be boot standard, with only shallow mud and water in some places.

4.8 Conclusion

The Cradle Mountain-Lake St Clair National Park is jointly managed by the Tasmanian and Commonwealth governments. This joint management has proved difficult at times due to disagreements over funding, approval powers, and policy. A de facto system has evolved that uses consensus to reach agreement between interest groups. Governments have encouraged tourism in national parks generally, and in the Cradle Mountain-Lake St Clair National Park in particular. Whilst management plans have sought to manage tourism and its impacts, these plans have been tailor-made to accommodate tourist operations, and are modified if necessary.

CHAPTER 5
TOURISM AND BUSHWALKING

Chapters 2, 3 and 4 outlined the natural, historical and political/managerial contexts of the Cradle Mountain-Lake St Clair National Park. This chapter investigates tourism and bushwalking, in Tasmania, and in the Park in particular.

5.1 Tourism

This study adopts the definition of tourism used by Mathieson and Wall (1982: 1):

> Tourism is the temporary movement of people to destinations outside their normal places of work and residence, the activities undertaken during their stay in those destinations, and the facilities created to cater for their needs

Tourism is undertaken primarily during leisure time. It may be undertaken commercially, involving the provision of goods or services by commercial enterprise, or non-commercially. It can be regarded as 'an extreme form of recreation which is distinguished by relatively long lengths of stay away from home and relatively large distances travelled' (Mathieson and Wall 1982: 8). Recreation and tourism can be considered to be aspects of the same phenomenon, and recreationalists and tourists can be found at the same place doing the same thing:

> Tourism is but one of a range of choices or styles of recreation expressed either through travel or a temporary short term change of residence. ... Tourism is an evolutionary development in the use of leisure and represents an expanded opportunity for the exercise of choice in the selection of recreational activities (Mathieson and Wall 1982: 9).

This means that tourism and recreation, including bushwalking, can usefully be considered together. This approach is adopted, and all reference to 'tourism' incorporates any recreational use of national parks.

Nature-based tourism is tourism which is primarily concerned with the direct enjoyment of some relatively undisturbed phenomenon of nature (Valentine 1992: 108). This is of particular importance to Australia in general and to Tasmania in particular. There are several forms of nature-

based tourism, which are similar in some ways but different in others. The main forms of nature-based tourism of interest to this study are adventure tourism and ecotourism.

Adventure tourism is a form of nature-based tourism that focuses on adventurous outdoor activities. Although it often involves an interaction with the natural environment, this often merely provides a setting for the activity. Adventure tourists are primarily attracted by the activities undertaken and the adventure involved. Motivations include adventure and risk seeking, challenge, self-discovery, self actualisation, contact with nature, and social contact (Hall and Weiler 1992: 3). Adventure tourism grew out of the growth of outdoor recreation after the Second World War, mentioned previously in Section 2.2. Many adventure tourists undertake activities individually without the assistance of commercial operators. The activities undertaken include bushwalking, rafting, skiing, and rock-climbing. The average adventure tourist is likely to be male, college or university educated, professional, and 25-40 years old (Hall and Weiler 1992: 67).

Ecotourism is another form of nature-based tourism, and has a different emphasis to that of adventure tourism. While adventure tourism focuses on the activities being undertaken, ecotourism focuses on the environment as the experience. These two forms of nature-based tourism overlap to some extent, as many tours divide their focus between the activity undertaken and the environment that activity is undertaken in. Ecotours may involve activities usually associated with adventure tourism, such as bushwalking, while many adventure tours involve some degree of environmental experience. The educational and ethical perspectives of ecotourism distinguishes it from other forms of nature tourism. According to Figgis (1993: 8) ecotourism:

> ... has a philosophical commitment to promote natural and cultural conservation; ... [aims] to educate and inspire visitors through participation to appreciate the importance of natural and cultural integrity and conservation; and ... [has] a commitment to avoid environmental damage or cultural contamination in every aspect of the tourist operation ... there should be a net real benefit to the environment.

Ecotourists place more emphasis upon learning about and contributing toward nature than they do upon learning about themselves (Burgess 1993). Like adventure tourism, many ecotourists undertake activities individually,

outside of formal tours organised by commercial operators. Those ecotourists travelling in organised groups tend to be well-educated, professional/semi-professional, 20-50 years of age, independent and individualistic, and looking for different experiences (Griffiths 1993). Groups tend to be around 60 per cent female and 40 per cent male.

Ecotourism is thought to have been initially defined by Hector Ceballos-Lascurain in 1983 (Australia, Commonwealth Department of Tourism 1994). His definition of ecotourism was: 'Tourism that involves travelling to relatively undisturbed natural areas with the objective of admiring, studying, and enjoying the scenery and its wild plants and animals, as well as any cultural features found there' (Ceballos-Lascurain 1991). Later definitions have built upon this, emphasising conservation, education, sustainability, and the need for ecotourism to economically benefit the local community. The Commonwealth Department of Tourism's (1994) National ecotourism strategy defined ecotourism as 'nature-based tourism that involves education and interpretation of the natural environment and is managed to be ecologically sustainable'. This definition also recognised that 'natural environment' included cultural components and that 'ecologically sustainable' involves an appropriate return to the local community and long-term conservation of the resource. This definition has since been adopted by the Ecotourism Association of Australia, Australian Tourism Industry Association, and the Australian Conservation Foundation.

The need to precisely define 'ecotourism' has come about as a result of wide-spread misinterpretation and misuse of the term by tourist operators and marketers, politicians and the media. Conflict has arisen between such groups, who have advocated the inclusion within its rubric of large-scale resort and tour operations, and conservationists who have argued that ecotourism should only describe small-scale, locally-based or more conservation-orientated operations. Tasmanian Tourism Minister Peter Hodgman recently defined ecotourism as 'economics in the general environment', including any tourist development located in a non-urban setting. The definition used by a particular operator, group or individual usually reflects their political beliefs or economic interests. Nature-based tourism operators have used the label to help attract customers and give their operation a 'clean and green' image. Many operations have been described as ecotourism, despite their having few or none of the characteristics included in the above definitions. 'Some operators are simply putting 'eco' in front of what they've always been doing without

changing at all' (Hadsell, quoted in Pleumarom 1994). Examples include a proposal to build a cable-car, restaurant and ski-field complex on Mount Wellington; luxury cruises to islands in the Pacific Ocean; and even hunting safaris in Africa, all of which have been described as ecotourism.

By contrast, Figgis (1995) claims that ecotourism requires a new form of planning, where the natural environment is of highest priority, rather than it being treated merely as a resource. At present planning is tourism-centred, and the needs, demands and pressures of tourism lead to the modification and adaptation of natural areas. Figgis advocates that planning should be nature-centred, and the needs and requirements of natural areas should lead to a modification of tourist needs, adaptation of tourist demand, and a reduction in tourist pressure. Accreditation is thus seen to be essential, and the Commonwealth Department of Tourism and the Ecotourism Association of Australia are currently planning an accreditation system that allows the industry to be self-regulated.

Internationally, ecotourism is growing at 30 per cent per annum, adventure tourism is growing at 10-15 per cent per annum, while tourism generally is growing at 8-10 per cent per annum (Stanford Research Institute, quoted in Boeger 1991). Ecotourism accounts for ten per cent of international travel for pleasure (International Union for the Conservation of Nature 1994). It is becoming widely accepted that most nature-based tourism, especially that occurring within national parks, should be operated and managed as ecotourism, as this seeks to be sustainable and has several positive environmental and social outcomes, rather than being purely centred around the maximising of economic returns.

5.2 Tourism in Tasmania

Tourism revenue constitutes about eight per cent of Tasmania's Gross State Product. Tourism directly employs 17,000 Tasmanians, about ten per cent of all jobs in the state (*Mercury* 31 December 1994: 39). These factors make tourism one of the state's largest industries. The Tasmanian Department of Tourism, Sport and Recreation has periodically conducted surveys of tourists visiting Tasmania. Figure 5.1 shows how the number of tourists visiting Tasmania has increased over the last 16 years. Interstate tourist arrivals have increased by 44 per cent, while overseas tourist arrivals have increased by a massive 360 per cent (Figure 5.2). Total tourism to Tasmania in the same period increased by 59 per cent.

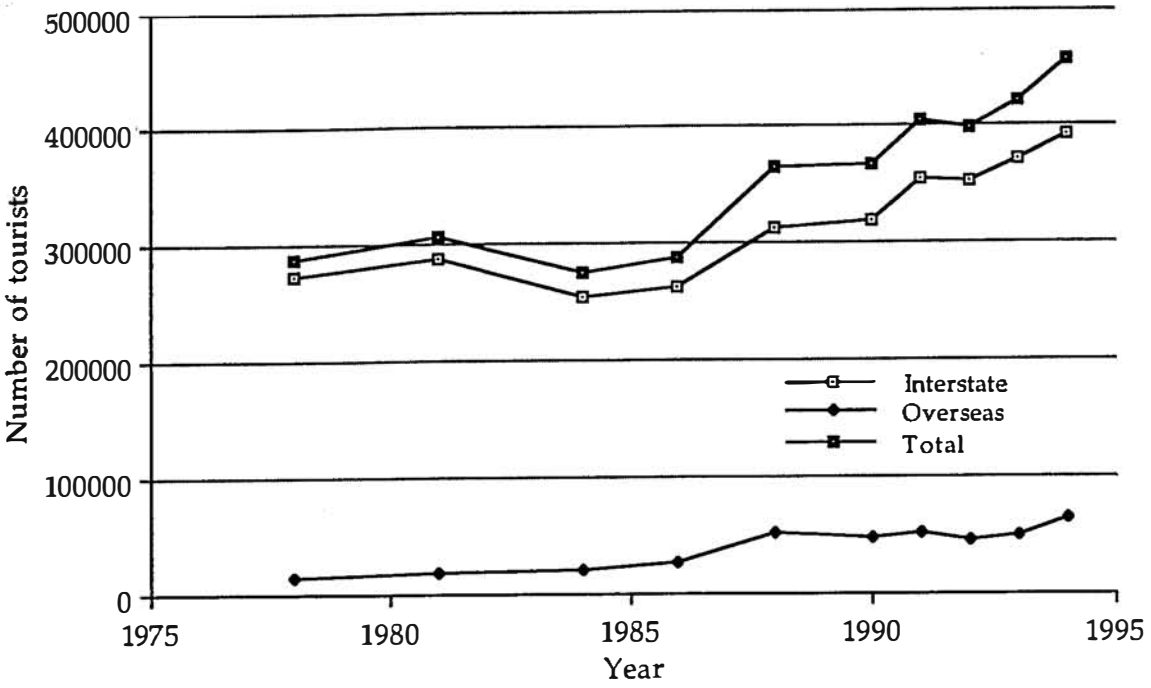


FIGURE 5.1

Number of tourists visiting Tasmania, 1978-1994

Source: Tasmania, Department of Tourism, Sport and Recreation

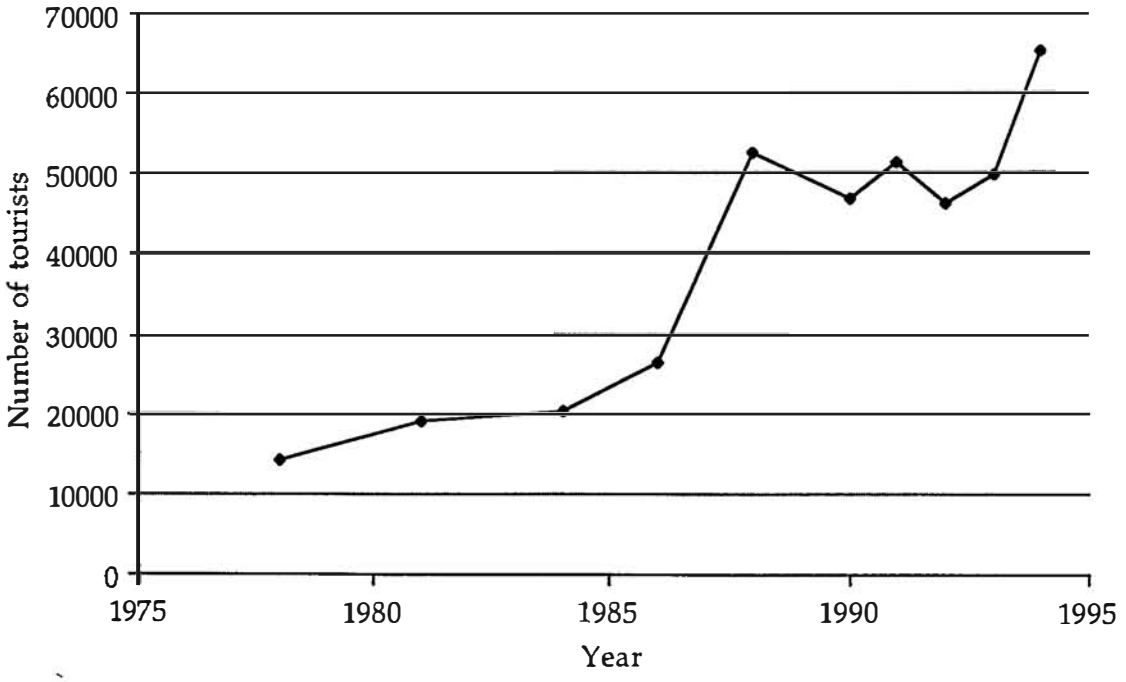


FIGURE 5.2

Number of overseas tourists visiting Tasmania, 1978-1994

Source: Tasmania, Department of Tourism, Sport and Recreation

The most recent Tasmanian Visitor Survey (Tasmania, Department of Tourism, Sport and Recreation 1995b) found that the number of tourists visiting Tasmania in the 1994-95 financial year was 479,600. In 1994-95 a tourists' average length of stay was just under ten nights, and average spending was $1,120. Total spending by tourists visiting Tasmania was an estimated $536.6 million. In 1994-95 almost 70,000, or 15 per cent of tourists to Tasmania were from overseas (Tasmania, Department of Tourism, Sport and Recreation 1995b). Only 3 per cent of overseas tourists visiting Australia come to Tasmania (Australia, Bureau of Tourism Research, quoted in *Mercury* 29 August 1995). Similarly, only 3.3 per cent of domestic visitor nights are spent in Tasmania (Australia, Tourism Forecasting Council 1995). Domestic tourism, which provides nearly 80 per cent of total tourism expenditure Australia-wide (*Australian* 3 October 1994: 5), accounts for nearly 85 per cent of travel to Tasmania (Tasmania, Department of Tourism, Sport and Recreation 1995a).

Tasmania's World Heritage Area and national parks are significant attractors for tourists, making them of considerable importance to the state's tourism industry (Tasmania, Department of Parks, Wildlife and Heritage 1992a, Tasmania, Department of Tourism, Sport and Recreation 1990). About 35 per cent of interstate and overseas tourists participate in some form of bushwalking while in Tasmania (Tasmania, Department of Tourism, Sport and Recreation 1995a). The Department of Tourism, Sport and Recreation has obtained tourist bushwalking statistics from their visitor surveys; unfortunately categories have been revised several times in recent years. These statistics are shown in Figure 5.3.

An estimated 30 per cent of tourists to Tasmania seek close environmental experiences (Tasmania, Department of Tourism, Sport and Recreation 1990). This importance has increased over the last few decades, partly due to the extensive publicity gained from conservation battles such as those to protect Lake Pedder, the Gordon and Franklin rivers, old-growth forests, and the Tarkine. Prior to these disputes, the importance of the natural environment for tourism was ignored by Tasmanian Governments. In the late 1970s former Premier Eric Reece claimed that 'Bushwalkers come to Tasmania with a dollar in their pocket and a shirt on their back and change neither' (Tasmanian Greens 1994), while in 1982 Premier Robin Gray described the Franklin River as 'nothing but a brown ditch, leech ridden, unattractive to the majority of people. You've got to be superbly fit or mentally ill to go rafting down there ...' (*Examiner* 24 September 1982). The growth of nature-

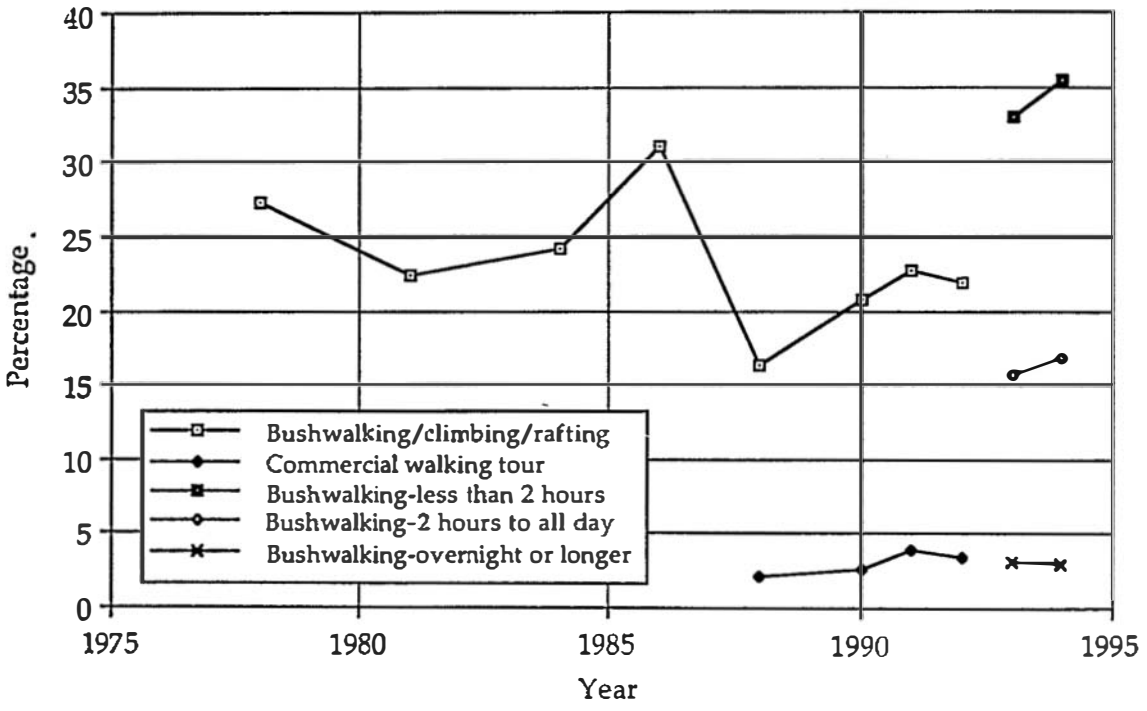


FIGURE 5.3

Percentage of tourists undertaking bushwalking activities, 1978-1994

Source: Tasmania, Department of Tourism, Sport and Recreation

based tourism in the Tasmanian WHA also appears to be linked to the increased provision of tourist accommodation, infrastructure, and service provision, and extensive promotion of Tasmania's natural environment by both the public and private sectors.

Nature-based tourism is likely to remain one the most important components of the Tasmanian industry. Both Australia and Tasmania have actively marketed themselves as nature-based tourism destinations. The state tourism strategy (Tasmania, Department of Tourism, Sport and Recreation 1990) recommended that resources be concentrated on developing outstanding attractions and activities which capitalise on Tasmania's unique cultural and natural heritage. This has included the provision of visitor centres, day-walks, and other infrastructure in national parks, the development of high-quality accommodation adjacent to and inside several national parks, the preparation of a state ecotourism strategy, and the sponsorship and hosting of the 1994 World Congress on Adventure Travel and Ecotourism.

Yet Tasmanian governments have long considered tourism to be an add-on industry. The logging, mining, hydro-electric power and agricultural industries have always had priority. Only land that was unsuitable for these uses has been saved from development, and remains in a relatively natural state. These left-over remnants are mainly protected areas - national parks, forest reserves and World Heritage Areas.

Tasmanian governments have imposed increasing pressure on the state's national parks to produce an economic return. Nature-based tourism has been perceived to be the means of achieving this. This pressure to produce a return has resulted in the government encouraging commercial tourism inside and adjacent to several parks. Large profits can be made by developers, owners and operators, many people are employed, and a high profile is achieved.

A survey by Forestry Tasmania (Gardner and McArthur 1994) found the state's guided nature-based tourism industry to have a number of strengths and weaknesses. Strengths include the natural environment, its proximity to urban areas, and the leadership and group skills of guides. Weaknesses include the short operating season due to a perception that for most of the year the climate is too cold and wet, the small size and underfinanced condition of the industry, a lack of specific and measurable objectives, and a lack of understanding of the market and its needs, including an over-

estimation of the value tourists place on feeling remote. The report proposed that natural resource managers should make people, rather than the environment, the primary focus of management. The survey was ideologically biased by Forestry Tasmania's desire to promote State forests as 'multiple-use'. The survey focused on tour operators utilising State forests, rather than those using national parks, explaining the relatively low rating of remote area experiences by tourists surveyed. Most ecotourists want to experience a natural environment, remote from broad-scale human impacts such as forestry, agriculture, or mining.

5.3 Tourism in the Cradle Mountain-Lake St Clair National Park

The historical development of tourism within the Cradle Mountain-Lake St Clair National Park has been described in Chapter 3. Early development was largely unplanned, with accommodation, tracks and huts being developed by various individuals, on their own land or leases, or at the direction of different government bodies. This development has been characterised by historical determinism, in that early decisions have largely been re-enforced by later ones. Until the mid 1980s road access, accommodation, and walking tracks changed little.

5.3.1 Tourist usage of the Cradle Mountain-Lake St Clair National Park

5.3.1.1 Visitors

Two separate sources of tourist visitation data are available concerning Cradle Mountain and Lake St Clair. The Parks and Wildlife Service has measured and estimated visitation at these locations using car counters and multipliers (see Chapter 1). The Tasmanian Department of Tourism, Sport and Recreation has irregularly surveyed visitors leaving Tasmania, who have been asked whether they visited specified locations whilst in the state, including Cradle Mountain and Lake St Clair. Different levels are reported by each source, shown in Figures 5.4 and 5.5 (Tasmania, Parks and Wildlife Service 1994, Tasmania, Department of Tourism, Sport and Recreation 1995a). This can partly be explained by the PWS measurement being an actual on-site measurement, while the Tourist Department measurement is an off-site post-visit sample, which is then extrapolated for the entire tourist population. The two sources find similar levels of visitation at Cradle Mountain in the mid to late 1980s. PWS data are considerably higher for Cradle Mountain visitation during the 1990s and for Lake St Clair generally. However, the two data sets do show very similar trends in the relative popularity of, and the change in visitation to each location.

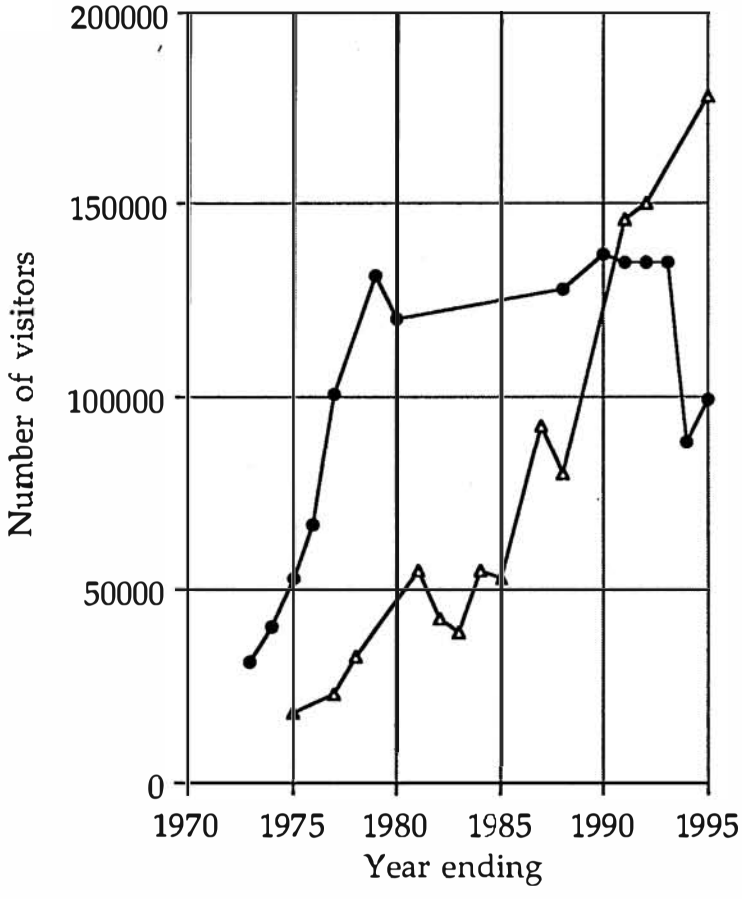
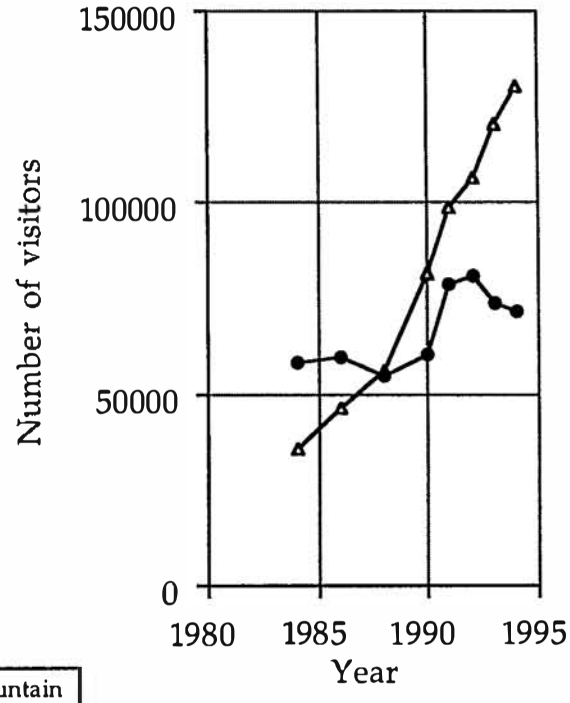


FIGURE 5.4

Tourists visiting Cradle Mountain and Lake St Clair, 1972-73 to 1994-95

Source: Parks and Wildlife Service



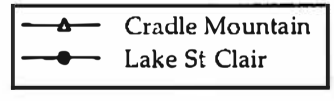


FIGURE 5.5

Number of tourists visiting Cradle Mountain and Lake St Clair, 1984-1994

Source: Tasmania, Department of Tourism, Sport and Recreation

Lake St Clair was a more popular destination than Cradle Mountain in the 1970s and in the early and mid 1980s. Since the late 1980s Cradle Mountain visitation levels have surpassed those of Lake St Clair. Usage by day visitors increased rapidly at both Cradle Mountain and Lake St Clair in the 1970s. During the 1980s visitor levels at Lake St Clair levelled off, while at Cradle Mountain they continued to grow. During the early 1990s visitor levels at Lake St Clair have fallen, while those at Cradle Mountain have greatly increased. Cradle Mountain visitor levels trebled between 1976-77 and 1986-87 and almost doubled between 1986-87 and 1990-91. This rapid growth can partially be attributed to the construction of the Cradle Mountain Link Road and the upgrading of the road from Moina.

Tourist visitation to the Park is highly seasonal, most visits occurring during the summer months. Summer visitation levels at Lake St Clair are four to five times the level of visitation in the three winter months (Tasmania, Parks and Wildlife Service 1994).

Visitor surveys undertaken by the Parks and Wildlife Service over the 1987-88 summer season provided the following statistics concerning the origins of day visitors at Cradle Mountain and Lake St Clair:

	Tasmania	**Interstate**	**Overseas**
Cradle Mountain	34 %	57 %	9 %
Lake St Clair	15 %	74 %	11 %

56 % of Tasmanians visiting Cradle Mountain were from Tasmania's North-West Coast (Tasmania, Parks and Wildlife Service 1994).

In a survey of Park users carried out in July 1993 57 per cent of visitors to Cradle Mountain listed daywalks as their main activity in the Park (Tasmania, Parks and Wildlife Service 1994). This proportion may not be representative of usage trends throughout the year.

5.3.1.2 Daywalkers and overnight walkers

Daywalker and overnight walker registrations have been recorded at both Lake St Clair and Cradle Mountain since 1972-73. The Lake St Clair statistics combine daywalkers and overnight walkers other than Overland Track walkers, while the Cradle Mountain statistics separate daywalkers and overnight walkers.

Between 1972-73 and 1994-95, Cradle Mountain daywalker registrations have multiplied by over 32 times, at an average growth rate of 1709 walkers per year (Figure 5.6). This growth has been exponential. During the ten years between 1972-73 and 1982-83 daywalker registrations quadrupled, increasing at an average rate of 366 walkers per year. During the five years between 1982-83 and 1987-88 registrations more than doubled, increasing by 123 per cent or an average of 1,204 walkers per year. Between 1987-88 and 1994-95 registrations more than trebled, increasing at a growth rate of 3,990 walkers per year.

Factors behind this growth include the doubling of accommodation at the Cradle Mountain Lodge in 1984, again in 1986, and again in the 1990s, the upgrading of the Cradle Mountain road in 1985, the completion of the Cradle Mountain link road in 1986, the construction of the camping ground in the mid 1980s, and of the Cradle Mountain visitor centre in 1989. Cradle Mountain has been recognised as one of Tasmania's main tourist attractions and has been heavily publicised. The development of this tourist infrastructure at Cradle Mountain can reasonably be expected to be the main determinant of the growth in visitor numbers.

The increase in registrations at Lake St Clair over the same period pales in comparison with those at Cradle Mountain but is still quite large (Figure 5.6). Day and overnight walker registrations more than trebled between 1974-75 and 1994-95, at an average growth rate of 313 walkers per year. This growth has been far from uniform. Registrations almost trebled between 1974-75 and 1980-81, increasing at the rate of 922 walkers a year. Between 1980-81 and 1983-84 registrations fell by exactly a third, falling by an average of 931 walkers a year. Growth between 1983-84 and 1994-95 was spasmodic and interrupted several times by minor periods of decline. Over this period registrations increased moderately by 63 per cent at the rate of 321 walkers per year.

Until 1984-85 daywalker and overnight registrations at Lake St Clair largely parallelled daywalker at Cradle Mountain, exceeding them by several thousand in the late 1970s and early 1980s (Figure 5.6). Since 1984-85 Lake St Clair registrations have only experienced moderate growth, while Cradle Mountain registrations have skyrocketed. This difference can be partially explained by Lake St Clair's lower profile as a tourist destination, its inaccessibility, dearth of accommodation and visitor facilities, comparative

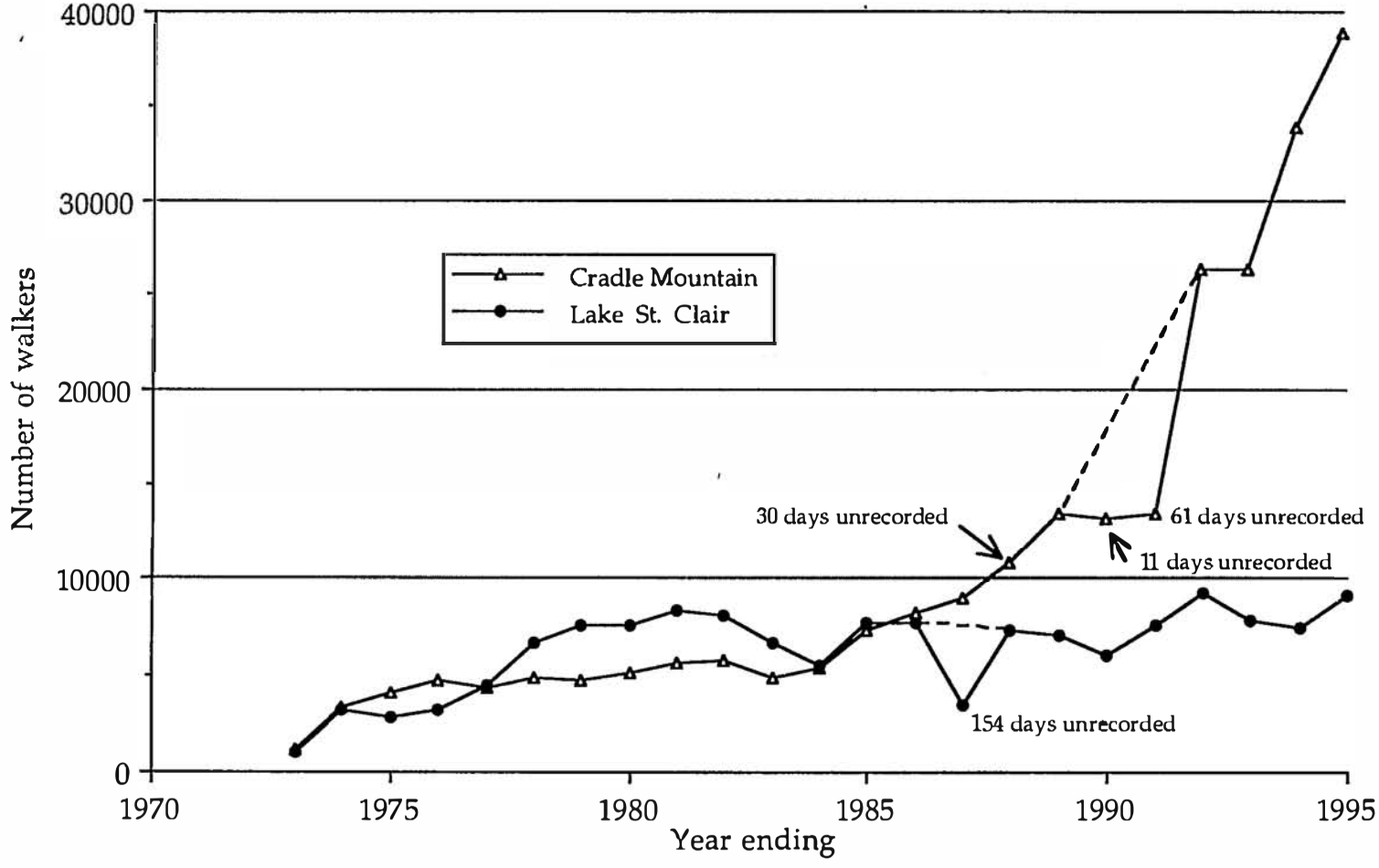


FIGURE 5.6

Daywalker registrations at Cradle Mountain and Lake St Clair (includes overnight), 1972-73 to 1994-95

Source: Parks and Wildlife Service

lack of a publicity profile, and by the smaller number of daywalk options available. With the development of new accommodation and tourist facilities, mentioned in section 5.3.2.2 below, it will be interesting to see whether daywalker numbers increase.

Overnight walker registrations at Cradle Mountain grew strongly from 1973-74 to 1983-84 by over 27 times (Figure 5.7). This amounted to an average growth of 229 walkers a year. In 1983-84 registrations of overnight walkers at Cradle Mountain equalled those of Overland Track walkers, and were half the level of Cradle Mountain daywalkers. From 1983-84 to 1993-94 overnight registrations rapidly declined to less than a quarter of their peak level. This amounted to an average decline of 182 walkers per year.

The reasons for the early growth in overnight walk registrations are probably an increase in publicity given to the area by bushwalking magazines, guide books, walking clubs and word of mouth. The reasons for the sudden decline in overnight registrations after 1983-84 are less clear, but are probably related to recreational succession. The level of infrastructure and number of tourists visiting Cradle Mountain both increased considerably from 1984 onwards. Daywalker numbers in the Cradle Mountain area rapidly rose from 1983-84 onwards. All of these factors made the area less attractive to some overnight walkers. Some of these walkers may have reacted by going elsewhere for their overnight walks. Others may have reacted by going on extended walks, such as the Overland Track. The decline in overnight registrations parallels the fastest period of growth in Overland Track registrations, and this may partly be due to some walkers being 'pushed' from Cradle Mountain by increasing numbers of tourists and tourist infrastructure.

5.3.2 Commercial tourism developments within and adjacent to the Park

As outlined in Chapter 4, there has been a concerted political effort to provide opportunities for private enterprise in the Cradle Mountain-Lake St Clair National Park, and this has been vigorously promoted by the Tasmanian government. The main developments within and adjacent to the Park are the Cradle Mountain Lodge, and several developments around Cynthia Bay.

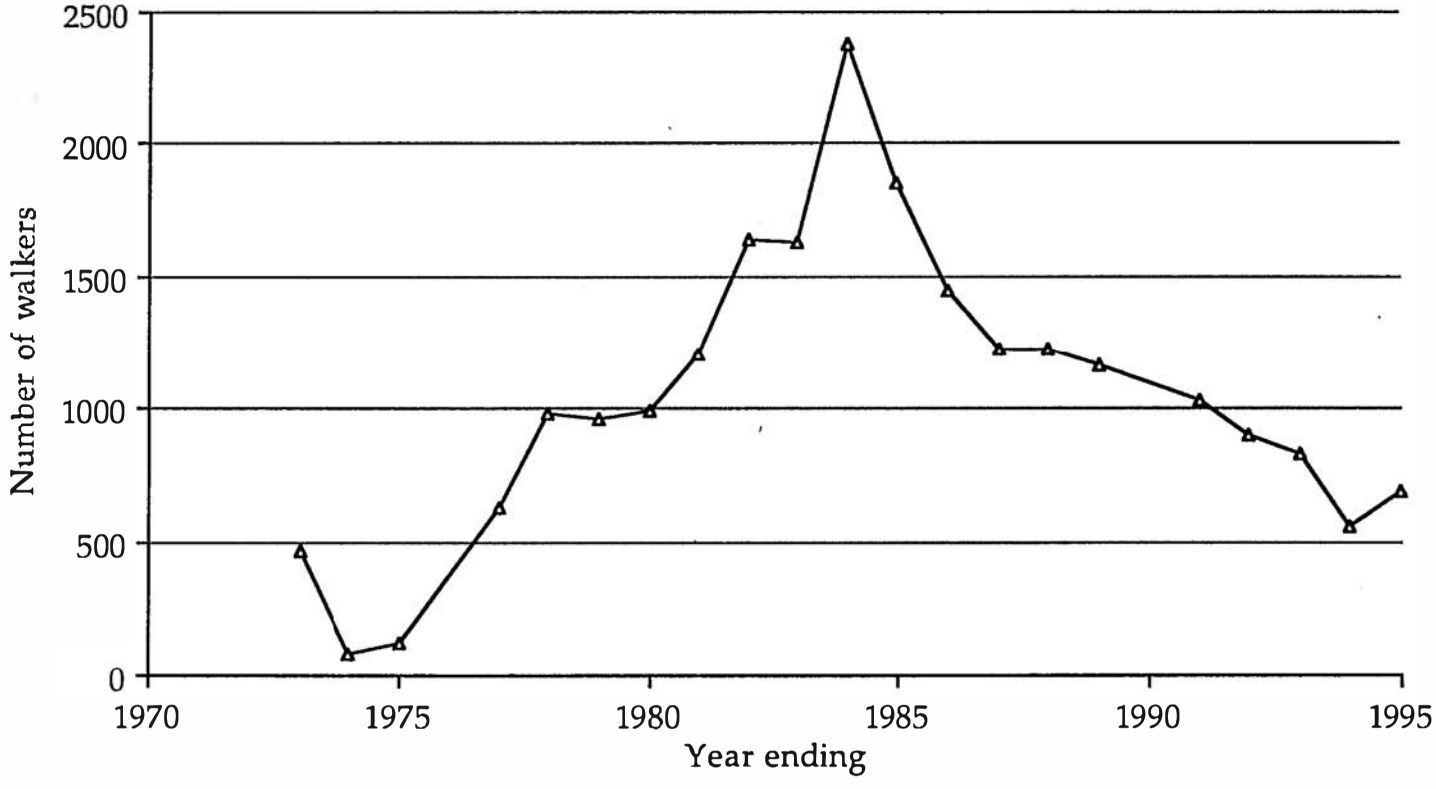


FIGURE 5.7

Overnight walker registrations at Cradle Mountain

Source: Parks and Wildlife Service

5.3.2.1 Cradle Mountain Lodge

The Gray Liberal Government was actively involved in the development of Cradle Mountain Lodge on the northern boundary of the Cradle Mountain-Lake St Clair National Park. The Lodge, initially known as the Pencil Pine Lodge, was opened by locals in 1971 with accommodation for 57 people. In 1984 the Lodge was sold to an interstate operator with close ties to the Liberal Party. The operator immediately doubled the size of the lodge, using funds from the government's Tasmanian Development Authority, and renamed it Cradle Mountain Lodge. Facilities include two bars, a restaurant serving fine foods and wines, shops, recreation area, horse-rides, fly-fishing, regular animal feeding, and 86 cabins (some luxury spa cabins), as well as convention facilities for 40 people. Since then the government has supported the lodge by providing a range of infrastructure developments. To improve access the government approved, in 1984, the building of the Cradle Mountain Link Road at a cost of over $8 million (*Examiner* 7 February 1986: 4). This road links the Cradle Mountain area with the Murchison Highway on the West Coast. The existing Cradle Mountain Road was also upgraded and sealed in 1985. By establishing an alternative 'circle route' around the state, these developments have greatly improved the accessibility of the Cradle Mountain area to tourists, though this has been to the detriment of Tasmania's North-West Coast. As a direct result of the road improvements the Lodge again doubled its capacity in 1986 (*Examiner* 7 February 1986). Commonwealth funds provided to compensate for the loss of the Gordon River dam were used to build the Cradle Mountain camping ground designed to cater for over two hundred people ($1.26 million) and the Cradle Mountain power link ($100,797), built in late 1986 (*Examiner* 26 February 1994: 1). $1.2 million was spent building a visitor centre next to the Lodge, and this was completed in 1989. More cabins were built in 1992, allowing the Lodge to accommodate up to 380 people (*Mercury* 20 February 1992: 9). Both the camping ground and accommodation at Waldheim inside the Park are now managed commercially by the Cradle Mountain Lodge. The Lodge is now owned by P&O and is heavily promoted and occupied throughout the year.

Development of another Lodge complex at the Cradle Mountain airstrip was proposed in 1992. This included a three-storey lodge, heated pool, games room, conference room, restaurant, two bars, spa-equipped rooms and a boutique-style distillery project to manufacture malt whisky (*Examiner* 5 March 1992: 14).

5.3.2.2 *Cynthia Bay and Derwent Bridge*

Only limited development of tourist infrastructure has occurred to date at the southern end of the Park. In 1974 Harrison proposed developing a winter/summer resort at Lake St Clair. Mount Rufus would be used for skiing in winter. During summer tourists would go bushwalking, golfing, canoeing, boating, fishing, visit a deer park/animal reserve, and go pony trekking along the Overland Track. 'There are some large areas both inside and outside the park suitable for pony trekking. If ponies were to be allowed through the Park then grazing facilities along the Overland Track would need to be provided. The large grassy plain north of Pelion Hut may prove suitable' (Harrison 1974). The resort proposed never eventuated, but the report did generate interest in the areas potential for future development.

In the early 1980s the Tasmanian Government built the Derwent Bridge Hotel on the Lyell Highway, at a cost of over $3 million. The hotel has not been a financial success and has suffered from its inappropriate scale and location. When last sold it was purchased for around $300,000. In the late 1980s a jetty/boat ramp costing $156,816 was built at Cynthia Bay on Lake St Clair, using Commonwealth dam compensation funds. This jetty has been used almost exclusively by the concessionaire operating the water taxi service on Lake St Clair, who also operates the camping and caravan area, cabins and kiosk at Cynthia Bay. Such support has not been without environmental costs. According to the WHA Management Plan 'the high use and subsequent degradation of the Pine Valley/Labyrinth area of the Cradle Mountain-Lake St Clair National Park has largely resulted from the easy access afforded to the area by the ferry service on Lake St Clair' (Tasmania, Parks, Wildlife and Heritage 1992a: 81).

The current Tasmanian Government is involved in a joint venture with the concessionaire to transform the Cynthia Bay area of Lake St Clair. The government is spending $2.1 million to build a park centre with ranger headquarters, interpretation facilities, kiosk, and a licensed restaurant. Picnic and barbecue facilities, day-walk tracks, a sewage treatment plant and landscaping will also be provided and the carpark will be sealed. The concessionaire is spending $1.4 million to build several self-contained two-storey cabins, a backpackers hostel, and new camping and caravan areas. This development will result in over 70 beds being provided, in addition to 40 campsites and 15 caravan sites (*Mercury* 14 January 1994, *Sunday Tasmanian*, 30 January 1994: 7).

The Government is also currently facilitating the development of a wilderness resort inside the national park, on the southern shore of Lake St Clair. A disused Hydro-Electric Commission pumping station and 14.2 hectares of partly-degraded land were offered for redevelopment into high quality tourist accommodation. Expressions of interest were sought nationally and in New Zealand. The successful developer is Merit Developments, which will spend $14 million to develop the resort by mid 1997. The elite 5 star resort will be known as Buckhurst Lodge and will be operated by newly formed HMG Hotels Group, accommodation costing $350 to $400 a night. Customers will stay in 48 one and two bedroom accommodation units with spa baths. The Lodge will have a 80 seat restaurant, library, museum, games room, gymnasium, health and fitness centre, and operate guided daywalks. According to HMG director Ted Wright, the resort will be aimed at 'a new breed of greenie ... determined to protect the environment, powerful, practical, cashed up and prepared to pay for the genuine wilderness experience' (*Mercury* 15 September 1995: 1). Up to $850,000 will be spent on promoting the resort in its first year. Guests will contribute towards a special nature conservation and education fund which will be available for the Parks and Wildlife Service to spend locally. A site plan was completed by the end of 1995 and will be referred to both the Tasmanian Minister for the Environment and the World Heritage Ministerial Council for approval.

5.4 Bushwalking in Tasmania

Tasmania is considered to be a mecca by many bushwalkers. 'Tasmania has the most challenging and interesting bushwalking country in Australia. Every summer bushwalkers converge here to experience the difficulties and rewards of walking in Tasmania' (Chapman and Chapman 1988: 100). Tasmania 'has the best venues for walking in Australia' (Thomas 1989). The combination of large areas of relatively undisturbed natural vegetation, rugged mountain ranges, wild rivers, varied coastlines, spectacular scenery, and easy access from the state's cities combine to make Tasmania a bushwalker's paradise. Many visitors to Tasmania come specifically to walk its tracks.

As mentioned in Chapter 3, the popularity of bushwalking in Tasmania has dramatically increased since the Second World War. This increase results from several factors, including societal changes such as increased leisure time, mobility, and disposable income. Interest in the natural environment

has also increased, resulting in the reservation of national parks, which, in turn, has interested people even further. Outdoor recreation has become attractive as a means of occasionally escaping our urban lifestyle. Road access has been improved to national parks and wilderness areas, and tracks constructed and routes formed within them. This, coupled with the development of lightweight and ergonomic camping equipment, has made walking much easier.

In late 1994 the Australian Bureau of Statistics (1995) conducted a survey of Tasmanians' participation in sporting and physical recreational activities. The survey participants were asked questions concerning 58 identified sporting and recreational activities, including bushwalking. The survey found that 19,700 Tasmanians aged 15 years and over (9.3 per cent of adults) had participated in bushwalking during the previous 12 months. This was broken down by sex into 10,000 males (8.8 per cent of adult males), 9,700 females (10 per cent of adult females); and by age into 4,300 people aged 14-24, 3,400 aged 25-34, 4,600 aged 35-44, 4,400 aged 45-54, 1,700 aged 55-64, and 1,300 aged 65 and over (Australian Bureau of Statistics 1995).

15,600 Tasmanians aged 15 years and over (7.4 per cent of that population) claimed that bushwalking had been one of their main three sports during the previous 12 months. This was broken down in several ways. 12,500 claimed that the main reason for their participation was for pleasure/interest, 2,000 claimed it was part of a fitness/ exercise program, 900 were involved for social reasons, and 200 for other reasons. Only 2,000 of the 15,600 walkers were members of a bushwalking club. 14,000 walkers individually organised their walks, 1,500 went on club organised walks, 300 on school/tertiary organised walks, and 200 on walks otherwise organised. Frequency of participation was not high, with only 500 walkers participating more than once a week, 2,800 once a week, 3,600 once a fortnight, 3,900 once a month, and 4,800 less frequently. Total annual cost of participation was low, with 5,600 walkers claiming there was no cost, 2,000 paying less than $100, 3,200 paying between $100-$299, 1,000 paying $300-$499, 2,400 paying $500-$999, 200 paying $1000 or more, and 1,200 not knowing what they paid (Australian Bureau of Statistics 1995).

5.5 Bushwalking on the Overland Track

The Overland Track is Australia's best known and most used extended walking track. It offers walkers a well marked and easily followed track with ten basic public huts and many campsites for accommodation. Four private huts are also located along the Track. One of the attractions of the Overland Track is that it provides relatively easy access into a spectacular wilderness area. The Track passes through rugged glaciated mountain ranges, flat alpine moorlands, cool temperate rainforests, tall eucalypt forests, and both waterfalls and glacial lakes are found along its length. The abundance of side-tracks and easy off-track walking allows almost infinite variation of itineraries. Trip lengths vary from day walks around Cradle Mountain and Lake St Clair, eight hour ultra-marathon runs along the Overland Track, to multiple week trips exploring interesting features off the main track. The Track has become a major attraction for bushwalkers from Tasmania, mainland Australia and, increasingly, overseas.

5.5.1 Overland Track walker numbers and characteristics

5.5.1.1 Parks and Wildlife Service statistics

Changes in Overland Track walker numbers and trends can be identified using statistics collected by the Parks and Wildlife Service. During the 23 years from 1971-72 walker registrations on the Overland Track have more than trebled (Figure 5.8). Registrations have grown from 1,504 in 1971-72 to 4,763 in 1994-95, an average growth rate of 142 walkers per year. However, this growth has been far from uniform. Between 1971-72 and 1980-81 walker registrations almost doubled, growing at an average rate of 160 walkers per year. Growth over this period was spasmodic and interrupted several times by minor periods of decline. Between 1980-81 and 1983-84 walker registrations declined by 19 per cent, falling at an average rate of 190 walkers per year. A period of moderate growth occurred between 1983-84 and 1988-89, registrations increasing by 28 per cent or 135 walkers per year. From 1988-89 to 1991-92 there was a dramatic increase in registrations by 57 per cent, a growth rate of 576 walkers per year. Since 1991-92 Overland Track walker registrations have fluctuated around the 4,500 to 4,800 level. Last year saw an increase of 221 walker registrations, and it will be interesting to see if future registrations increase or continue to fluctuate.

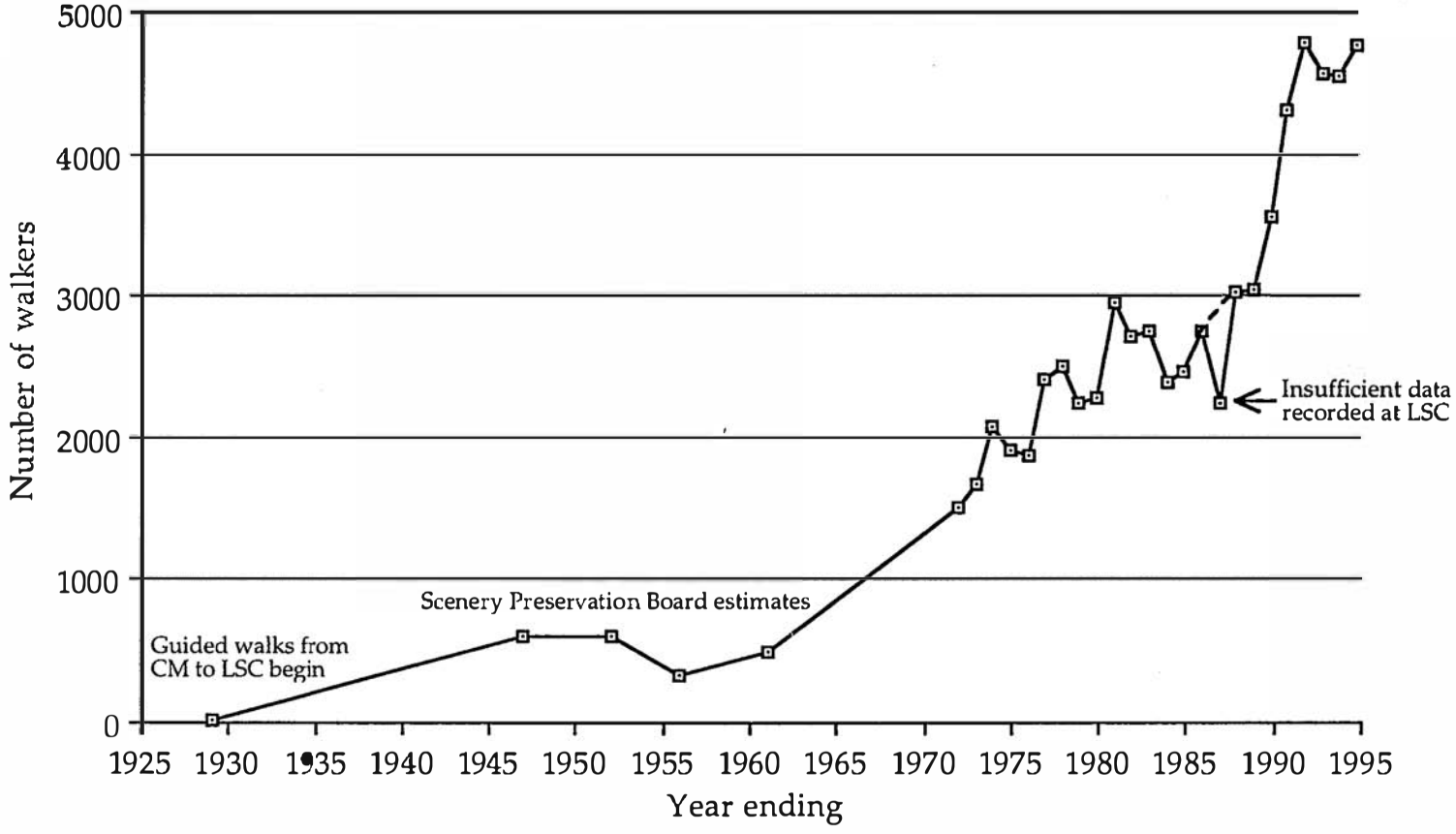


FIGURE 5.8

Overland Track walker registrations

Source: Parks and Wildlife Service, Scenery Preservation Board undated b

The rapid increase in registrations may partly be due to the introduction of compulsory permits to walk the Track, resulting in a higher proportion of walkers being registered. This permit system was removed two years ago when compulsory park entrance fees were introduced. The decline in walker numbers during 1992-93 and 1993-94 may be partly due to walkers reacting to the higher cost of the entrance fees, which were lowered last summer. Alternatively, walkers may have been more inclined to register in logbooks when they required a walking permit than they are now when they only require a park entry pass. Both these hypotheses may be valid to some extent, but it is thought that the increase in registrations reflects a substantial increase in usage of the Overland Track. Since the late 1980s the Track has been heavily publicised and become increasingly well known. The number of commercial operators has also increased, and different types of walker have been attracted.

Usage of the Overland Track is highly seasonal (Figure 5.9). Parks and Wildlife Service statistics show that during 1994-95, 92.4 per cent of usage occurred during the six month peak season from November 1994 to April 1995. 45.4 per cent of usage occurred during January and February, while the November-December and March-April shoulder periods experienced 21.6 per cent and 25.4 per cent of usage respectively. Only 7.6 per cent of usage occurred during the six month off-peak period embracing July-October 1994 and May-June 1995. This is in accord with data collected between 1991 and 1992 by the Parks and Wildlife Service when special Overland Track Passes were issued to nearly all walkers on the Track (Rheinberger 1992). 94.4 per cent of usage occurred during the six peak months, including December 1991 - April 1992 and November 1992. 47.3 per cent of usage occurred during January and February, while the November-December and March-April shoulder periods experienced 24.4 per cent and 22.8 per cent of usage respectively. Only 5.5 per cent of usage occurred during the six month off-peak period embracing May-October 1992.

Most Overland Track walkers travel from north to south. PWS statistics show that in 1994-95 79.4 per cent of walkers who registered on the Overland Track travelled from north to south. In 1993-94 this was 82 per cent.

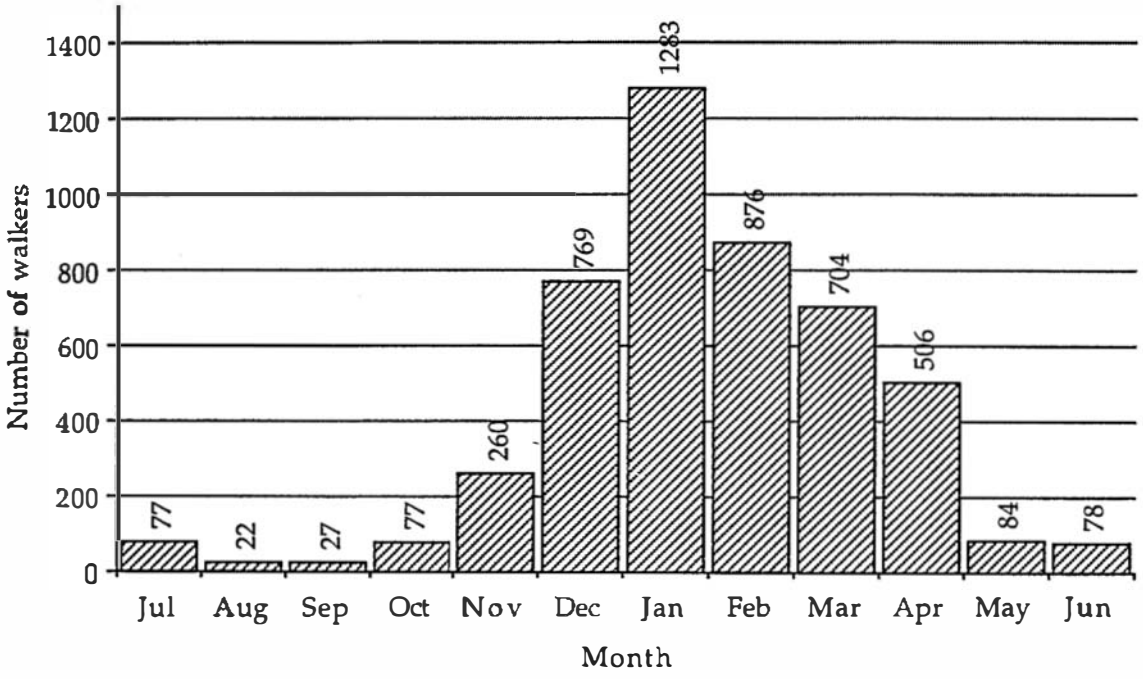


FIGURE 5.9

Monthly Overland Track walker registrations, 1994-95

Source: Parks and Wildlife Service

Rheinberger (1992) analysed information recorded on PWS Overland Track Passes between December 1991 and November 1992. He found that the average group size was 2.6 walkers per group. Rheinberger looked at where each group stayed each night, totalling all groups to calculate total 'group nights' spent at each place. 53.3 per cent of group nights were spent in huts, while 46.7 per cent were spent in tents. Tents were mainly used around huts - 84 per cent of group nights in tents were spent at locations close to huts.

Rheinberger found that three categories of tent usage were found around the public huts. At some sites huts and tents were used relatively evenly. These include Pine Valley and New Pelion huts, which have ample areas around for camping and are used by many walkers as bases for sidetrips. At some sites huts were used significantly more than tents. These include Kia Ora, Windermere, Windy Ridge, Narcissus, Scott Kilvert, Cirque, Echo Point, Old Pelion and Kitchen huts, which have limited areas nearby suitable for camping. At some sites tents were used significantly more than huts. These include Waterfall Valley, Cynthia Bay and Du Cane huts, all which have ample areas around for camping but limited room inside the huts.

Rheinberger (1992) found that 29 per cent of groups did not undertake any side-trips. The number of side-trips taken by other groups is shown in Figure 5.10. The popularity of these side-trips is shown in Figure 5.11.

The Parks and Wildlife Service has conducted several surveys of bushwalkers in order to better identify their characteristics. The 1986-87 Wilderness Walker Survey (Tasmania, Department of Lands, Parks and Wildlife 1987) mainly surveyed walkers on the Overland Track. It found that 25 per cent of walkers came from Tasmania, 65 per cent from interstate, and 5 per cent from overseas. During the 1990-91 and 1991-92 seasons the Parks and Wildlife Service surveyed on major WHA tracks. Half the respondents were Overland Track walkers (Tasmania, Parks and Wildlife Service 1994). The 1991-92 survey also found that 26 per cent of walkers on major WHA tracks came from Tasmania, 60 per cent from interstate, and 14 per cent from overseas. The 60 per cent from interstate comprised 22 per cent from Victoria, 23 per cent from New South Wales, 3 per cent from South Australia, and 9 per cent from the other states and territories. The overseas 14 per cent comprised 9 per cent from Europe, 2 per cent from New Zealand, and 1 per cent from Canada.

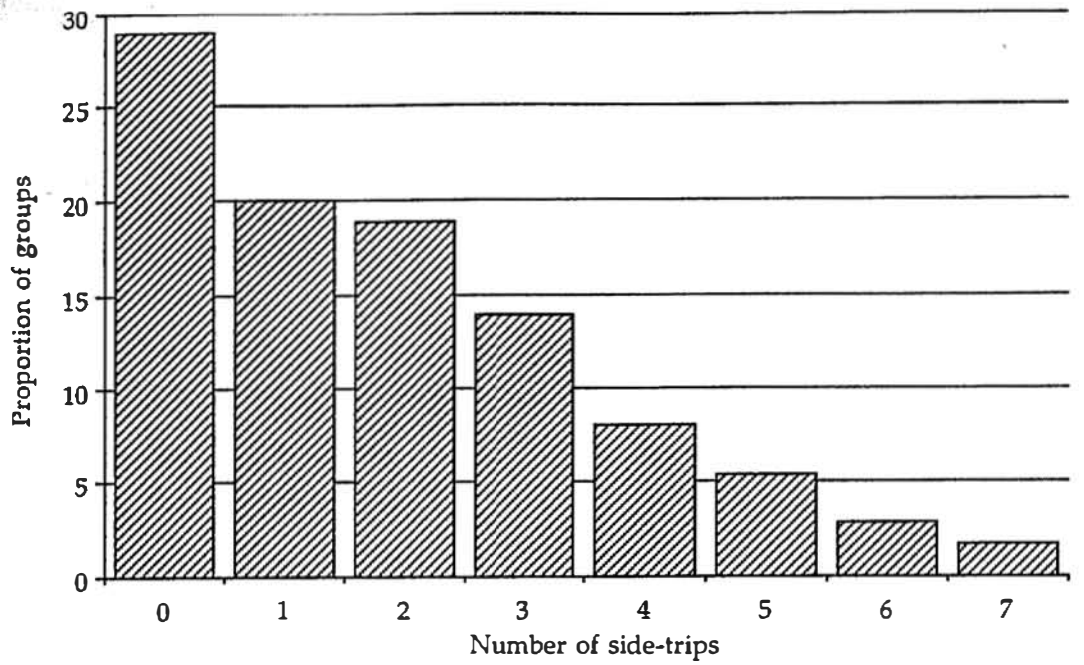


FIGURE 5.10

Number of side-trips taken by groups

Source: Rheinberger 1992

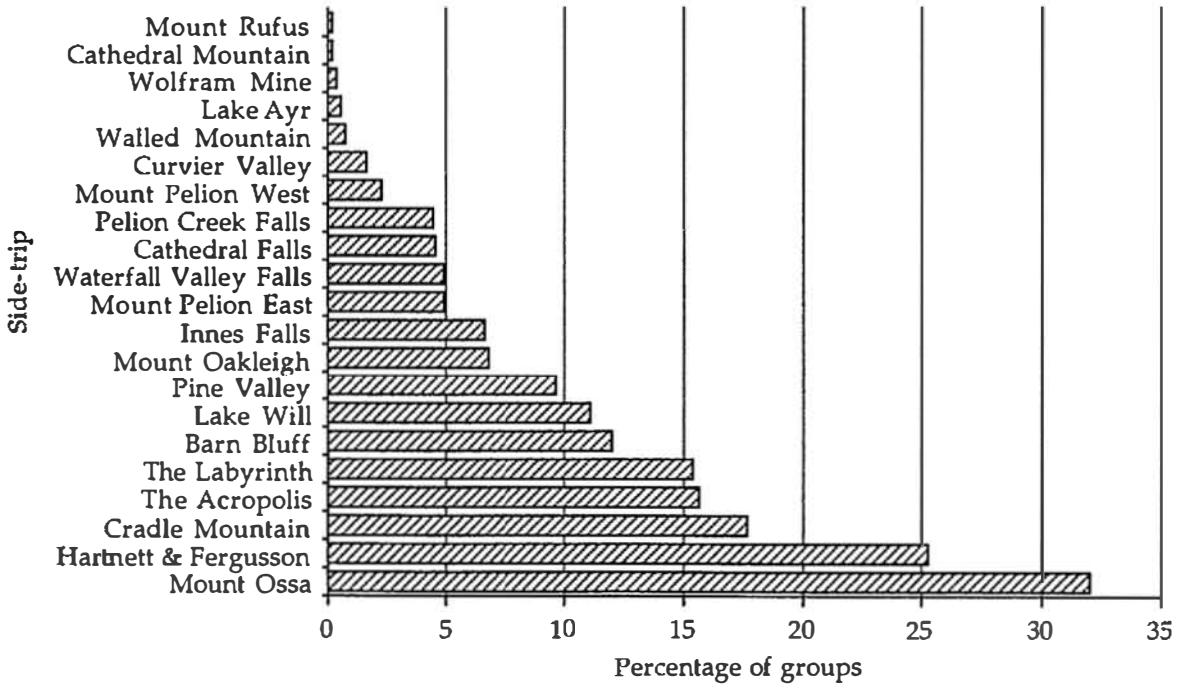


FIGURE 5.11

Percentage of Overland Track groups walking each side-trip

Source: Rheinberger 1992

These PWS surveys found that two-thirds of walkers surveyed were aged between 16 and 35 years. 60 per cent of the walkers were male. Walkers tended to be well educated, three-quarters of the walkers aged over 20 years having completed tertiary education. The 1990-91 PWS survey found that 11 per cent of walkers on the Overland and Frenchmans Cap tracks claimed their level of experience as novice (never been on an overnight bushwalk before), 39 per cent as moderate (less than six overnight walks), and 50 per cent as very experienced (six or more overnight walks). These levels of experience were considerably lower than those of walkers in the Walls of Jerusalem, Arthur ranges and other South-West tracks. The 1991-92 survey found that two-thirds of Overland and Frenchmans Cap track walkers claimed they were very experienced, most of the rest claiming to be experienced.

In January and February 1995 the PWS conducted the Tasmanian Wild Area User Survey of overnight walkers on tracks throughout Tasmania's national parks. Questionnaires collected from each area or major track were analysed separately, including 175 returned by Overland Track walkers (Tasmania, Parks and Wildlife Service 1995). This data was shared with the author for usage in this thesis. Only 15 per cent of Overland Track walkers surveyed came from Tasmania, 66 per cent were from the mainland, while 19 per cent were from overseas. This contrasts with the origins of walkers surveyed on other tracks (including the Central Plateau, Walls of Jerusalem, Frenchmans Cap, Freycinet, and South West):

	Tasmania	Interstate	Overseas
Overland Track	15 %	66 %	19 %
Other tracks	47 %	45 %	8 %

66 per cent of Overland Track respondents had never visited the area before. The average number of nights taken for the Track was 6.3 nights, with 38 per cent of walkers spending either 6 or 7 nights on the Track. Average group size was 3.5 walkers, with 37 per cent of walkers walking in a group of 2 people. Figure 5.12 shows the distribution of respondents' group size. Only 16 per cent of Overland Track walkers surveyed were members of walking clubs, and only one Tasmanian claimed to be a member of a walking club.

5.5.1.2 Calais' 1978-79 Survey

Calais 1978-79 survey of visitors to the Cradle Mountain-Lake St Clair National Park was answered mainly by daywalkers at Cradle Mountain and Lake St Clair (43 per cent), and by Overland Track walkers (43 per cent). Responses from overnight walkers comprised 9 per cent, while responses from non-walkers were only 4 per cent. 31 per cent of respondents were from Tasmania, 64 per cent were from interstate, and 5 per cent were from overseas. 63 per cent of respondents were male. 27 per cent of respondents were aged between 17 or younger, and 58 per cent were aged between 18 and 40 years. 61 per cent of respondents had attained or were in the process of attaining tertiary qualifications. 45 per cent of respondents were employed as professionals, 13 per cent were tertiary students, and 9 per cent were tradesmen. 89 per cent of respondents walking the Overland Track departed from Cradle Valley and walked south to Lake St Clair. 57 per cent of those walking the Track did not undertake any side trips, 32 per cent visited Pine Valley, and 10 per cent visited Lake Will.

5.5.1.3 Overland Track Walker Survey

As mentioned in Chapter 1, a survey of bushwalkers was conducted by the author along the Overland Track during the 1994-95 summer season. This survey was intended, in part, to provide a better understanding of the characteristics of the various type of walkers using the Track. An attempt was made to determine the relationship between different types of walker and their socio-economic background. Data were collected concerning how the walk was planned, the direction travelled and route taken, trip length, group size and type, reasons for choosing type of group, place of residence, age, sex, education, occupation, bushwalking experience, and motivation for walking the Track.

Non-Tasmanian survey respondents were asked whether they had planned to walk the Overland Track before coming to the state. 94 per cent of respondents claimed that they had. 29 per cent of survey respondents claimed that it was the only reason for coming to the state, 36 per cent of survey respondents claimed that the walk was the most important reason, and 30 per cent of survey respondents claimed that the walk was one of several equally important reasons. Only 5 per cent of survey respondents claimed that the walk was unimportant in their coming to the state.

90.8 per cent of the survey population walked from north to south along the length of the Overland Track (Cradle Valley to Narcissus at the northern end of Lake St Clair). Only 5.3 per cent walked from south to north along the length of the Track, whilst another 3.9 per cent walked other routes that included only a portion of the Overland Track, including return trips to the Pelion and Du Cane Range areas from Lake St Clair, the Mersey Valley, and the Arm River.

The average trip length for the entire population was 6.7 days (Table 5.1), with 53 per cent of walkers taking 6 or 7 days, and 22 per cent taking 8 days. Commercially guided tent-based, bushwalking club, and scout/school groups took 8 days, while commercially guided hut-based and other groups took 6 days. Half the friends/family group members took 6 or 7 days to walk the Track. The public huts were used for sleeping for 2.6 nights, on average. This is just under half the average number of 5.7 nights spent on the Track by the survey population (average number of nights ≈ average trip length 6.7 days minus 1). On average, scout/school, army, solo walkers and friends/family groups all spent more nights in the public huts, while bushwalking club and commercially guided groups spent fewer. Commercially guided groups made little use of the public huts, apart from occasionally eating lunch and sheltering from bad weather. Commercially guided tent-based groups sometimes sleep in the public huts when weather conditions are poor.

Average group size for the entire survey population was just over 5 members per group. There was considerable variation between the different group types identified (Table 5.1). Solo walkers only had 1 group member (by definition), friends/family groups averaged 2.9 members, bushwalking club groups averaged 5.8 members, commercially guided hut-based groups averaged 9.7 members, commercially guided tent-based groups averaged 10 members, other groups (army) averaged 13.5 members, while scout/school groups averaged 16.7 members. Figure 5.13 shows the frequency of respondents' group size. 55 per cent of respondents walked in groups of 2 to 4 members. 20 per cent of respondents walked in groups of 5 to 11 walkers. 12 per cent of the sample walked in a group of 12 members. This second peak is due to commercially guided groups, which are limited to a maximum of 10 customers plus at least 2 guides.

	Average trip length (days)	Average group size (people)	Average age (years)	Sex (per cent male /per cent female)	Tertiary educated (per cent)	Employed (per cent)	Studying (per cent)
Total sample (n=228)	6.7	5	35	59/41	66	60	27
Solo walkers (n=18)	6.4	1	33	78/22	67	61	22
Friends/family (n=137)	6.6	2.9	32	62/38	66	57	32
Bushwalking club (n=6)	8.3	5.8	52	50/50	33	50	0
Scout/school trip (n=3)	8	16.7	16		0	0	100
Comm. guided - tent (n=27)	8	10	33	59/41	74	70	26
Comm. guided - hut (n=34)	6	9.7	49	35/65	74	65	9
Other (army) (n=4)	6	13.5	26			100	0

TABLE 5.1

Characteristics of Overland Track Walker Survey respondents

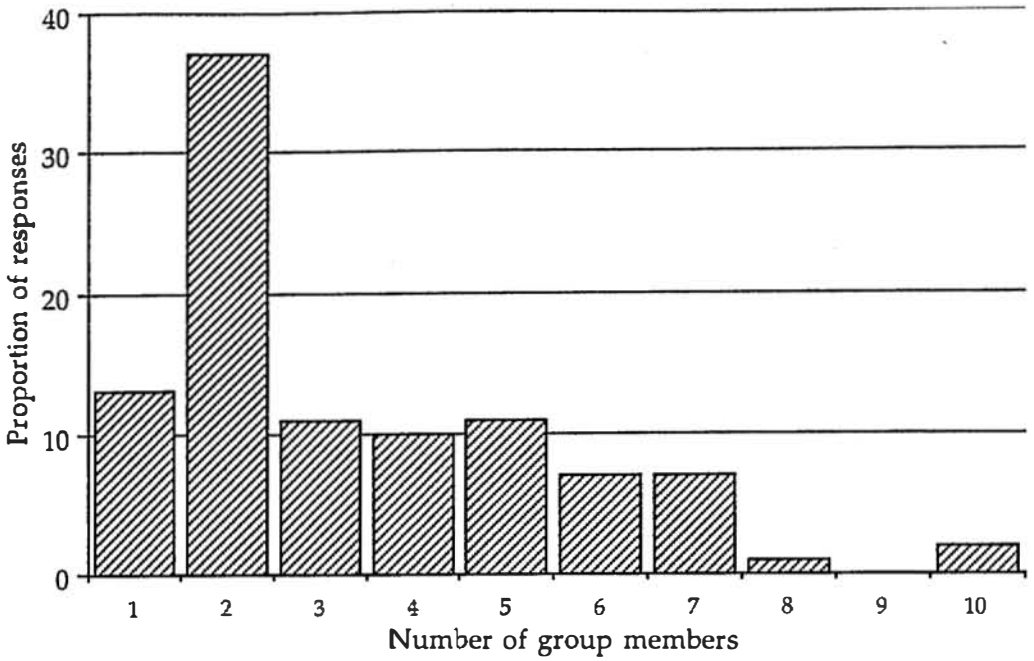


FIGURE 5.12

Overland Track walker group size, Wild Area User Survey 1995

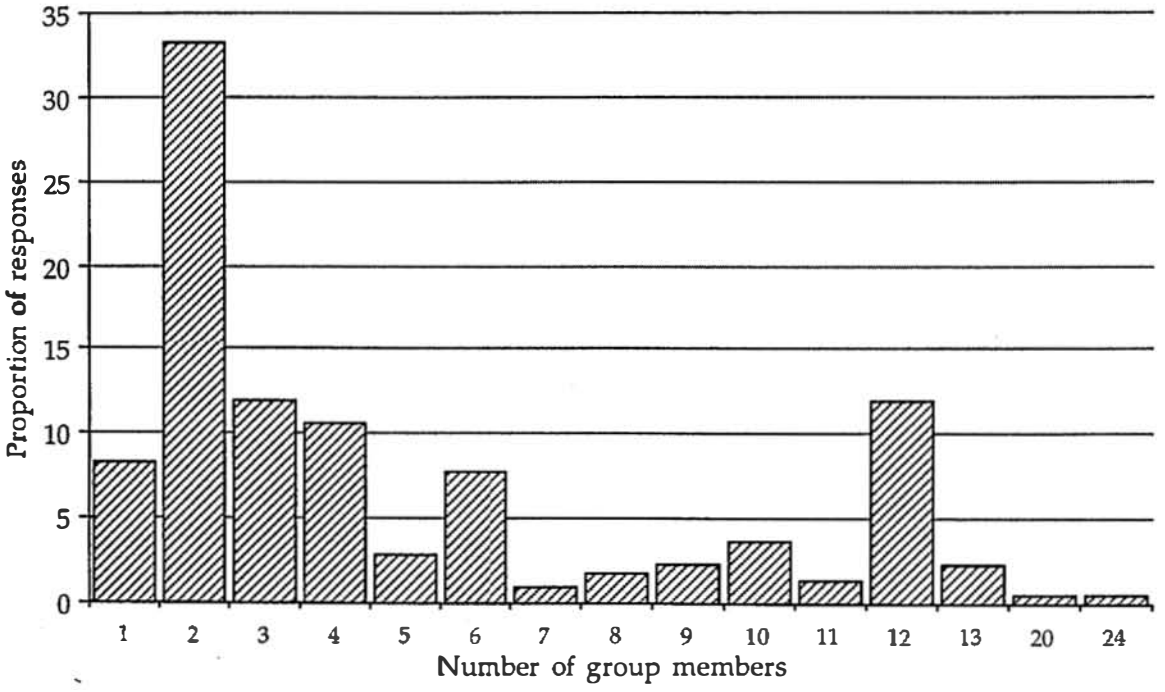


FIGURE 5.13

Overland Track walker group size, Overland Track Walker Survey

Understandably, respondents from different types of group thought that quite different reasons were important in their deciding what type of group to walk with. 39 per cent of solo walkers cited convenience as most important, while 33 per cent thought other factors such as freedom and solitude were important. 46 per cent of friends/family walkers thought convenience was important, while 32 per cent claimed that their group naturally formed from friends or family wanting to do the walk together. 60 per cent of bushwalking club walkers claimed that the most important reasons for choosing their type of group were convenience and fitness level, and 40 per cent thought cost was. 33 per cent of scout/school trip walkers thought that convenience and lack of bushwalking experience were important. 48 per cent of commercially guided tent-based walkers thought convenience was important, while 30 per cent cited their lack of bushwalking experience. 56 per cent of commercially guided hut-based walkers thought that comfort was important in choosing their type of group, 32 per cent cited convenience, 29 per cent thought lack of walking experience was important, while 26 per cent listed fitness level. 50 per cent of army walkers thought roughing it was important in choosing their type of group, as their walk was organised for adventure training.

Less than five per cent of the survey population did not undertake any side-trips. The popularity of side-trips undertaken by the survey population is shown by Figure 5.14.

The origins of the walker population sampled, and subgroups examined, is shown in the following table:

	Tasmania	Interstate	Overseas
Total sample	16 %	68 %	16 %
Solo walkers	17 %	39 %	44 %
Friends/family	19 %	63 %	18 %
Bushwalking club	67 %	33 %	0 %
Commercially guided tent-based	8 %	85 %	8 %
Commercially guided hut-based	6 %	88 %	6 %

A large proportion of solo walkers, 44 per cent, came from overseas, most probably backpackers travelling alone. More friends/family walkers came from Victoria (20 per cent) or New South Wales (25 per cent) than Tasmania (19 per cent). Two-thirds of bushwalking club members came from Tasmania, one-third came from Tasmania, with none from overseas. Only 8 per cent of tent-based and 6 per cent of hut-based commercially guided

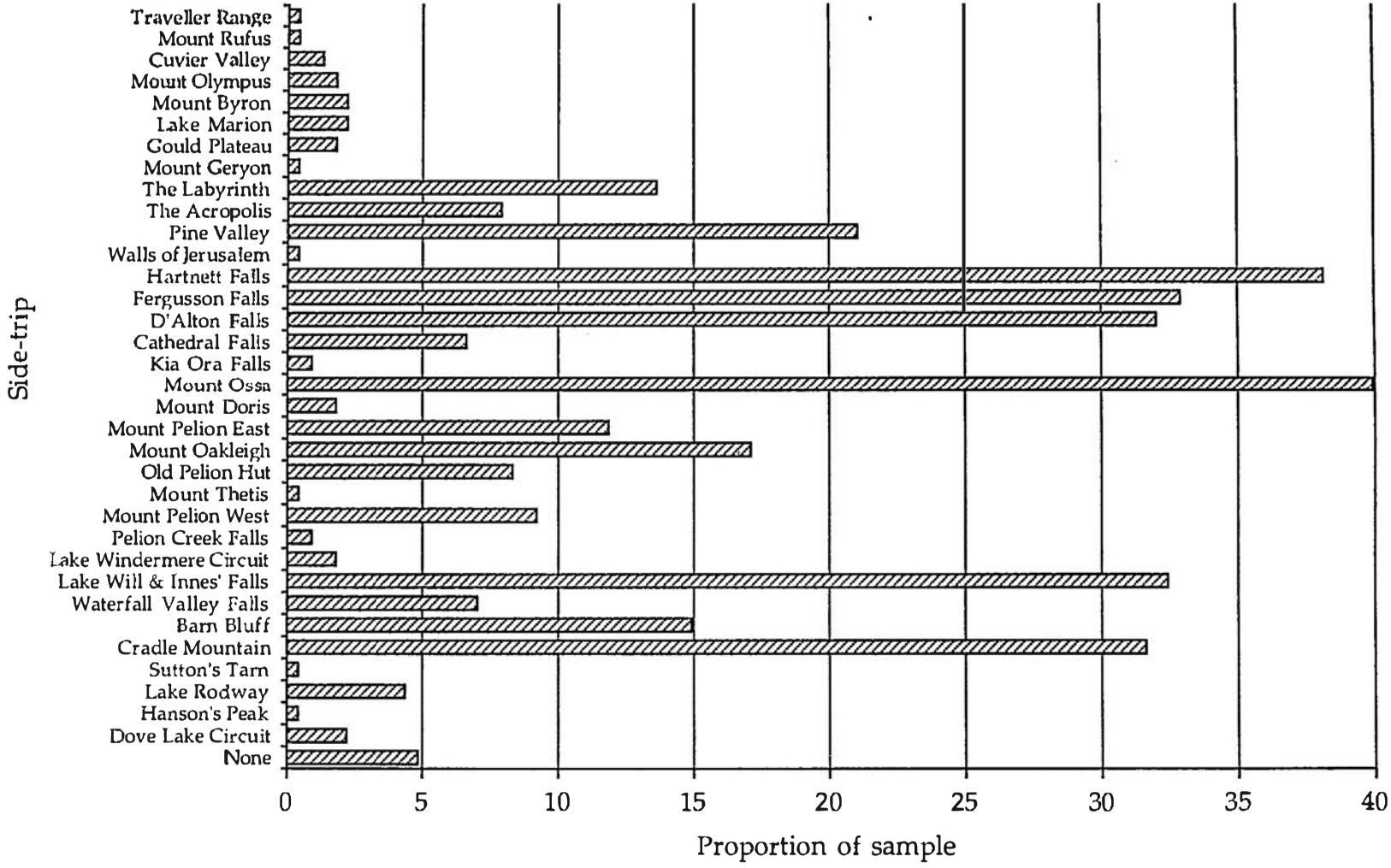


FIGURE 5.14

Proportion of Overland Track walkers doing each side-trip, Overland Track Walker Survey

walkers were from overseas. Similarly, only 8 per cent of tent-based and 6 per cent of hut-based commercially guided walkers were from Tasmania. Very high proportions of commercially guided walkers came from interstate. 58 per cent of tent-based commercially guided walkers came from Victoria or New South Wales, the remaining 27 per cent coming from the other states. 44 per cent of hut-based commercially guided walkers came from Victoria or New South Wales, whilst the remaining 44 per cent came from the other states. 70.6 per cent of walkers surveyed lived in urban areas, 29.4 per cent in rural areas.

A comparison of the results of the different surveys that have examined the origins of Overland Track walkers shows considerable temporal change. In the 16 years since Calais' survey, the proportion of walkers residing in Tasmania has halved, the proportion of interstate walkers has increased slightly, and the proportion of overseas walkers has more than tripled:

	Tasmania	**Interstate**	**Overseas**
Calais 1978-79, Overland Track	31 %	64 %	5 %
PWS Wilderness Walker Survey 1986-87, mainly respondents on Overland Track	25 %	65 %	5 %
PWS Wilderness Walker Survey 1991-92, half respondents on Overland Track	26 %	60 %	14 %
Overland Track Walker Survey 1994-95, Overland Track	16 %	68 %	16 %
PWS Wild Area User Survey 1995, Overland Track	15 %	66 %	19 %

Figure 5.15 shows the age distribution of the walkers surveyed. Only 2 per cent of respondents were children aged 14 years and under. 55 per cent of walkers were aged between 15 and 34 years. 31 per cent were aged between 35 and 54 years. 12 per cent were aged over 55 years. Table 5.2 shows the age profiles of respondents in each group type. The solo walker, friends/family group member, commercially guided tent-based, and army walker groups all had relatively similar age profiles, peaking in the 25-35 year old age category but also having many youths and middle-aged walkers. School/scout groups were comprised entirely of youths. Commercially guided hut-based walkers and bushwalking club members were mainly middle-aged to elderly. The average age of the entire sample was 34.9 years, the median age being 31 years. There was considerable variation in the average age of walkers in each of the group types identified (Table 5.1). Scout/school group

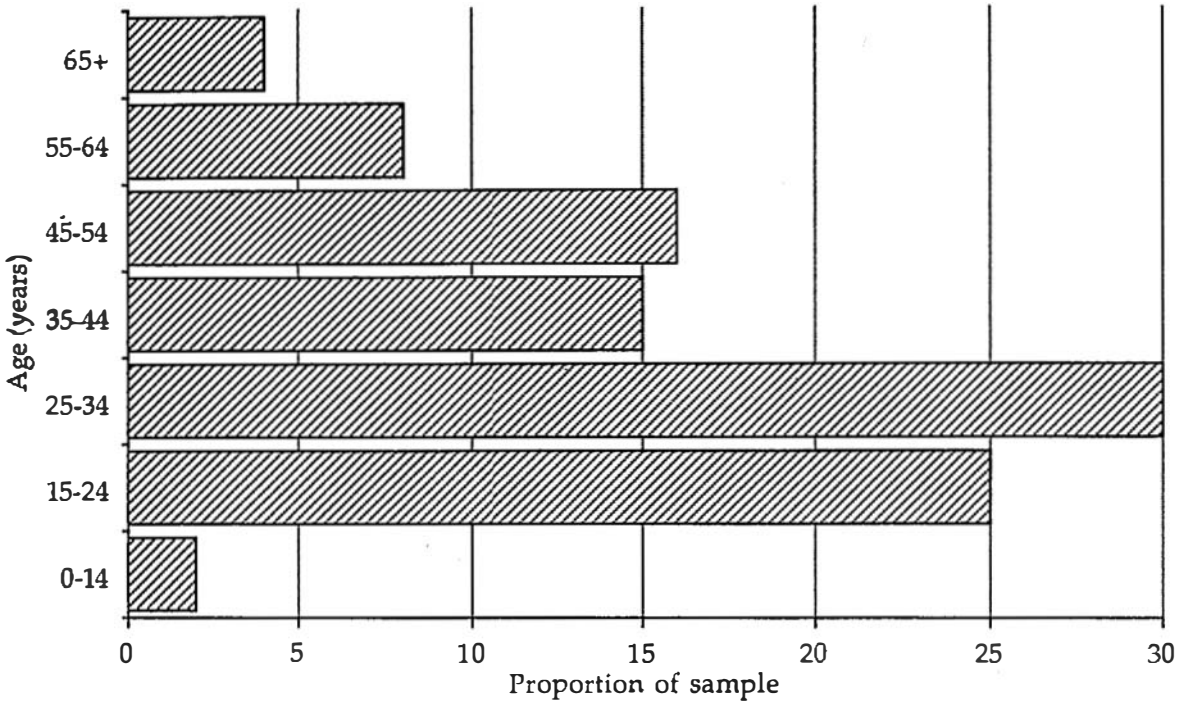


FIGURE 5.15

Age of Overland Track walkers, Overland Track Walker Survey

Age (years) >	0-14	15-24	25-34	35-44	45-54	55-64	65 +
Solo walkers (n=18)	0 %	22 %	39 %	28 %	6 %	6 %	0 %
Friends/family (n=137)	3 %	30 %	43 %	11 %	11 %	7 %	1 %
Bushwalking club (n=6)	0 %	0 %	17 %	0 %	33 %	33%	17%
Scout/school trip (n=3)	0 %	100 %	0 %	0 %	0 %	0 %	0 %
Comm. guided - tent-based (n=27)	0 %	26 %	37 %	22 %	15 %	0 %	4 %
Comm. guided - hut-based (n=34)	3 %	6 %	3 %	18 %	38 %	21 %	12 %
Other (army) (n=4)	0 %	25 %	50 %	25 %	0 %	0 %	0 %

TABLE 5.2

Age profiles of each group of Overland Track walker

members had an average age of only 15.7 years. Other (army) group members had an average age of 26.3 years. Friends/family group members and solo walkers had average ages of 31.8 years and 33.4 years respectively. Tent-based commercially guided group members had an average age of 32.9 years, commercially guided hut-based walkers had an average age of 49.1 years, while bushwalking club group members had an average age of 51.7.

59 per cent of the entire sample were male, 41 per cent female. There was considerable variation in the sex of walkers in different types of group (Table 5.1). 78 per cent of solo walkers and 62 per cent of friends/family group members were male. 59 per cent of commercially guided tent-based group members were male. Half of bushwalking club group members were female, while 65 per cent of commercially guided hut-based group members were. 67 per cent of scout/school group respondents were female, but this is based on only 3 responses and is probably unrepresentative. Many school trips are half female, scout trips are almost all male, and guide trips are uncommon.

A comparison of the results of the different surveys that have examined the sex of Overland Track walkers shows slight temporal change. In the 16 years since Calais' survey, the proportion of male walkers has fallen slightly. This is probably due to the increased usage of the Track by commercial groups.

	Male	**Female**
Calais 1978-79,		
Overland Track	63 %	37 %
PWS Wilderness Walker Survey 1991-92,		
half respondents on Overland Track	60 %	40 %
Overland Track Walker Survey 1994-95,		
Overland Track	59 %	41 %

The walkers sampled were well educated, with 66 per cent of the sample population, or 74 per cent of those aged over 20 years, having completed a tertiary qualification. This corresponds with the findings of the 1991-92 PWS survey. Another 8 per cent had completed a technical education. 74 per cent of commercially guided walkers (both tent and hut based) had completed a tertiary qualification, as had 67 per cent of solo walkers, and 66 per cent of walkers in friends/family groups (Table 5.1). No army, bushwalking club, or scout/school group respondents had completed tertiary qualifications.

60 per cent of respondents were employed, 27 per cent were students, 6 per cent retired, 4 per cent were unemployed, and 3 per cent did unpaid work at home. Table 5.1 shows the proportion of each group employed or studying. All army walkers were employed. 70 per cent of commercially guided tent-based walkers and 65 per cent of commercially guided hut-based walkers were employed. All scout/school trip walkers were students, while only 9 per cent of commercially guided hut-based walkers were. 33 per cent of bushwalking club members were retired (though the small number of responses must be taken into account), while 18 per cent of commercially guided hut-based walkers were. 9 per cent of commercially guided hut-based walkers were engaged in unpaid work at home.

Half the employed respondents claimed that their occupation was as a professional, 16 per cent were managers or administrators, 13 per cent were tradespersons, 7 per cent each were semi-professional and salespersons/personal service workers, and 5 per cent were clerks. These categories were not defined, which may have led to some inaccuracy. It appears that many people consider themselves to be professional whatever their occupation, because they are paid for their work. Nearly half (47 per cent) the students were currently studying undergraduate university courses, over a quarter (26 per cent) were studying postgraduate university courses, 13 per cent were studying for matriculation, and 13 per cent were high school students.

When asked to describe their own bushwalking experience, 14 per cent of the survey population claimed that they were novice bushwalkers (less than 5 nights previously spent in the bush), 39 per cent claimed that they were moderately experienced (5-25 nights previously spent in the bush), and 47 per cent claimed that they were very experienced (more than 25 nights spent in the bush, with 2 or more extended walks). This is illustrated in Figure 5.16. When respondents were asked to describe their group's average experience, 21 per cent claimed that their group was novice, 49 per cent claimed that their group was moderately experienced, and 30 per cent claimed that their group was very experienced. The difference between individual and group experience is considerable, and is probably due to the subjectivity of the respondents and the prestige attached to being experienced. Respondents were more likely to over-estimate or over-state their own experience and under-estimate or under-state the other group members' experience.

Various reasons were given for choosing to walk the Overland Track (Figure 5.17). Those thought important by the majority of the total sample population were the enjoyment of alpine scenery (73 per cent), wilderness experience (70 per cent), challenge (57 per cent), contact with nature (55 per cent), physical exercise (54 per cent), and adventure (50 per cent). Escape from city life was an important reason for 39 per cent of the sample. Other reasons were only considered important by a minority of the sample. There is some variation in the motivations of walkers in different types of group. Solo walkers were motivated by wilderness experience (94 per cent), contact with nature (72 per cent), and physical exercise (67 per cent). Friends/family walker motivations were similar to those of the total sample, as were those of commercially guided tent-based walkers, except that challenge was less important for them. Bushwalking club group members were motivated by challenge and wilderness experience (each 100 per cent), and enjoyment of alpine scenery (83 per cent). Scout/school trip walkers were motivated by the enjoyment of alpine scenery, challenge, and physical exercise (each 100 per cent). Commercially guided tent-based walkers were motivated by wilderness experience (76 per cent), the enjoyment of alpine scenery (71 per cent), and physical exercise (59 per cent). Army walkers were motivated by adventure (75 per cent), physical exercise, wilderness experience, challenge, and to visit a famous tourist icon (each 50 per cent).

5.5.2 Commercial bushwalking on the Overland Track

As mentioned in Chapter 3, commercial bushwalking on the Overland Track has a long and colourful history. Walks were predominantly commercially guided from the late 1920s until the late 1940s. The departure of Lionel Connell and his pack horses ended this phase of commercial bushwalking. No operators offered guiding services along the Track for several decades. Independent walkers took over the Track. In 1969 Eric Sargent established Craclair Tours in Devonport, and began to conduct regular eight to ten day guided tours along the Overland Track. Party sizes ranged between 4 and 20 customers per group, the average being 12 (Dutton 1979). A ratio of one guide for every three or four guests was maintained. Tents and food were carried by guides and public huts were not used. In 1994 Eric Sargent won the Minister's Award at the Tasmanian Tourism Awards for his contribution to the industry through Craclair Tours. Craclair still operates, and many tours are still led by Eric Sargent. Inside the Cradle Mountain-Lake St Clair National Park Craclair trips go along the Overland Track, to Cradle Mountain, Pine Valley, and Mount Ossa. In 1995-96 Craclair's scheduled tours include 31 tours along the Overland Track, 2 to Pine Valley, 24 around Cradle Mountain, and 8 to Mount Ossa. Party sizes now range between two and ten customers, plus guides.

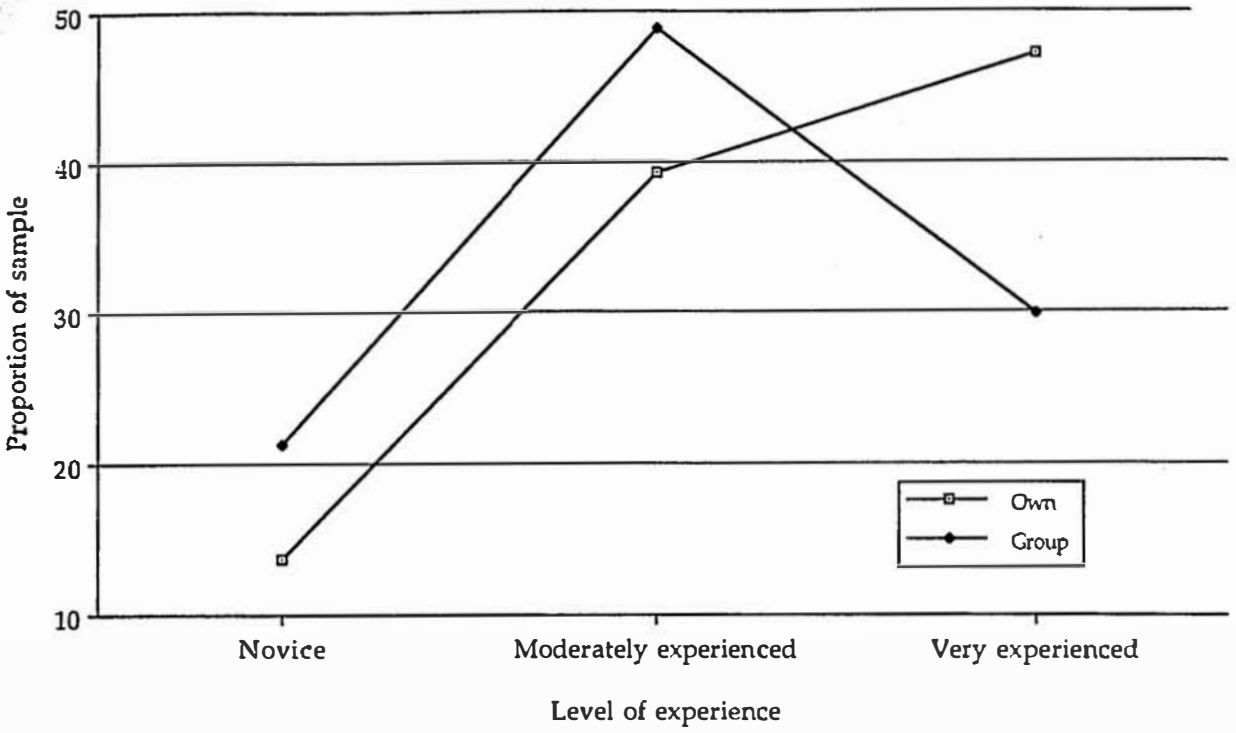


FIGURE 5.16

Respondents own experience compared with group's experience, Overland Track Walker Survey

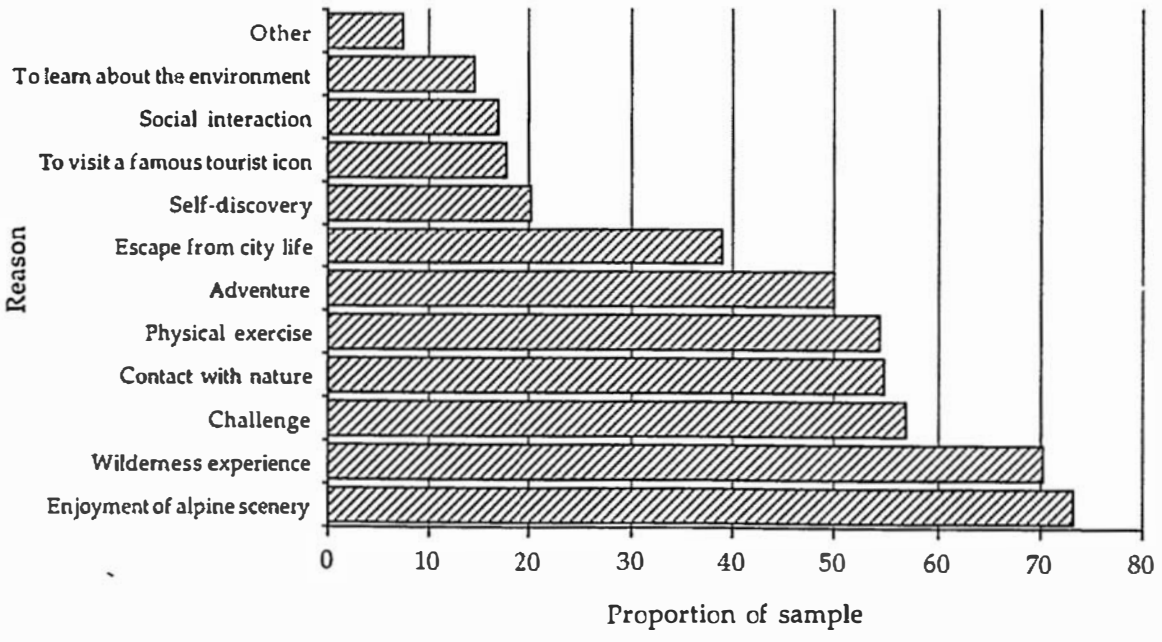


FIGURE 5.17

Reasons for walking the Overland Track, Overland Track Walker Survey

In the mid to late 1980s the number of commercial walking tour operators dramatically increased. In 1984 InterNATIONAL Park Tours, based in Queensland, began operating an annual trip along the Overland Track. In 1986 Tasmanian Highland Tours, based in Latrobe, began operating 8 day tours along the Overland Track, offering a cheaper rate to guests who were willing to carry their own food and equipment. 35 - 40 walks a year were scheduled. In 1985-86 there were 156 commercially guided walkers on the Overland Track, mainly customers of Craclair (Hepper, Marriott and Associates 1986). These accounted for 5.7 per cent of walker registrations. In 1987 Cradle Huts, based in Launceston, began operating guided tours using private huts specially built along the Track. In 1988 Tasmanian Expeditions, based in Launceston, began operating 8 day tent based tours along the Overland Track and several-day walks around Cradle Mountain. 17 walks a year are scheduled for the Overland Track and 61 around Cradle Mountain. World Expeditions and Wilderness Expeditions also held licenses to operate on the Track in the late 1980s. World Expeditions, a major Melbourne-based adventure travel operator, still advertises the walk, sub-contracting Tasmanian Expeditions to operate it. In recent years many smaller operators have been licensed to conduct tours in the national park, though these mainly provide only daywalks. Increasingly more people are using commercial companies to go bushwalking in wilderness areas.

Commercial operators providing services and facilities in State Reserves, including the Cradle Mountain-Lake St Clair National Park, require authorisation and the granting of a concession by the Parks and Wildlife Service. Fees are paid to the Department of Environment and Land Management based on client numbers or a proportion of takings. The objectives for managing concessions are that a greater range of recreational activities be provided by private enterprise, that these activities be of acceptable standard and compatible with other management objectives, and that the state gains a fair return from concessions granted (Tasmania, Department of Parks, Wildlife and Heritage 1992a).

The length of leases and licences granted depends on the nature of the concession and the level of investment involved. Most concessions are for three to five years. Major facilities or services can have longer leases, up to 20 years, with a 20 year renewable option. Standard licences are now used for overnight commercial tour operators. These impose conditions on tour parties relating to party size, itineraries, food caches, trip frequency, registration, equipment quality, guide knowledge, experience, and possession of first aid qualifications. The maximum size of commercial tour parties is twelve. Operators are required to provide at least one guide for every five clients.

The tours must practise minimal impact bushwalking and undertake to minimise damage to the Park by clients. The licence states that operations will be monitored and inspected, and where found to be inappropriate operators may be penalised or lose their concession. This practice has rarely been enforced. In June 1994, a government assessment party, including Minister for the Environment John Cleary and several rangers, walked the Overland Track on a tour of inspection of the Track and the Cradle Huts operation. The party was guided by Cradle Huts owners and guides, stayed in Cradle Huts' huts, and were heavily lobbied by their hosts to upgrade the muddy track section crossing Pine Forest Moor, and allow the construction of another hut at Kia Ora. Commercial operators usually go unmonitored apart from the occasional casual conversation with a passing track-ranger. It is doubtful whether any well-patronised commercial operator would actually lose their concession, as the government is so keen to promote and support wilderness tourism.

5.5.2.1 Cradle Mountain Huts

The construction of private huts on the Overland Track for use by commercial tours was initiated by the state government of Robin Gray in 1985, following the completion of the Evers (1984) tourism studies (*Mercury* 20 August 1985: 9, Latona 1992). The government called for expressions of interest from people interested in building and operating the huts, offering attractive lease and license conditions. Four submissions were received, and a joint-venture between Mark Fowler of Lightweight Traveller and Ken Latona of Aniakchak was the successful tenderer. The operation went through a three year development and evaluation period. The state was integrally involved in all aspects of planning and development, from designing and locating the buildings, financial planning, determining the type and level of services to be provided, and targeting markets. State interests were represented by the Department of Tourism, the Tasmanian Development Authority, and the Department of Parks, Wildlife and Heritage. The Commonwealth government and the WHA Consultative Committee were also responsible for evaluating the operation.

The construction of the huts and operation of the tours was approved at the December 1986 meeting of the WHA Ministerial Council (*Mercury* 8 January 1987:14). The lease was awarded in October 1987, and the huts were built in three months (Plate 5.1). The first tour was in January 1988. Cradle Mountain Huts only discovered at the last moment that it required

PLATE 5.1

Cradle Hut's Barn Bluff Hut, showing gas and water supplies, and bin for rubbish storage

planning and building approval for its huts and its operation from the councils whose boundaries included the Park (personal communication, Ken Latona). One hut had already been completed, and the other three were in the final stages of completion (*Mercury* 29 October 1987:15). Approval was given and permits issued almost immediately without on-site inspection. Each hut is able to accommodate thirteen people.

Cradle Mountain Huts holds 15 year leases of the hut sites, subject to environmental performance, expiring in 2002 with two 15 year options beyond then. There is an annual lease fee which is indexed for inflation. Because of the nature of the operation, Cradle Mountain Huts' licence to operate guided walking tours includes additional clauses relating to environmental safeguards. Cradle Mountain Huts is allowed to use helicopters to position supplies and equipment and remove rubbish, subject to approval. These flights must be at times that minimise visitor disturbance. Apart from an annual license fee the company must pay two per cent of gross operating profits to the Department of Environment and Land Management (Latona 1992).

The national park's management plans were redrawn to allow the operation. Four isolated tourist development zones, surrounding the already completed huts, suddenly appeared in the final 1988 Management Plan. These had been absent in the 1985 Draft Management Plan. This fact was the basis of a complaint by the Wilderness Society which described the situation as a 'fait accompli' and 'pre-emptive approach to development in the World Heritage Area' (*Mercury* 29 October 1987:15). The Wilderness Society claimed that the proposal was widely known when the Draft Management Plan was compiled, at which time it was deliberately not mentioned so as to avoid public opposition. The World Heritage Area Management Plan zoned the four Cradle Mountain Huts leases as visitor services sites, as this zoning allows accommodation to suitable design and scale (Figure 4.1).

The World Heritage Area Management Plan (Tasmania, Department of Parks, Wildlife and Heritage 1992a) specifically refers to the Cradle Mountain Huts operation, and notes that it has been well conducted and patronised. It states that it should be allowed to continue. Cradle Huts won the 1994 Tasmanian Tourist Award for Environmental Tourism and was a finalist in that year's National Tourism Awards.

Figure 5.18 shows the number of Cradle Hut's customers walking the Overland Track. In 1990-91 a third of its customers were under 34 years old, a third were aged between 34 and 51, and a third were aged 51 and over (Latona and Masterman 1991: 8). 56 per cent of the customers were female, 44 per cent male. Half the guests came from New South Wales, and a quarter came from Victoria. Almost 10 per cent of customers came from overseas, with the United States predominant within this client category. The majority of guests stating their professions were doctors, nurses, lawyers, teachers and lecturers, engineers, accountants, and judges. Another large group were students, of all ages. Another small group were retirees. Many come to Tasmania specifically to walk the Overland Track.

5.5.3 Marathon races

Every year two ultra-marathon races are held along the Overland Track - the Cradle Mountain Run and the Cradle to Coast, the latter being part of a three day event which continues by bike and kayak to Mount Wellington above Hobart. Competitors must run from Dove Lake to Lake St Clair in the shortest time possible. The record time for the race is around eight hours, in dry conditions. In February 1995, 43 runners entered the Cradle Mountain Run (*Mercury* 5 February 1995: 48).

5.6 Conclusion

Tourism is multi-faceted and has many sub-groups. Bushwalking can be considered to fall within both the ecotourism and adventure tourism forms of tourism. Whilst some walkers are motivated by wilderness experience, contact with nature, and the enjoyment of alpine scenery, others are motivated by physical exercise, challenge, and adventure. Other Park visitors can be considered to be mass-tourists, namely those tourists visiting the Park on daytrips or staying in the accommodation at either end of the Park. In 1994-95, between 130-178 thousand tourists visited Cradle Mountain, and between 72-99 thousand tourists visited Lake St Clair.

The Cradle Mountain-Lake St Clair is a major tourist attraction in Tasmania, and its popularity has increased considerably during the past decade. Visitor numbers have increased at an exponential rate. Registrations by day walkers and Overland Track walkers have increased similarly. The Park is an integral part of Tasmania's tourist industry, the most visible and most promoted non-urban destination. Tourism has become one of Tasmania's

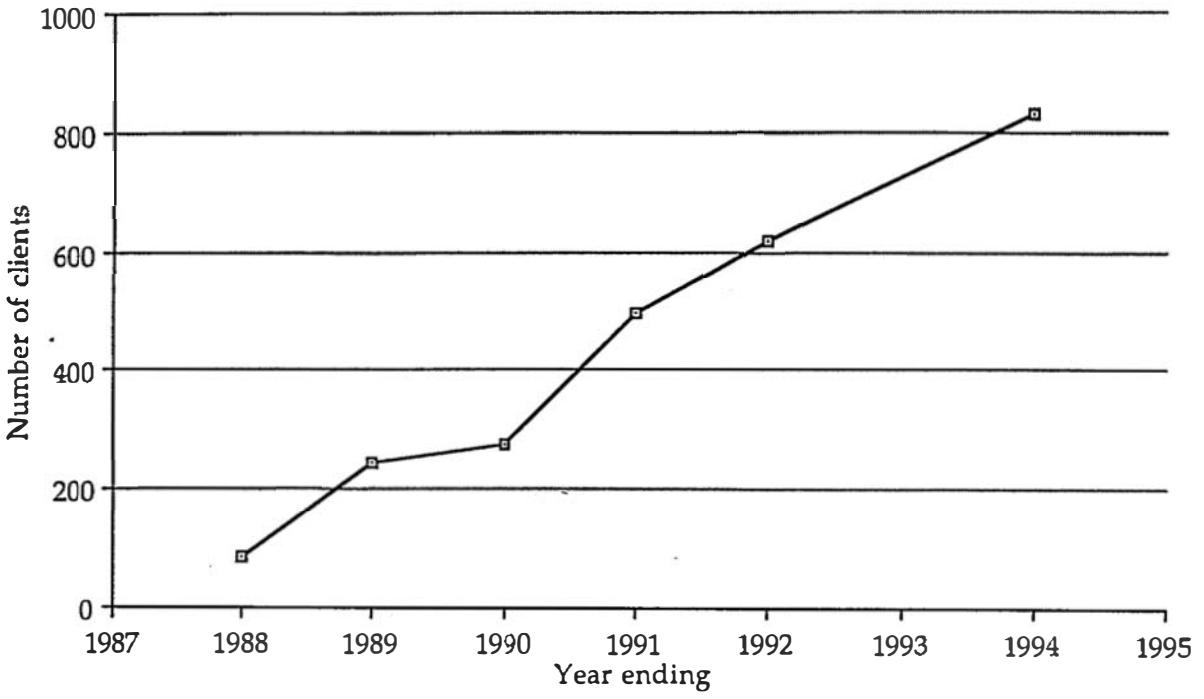


FIGURE 5.18

Number of clients walking the Overland Track with Cradle Huts

main industries, generating a large proportion of the state's revenue, and employing a large proportion of the population. A range of tourist accommodation and services have been provided by both the private and public sectors, and tourist infrastructure, including roads and walking tracks, has been provided by the state.

Over the previous two decades, the characteristics of Overland Track bushwalkers have changed considerably. The proportion of walkers living Tasmania has halved to 15 per cent, as more and more interstate and overseas walkers have done the walk. The Overland Track is used by several different types of walker, each type having distinctly different characteristics. The introduction of commercially guided walks and the upgrading of the Overland Track have greatly increased access along the Track. The construction of private huts has further increased the Track's accessibility, opening it to the elderly, the inexperienced, and those desirous of comfort through the provision of services such as cooked meals, mattresses, and hot showers.

CHAPTER 6
TOURISM AND BUSHWALKING IMPACTS

Chapters 2, 3, and 4 investigated the physical, cultural and political contexts in which tourism in general, and bushwalking in particular, occur in the Cradle Mountain-Lake St Clair National Park. Chapter 5 examined bushwalking and tourism: what they are, their standing in Tasmania and in the Cradle Mountain-Lake St Clair National Park, levels of usage, the nature of the Overland Track walk, and the characteristics of walk participants. This chapter aims to identify the detrimental and beneficial impacts that tourism in the National Park generally, and bushwalking on the Overland Track in particular, has on the environment, society, and the economy.

As Mathieson and Wall note, '... any assessment of the costs and benefits of tourism requires a full consideration of all the likely impacts' (1982: 2). Impacts are usually assessed according to the three categories mentioned above, although these are artificial, and many impacts are not exclusive to one particular category. Achieving benefits in one may involve costs in another. It may also be difficult to classify an impact into one particular category. A study of the impacts and long-term consequences of various types of tourism development can assist management in developing strategies to maximise the net benefits of ecotourism. The impacts of tourism and ecotourism have been reviewed by a number of authors, including Boo (1990), Hall (1991), Tasmania, Parks and Wildlife Service (1994), Mathieson and Wall (1982), and Strang (1989), and this report draws from those general sources as well as using information specific to the Overland Track.

Previous studies of the Park have examined various aspects of bushwalking, tourism, or their impacts. However, these have all tended to focus on negative environmental impacts, especially damage to soils and vegetation. No study has taken a broad approach, investigating environmental, social, and economic aspects, both positive and negative.

Cost-benefit techniques have previously been used to study tourism in national parks, and to justify it in economic terms. These usually translate all costs and benefits associated with an activity or development into monetary values, using this as a common denominator to weigh them up against each other. This is inherently dangerous, as monetary evaluation almost inevitably leads to comparison of the recreational use with uses

which are more profitable economically, such as forestry, agriculture, or mining. The use of a profitability criterion is inconsistent with the idea of equity of access to certain kinds of public recreational resource (Mosley 1963). Many social and environmental impacts resist measurement and quantification:

> Such impacts are outside the scope of traditional economic modelling, which assumes outcomes based on rational decision making and marketplace choice. Social [and environmental] impacts do not conform to such a model, nor can they be fitted into empirical studies which seek to quantify impacts. ... Many of the impacts that concern communities are qualitative, ideological and ethical issues, which do not conform to the assumptions about 'knowledge' that underpin techniques of 'scientific' measurement (Craik 1991: 82).

This study deliberately avoids the use of a common monetary unit when examining costs and benefits. Rather, all types of costs and benefits are identified, some monetary, some non-monetary, and it is left for the reader to evaluate whether or not they off-set each other. The important task in evaluating impacts is to list for comparison all the negative and positive aspects.

6.1 Environmental impacts

The environmental impacts of tourism are changes to the natural elements of the environment brought about by tourist facilities and activities. They include changes to soils, landforms, vegetation, wildlife, and water (Figure 6.1). These changes may be long-term or even permanent. Tourism's negative environmental impacts have the potential to outweigh its positive ones in the absence of government intervention (Ritchie 1990). Environmental impacts are experienced or noticed by Overland Track walkers more than are social impacts: 84 per cent of walkers responding to the PWS's 1995 Wild Area User Survey experienced negative environmental impacts, while 59 per cent experienced negative social impacts.

6.1.1 Negative environmental impacts

Due to the extreme sensitivity of the soils and vegetation found along the Overland Track, bushwalking is having considerable environmental impact, adversely affecting the area's high environmental values. The extent of this impact varies considerably due to factors such as vegetation type, soil and water conditions, walker numbers, track design and routing.

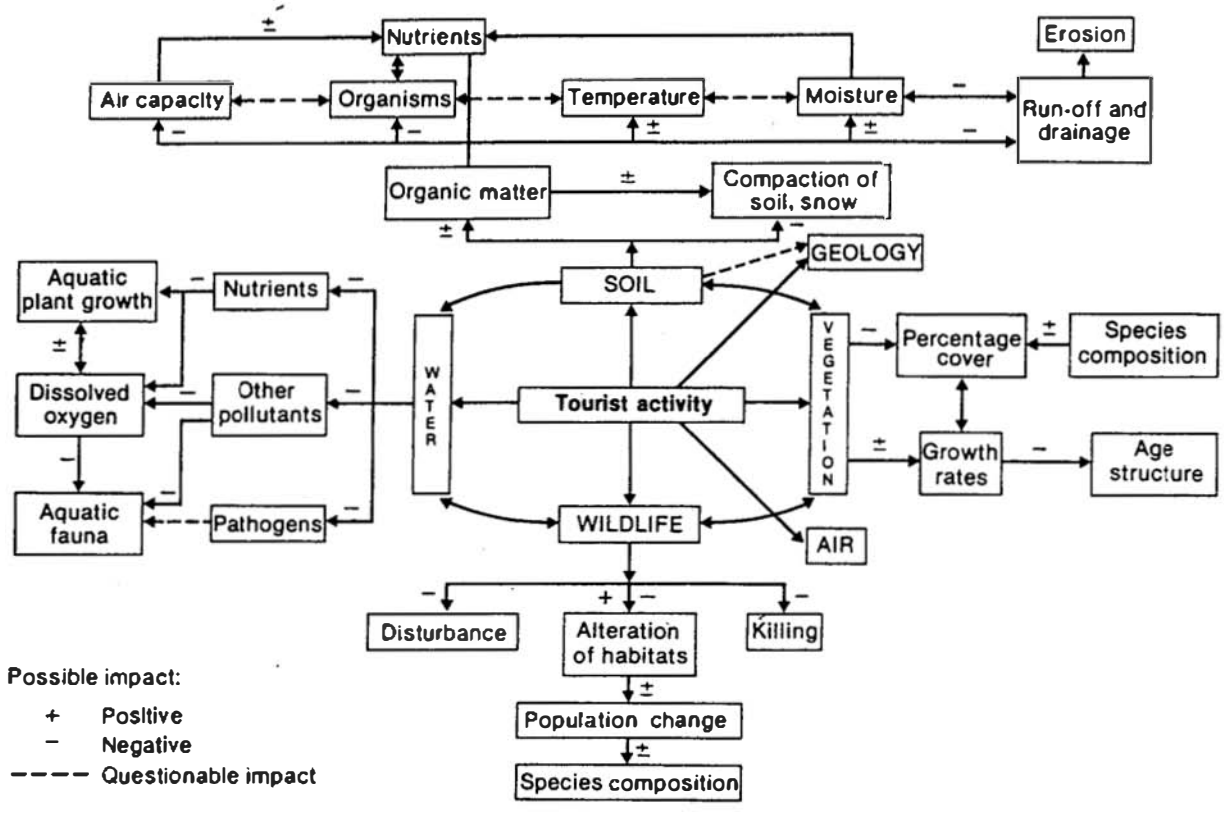


FIGURE 6.1

Environmental impacts of tourism
Source: Mathieson and Wall 1982: 131

The heaviest environmental impacts are concentrated along a thin ribbon in the immediate area of the Track and at circular nodes around each hut. Huts are seen as prime locations for relaxation, and many walkers spend considerable time in and around them. Many walkers travel directly from hut to hut, with few or no stops in between. Different activities are associated with the hut and track environments, suggesting that different types of impact occur within each. Because of this, they must be investigated separately.

6.1.1.1 Track impacts

The most obvious negative environmental impact of bushwalking on the Overland Track is the physical deterioration of the Track itself. This is often related to soil erosion, and the trampling of vegetation. As described in Chapter 3, the Overland Track was poorly planned, and the difficulty in obtaining funding meant that construction was spasmodic and limited. Construction has mainly involved the clearing of scrub and fallen trees, and the hardening of muddy track sections. The Track evolved from the route lightly marked by Bert Nichols in 1931, which largely followed the line of least resistance, crossing alpine plateaux and buttongrass moorlands, and avoiding forested areas where possible. Since then, walkers have followed the same route, initially wearing it into a defined pad by trampling the living vegetation. When the vegetation was killed and removed an eroded track was formed.

Several researchers have concluded that track erosion is more a function of track location and design than of use levels (Tasmania, Parks and Wildlife Service 1994). Poor routing and design are certainly a primary cause of track deterioration on the Overland Track, which was never designed to withstand long-term or heavy usage. Sawyer (1990) contrasted the characteristics of well planned and unplanned walking tracks:

Well planned	**Unplanned**
zig-zags up steep slopes	straight up steep slopes
well drained	poorly drained and muddy
passes through forest	passes through button grass plains
on mineral soils	on peat soils
withstands trampling	erodes rapidly
minimum visual impact	visual impact may be considerable

Major sections of the Overland Track have the characteristics of an unplanned track and are in a bad or very bad condition (Appendix F).

In 1978-79 Calais (1981) surveyed the condition of the Overland Track and most of the side-tracks within the Park (Figure 6.2). Of the 120 kilometres surveyed, 35 per cent were in good condition, 36 per cent were in a fair condition, while 29 per cent were in the bad or very bad classes. 20 per cent of the Overland Track was badly damaged. The worst sections of Track were very much concentrated in the northern part of the Park - 63 per cent of the track surfaces north of New Pelion Hut were in a bad or very bad state, while only 10 per cent of those south of the Hut were. Calais found that 45 per cent of Overland Track walkers believed that the poor track conditions reduced their enjoyment of the Park.

Between 1979 and 1985 tracks were improved with cording and diverted from susceptible ecosystems, including rerouting on the southern half of Pine Forest Moor (Figure 6.2). Calais and Kirkpatrick (1986) claimed that this had largely eliminated the muddy condition of the Track at Pine Forest Moor and Frog Flats. The section of track just south of the Lake Will side-track had deteriorated to bad condition.

During the late 1980s several badly eroded sections of the Track were hardened with steps, cording, or boardwalk, including the descent into and traverse of Waterfall Valley, the Track between Cirque Hut and Lake Holmes, the Track crossing the Pelion Plains and ascending Douglas Creek to Pelion Gap, and between Du Cane Gap and Narcissus. This hardening halted erosion on these sections, and made the Track much more accessible (Figure 6.2).

These measures proved to be only temporarily successful. Since the mid-1980s there has been a sustained increase in Overland Track walker numbers, and this has created erosion problems in new areas (Figure 6.2 and Appendix F), including Cradle Plateau (Plate 6.1), Cradle Cirque, the Lake Will side-track, Pine Forest Moor (Plates 6.2 and 6.3), the traverse of Mount Pelion West's slopes (Plate 6.4), Frog Flats (Plate 6.5), the Mount Oakleigh sidetrip, the north side of Pelion Gap (Plates 6.6, 6.7, 6.8, and 6.9), and the Pine Valley track.

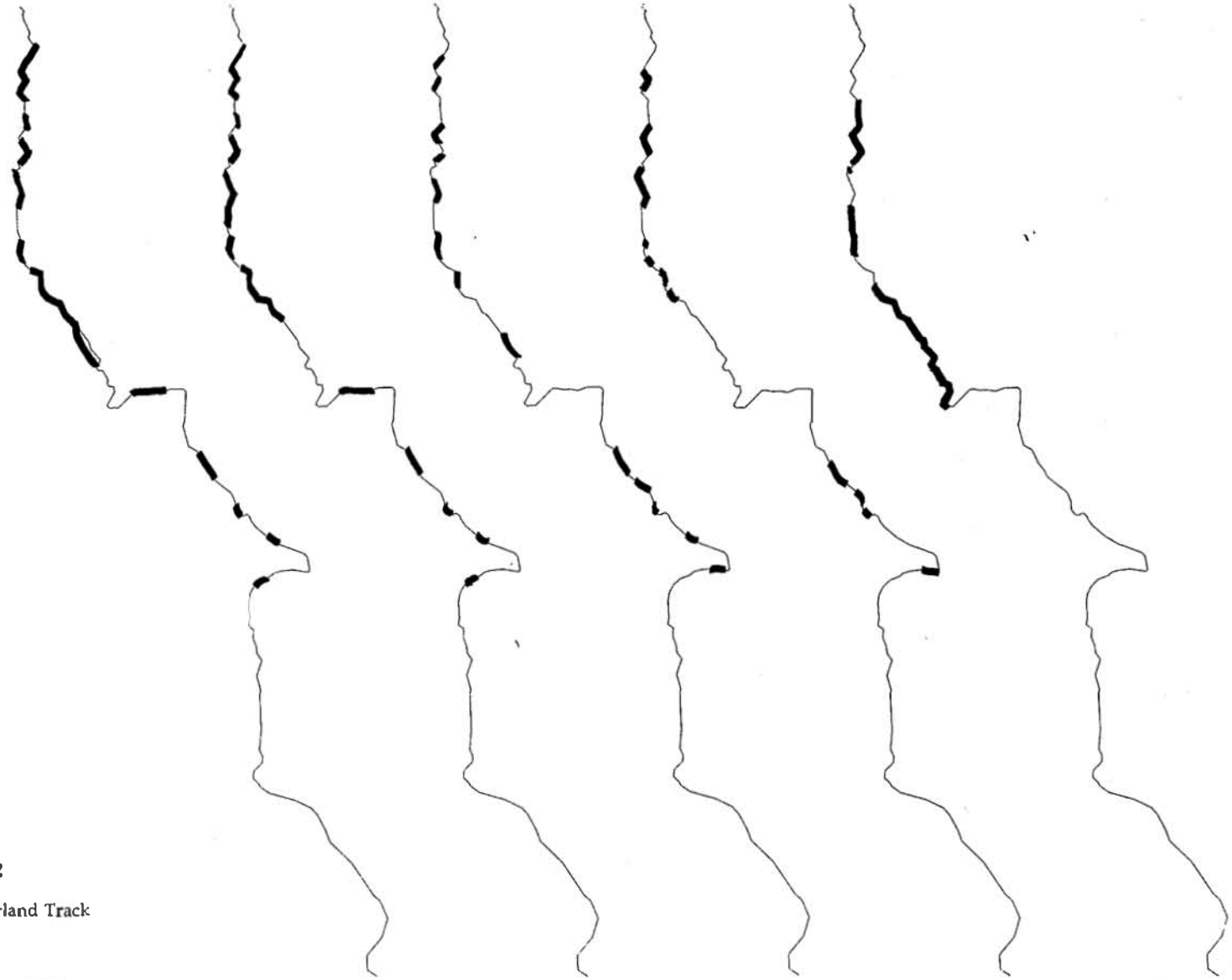


FIGURE 6.2

Condition of the Overland Track

Good-Fair

Bad-Very Bad

1980-81
Source: Calais 1981

1985
Source: National Parks and Wildlife Service 1985

July 1988
Source: Department of Lands, Parks and Wildlife 1988b

November 1988
Source: Department of Lands, Parks and Wildlife 1988a

January 1995

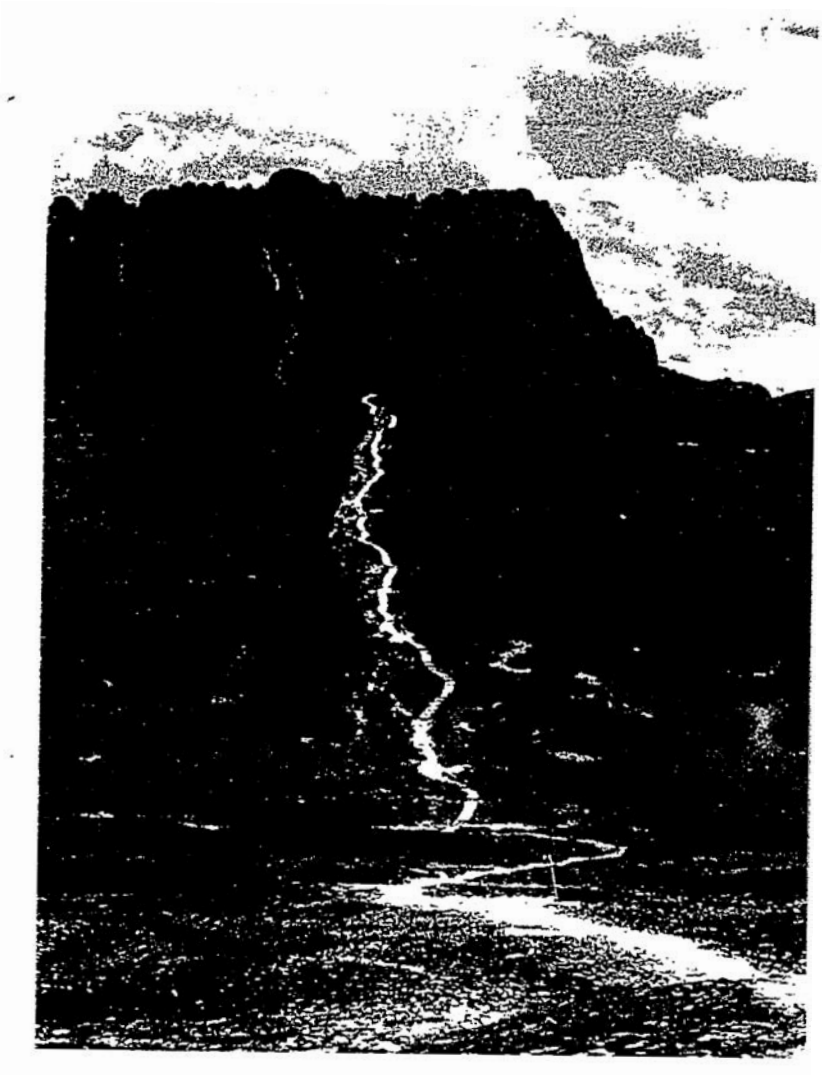
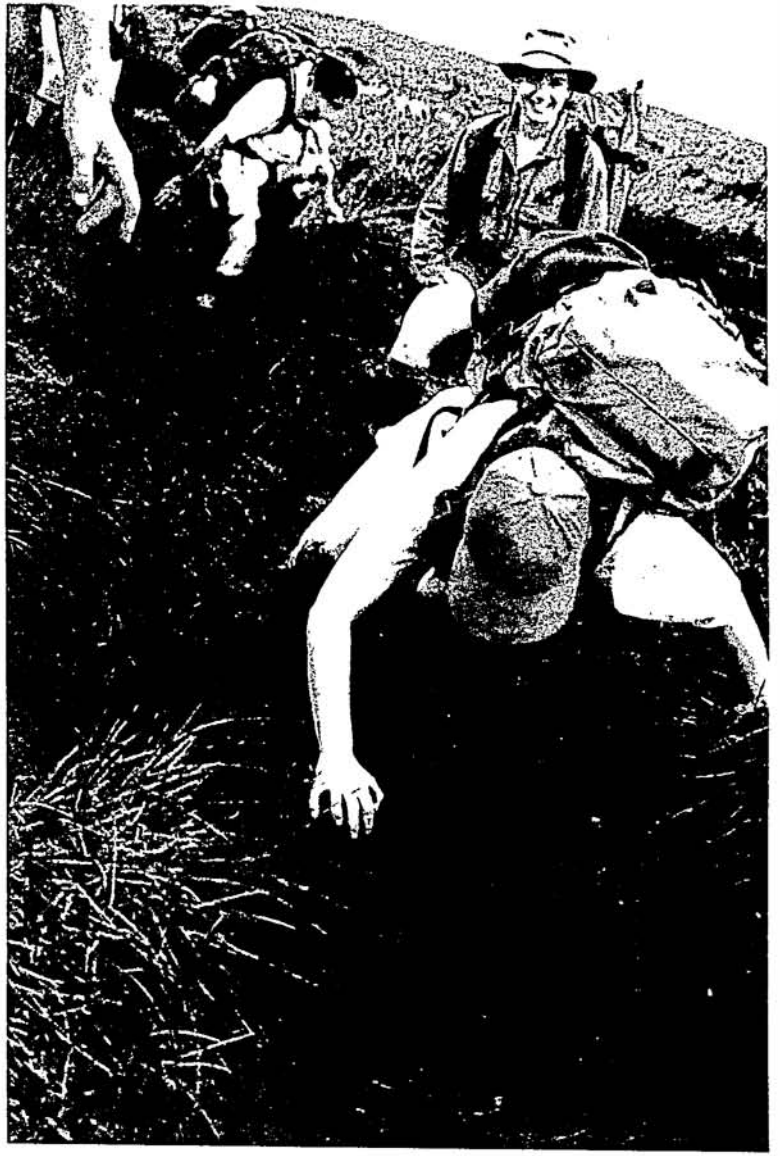


PLATE 6.1

Eroded tracks on Cradle Plateau (hardened with corduroy)
and to the summit of Cradle Mountain



PLATES 6.2 and 6.3

Walkers negotiating mudbowls on the Overland Track, Pine Forest Moor

PLATE 6.4

Eroded Overland Track on the slopes of Mount Pelion West

PLATE 6.5

The Overland Track, Frog Flats

PLATES 6.6 and 6.7

Eroded Overland Track in the rainforest north of Pelion Gap
(now hardened)

PLATES 6.8 and 6.9

Eroded Overland Track on steep slopes north of Pelion Gap
(now stabilised with Priority Erosion Control)

In June 1994 a government assessment party, including Minister Cleary, walked the Overland Track, finding "major problems were emerging at Frog Flat and Pine Forest Moor. There are long muddy sections which are becoming intolerable for walkers and are degrading the environment" (Cleary, *Sunday Tasmanian*, 12 June, 1994: 6). Knee-deep mud has been a problem at each location for several years. Consequently, the state applied to the Commonwealth for a grant to fund track work, and in 1995 successfully gained $60,000 funding under the Sites of National Significance program (*Mercury*, 16 May, 1995: 11; *Advocate*, 17 May, 1995: 4). The worst section of the Track, 1.9 km crossing Pine Forest Moor, was hardened with parallel boarding during late 1995. This cost $90,000, with the $30,000 shortfall funded by the state and Commonwealth governments' WHA funding agreement.

Trampling has resulted in considerable damage to vegetation along the Track. Less productive communities, such as alpine and moorland communities, tend to have a very low capacity to recover after impact. As few as five tramplings can result in long-term damage to alpine vegetation (Tasmania, Parks and Wildlife Service 1994). The impacts of trampling on the alpine vegetation of the Cradle Plateau are severe, resulting in a reduction in the area of vegetation (Calais and Kirkpatrick 1986). The re-establishment of the heath vegetation on bared soil there may take over 500 years (Kirkpatrick 1981). In recent years severe local damage has occurred to rainforest trees growing on the down-hill side of the Track on the slopes of Mount Pelion West (Plate 6.10 and 6.11). These trees grow on steep slopes with very shallow topsoil. Over the years walkers have trampled and severed the roots on the uphill side of the trees, and a 20 metre long section of trees has toppled over, knocking down other trees on the slope below. Only 12 per cent of Overland Track Walker Survey respondents did not notice trampled vegetation. 54 per cent of respondents found that trampled vegetation detracted from their enjoyment, whilst 10 per cent found that it greatly detracted.

Where the rate of vegetation destruction due to trampling exceeds the rate of vegetation growth, the ecosystem along the Track goes into a state of decline. The loss of vegetation cover amounts to a threshold, and once this is crossed the ecosystem becomes unstable (Trudgill 1977). The damage to, and removal of, vegetation exposes soil which can then eroded by natural processes, such as water runoff, frost-heaving, or wind. Stability is only regained once all the soil on the Track has been removed, leaving rocks behind.

PLATES 6.10 and 6.11

Toppled trees below Overland Track traversing slopes of Mount Pelion West

An area's susceptibility to erosion due to bushwalking depends on the vulnerability of plant species to trampling damage, slope, climate, and drainage (Bond 1990). Because of the area's cold, wet climate, most soils along the Track are water-logged peats. Where walking occurs on these saturated peat soils, trampling causes a breakdown in the peat structure. On flat surfaces with poor drainage this results in churning and the formation of deep mudbowls (Plate 6.12). Many walkers find the muddy Track unpleasant to walk on and pass around the side of the mud. Only 13 per cent of respondents to the Overland Track Walker Survey claimed that they always walked through muddy Track sections. 41 per cent claimed that they mostly walked through, 24 per cent walked through half the muddy sections, 19 per cent mostly avoided the mud, whilst 3 per cent always avoided the mud. This detouring creates a second track alongside the first, which also becomes eroded, spreading the problem. The process continues, producing an expanding bog or a series of parallel or braiding tracks. Track width tends to increase with increasing usage (Tasmania, Parks and Wildlife Service 1994). Track depth, on the other hand, is more related to gradient than to usage. On sloping surfaces with good drainage trampling results in slumping or the formation of deep gully erosion, as eroded peat is transported away, primarily by water runoff. These gullies can significantly change drainage patterns, often initiating the formation of stream channels (Plate 6.13). Where tracks cross streams, bank erosion occurs due to trampling.

52 per cent of Overland Track Walker Survey respondents felt that impacts on soils and landforms detracted from their enjoyment of the trip, and 9 per cent felt they greatly detracted. 35 per cent of respondents found that the track conditions detracted from their enjoyment of the walk, 8 per cent finding that they greatly detracted. Another 38 per cent found that the track conditions added to their enjoyment of the walk, though it is probable that some respondents were referring to hardened sections of track, whilst others were referring to unhardened sections. 56 per cent of Overland Track walkers responding to the PWS's 1995 Wild Area User Survey encountered excessively eroded tracks, 71 per cent encountered excessively muddy tracks, and 41 per cent encountered excessively wide tracks.

PLATE 6.12

Wide mudbowl north of Pine Forest Moor

PLATE 6.13

Water flowing down Overland Track north of Du Cane Gap
after heavy rain (now hardened)

6.1.1.2 Hut and campsite impacts

Bushwalkers spend most of their time in the immediate area of the huts or campsites. Activity around the huts and campsites produce impacts which are less concentrated but more extensive in area than those associated with walking tracks. They include fire lighting and firewood gathering, campsite clearance, soil damage, and littering.

Several bushfires in the Park have accidentally started from bushwalkers' campfires, burning large areas of vegetation and causing long-term damage (Tasmania, Parks and Wildlife Service 1994). Most of the alpine and rainforest species found in the Park are extremely sensitive to fire and communities may take hundreds of years to recover from burning. An estimated 16 per cent of Tasmania's alpine area and 8 per cent of rainforest has been burnt out over the last 30 years (O'Loughlin 1993). Several historic huts have also burnt down due to poorly tended fires. The peat soils underlying much of the Park create a major fire hazard, as the soil can burn when dry and fire can smoulder underground for weeks.

The banning of campfires greatly reduces the risk of bushfires. In addition, researchers have found that where campfires are permitted, impacts around campsites affect up to nine times the area of those where fires are banned (Tasmania, Parks and Wildlife Service 1994). These impacts are mainly the trampling and destruction of vegetation by walkers searching for firewood. Natural accumulations of dead wood, which provide shelter for birds, mammals and invertebrates, and recycle nutrients to the soil, are depleted.

In 1986 the PWS trialed an 'educational' Fuel Stove Only Area over the northern end of the Overland Track, with walkers and signs recommending fires not be used. This was successful in greatly restricting campfires on the Track, and after two years 73 per cent of walkers were not lighting campfires and only 7 per cent were lighting them all or most nights (O'Loughlin 1993). In 1989 the entire Park was declared a Fuel Stove Only Area. The use of portable stoves became obligatory, campfires were banned, and fines were imposed for lighting fires. Since 1990-91, the proportion of groups walking the Overland Track carrying a fuel stove has been between 98 and 100 per cent (Tasmania, Parks and Wildlife Service 1995). Despite the ban on fires, two per cent of 1995 Overland Track walkers claimed that their group had lit campfires on all or most nights (Tasmania, Parks and Wildlife Service 1995). Accumulations of dead wood are slowly returning around the huts. The

huts along the Overland Track are heated by coal, which is helicoptered in and is burnt in pot-bellied stoves. Nutrient-rich ash from the stoves is often spread on the ground outside the huts or used in track works. Fuel spillages and the discharge of heat from portable stoves to underlying vegetation have some impact at campsites.

When campsites in alpine areas are used intensively, ground cover can be destroyed in only one or two weeks (Parsons and MacLeod 1980). The removal of grasses and herbs may result in increased surface runoff, mud, and soil erosion. Soil compaction also increases runoff and restricts the re-establishment of vegetation. Longer term impacts may include dieback in trees and the loss of tree reproduction (Tasmania, Parks and Wildlife Service 1994). Campsites suffer from expansion pressure to increase in area, as ever increasing numbers of walkers squeeze their tents into them and clear vegetation for new sites (Sawyer 1991). The PWS have recently implemented a policy of campsite hardening. They plan to trial several alternatives methods in Pine Valley, including the use of wooden platforms with chains to attach tents to, hardened earth, and hardened earth with rubber binder mats. The Pine Valley area receives more overnight visitation than any other bushwalking area in the Park. Impacts at campsites and on tracks are quite severe and walkers are asked to consider bypassing Pine Valley or to take special care if they do visit.

Table 6.1 shows how Overland Track Walker Survey respondents regard campsites, public, and private huts. Public huts have the highest visibility, with only 5-6 per cent of walkers claiming that they did not notice the number of huts or the facilities provided there. This compares to 20-21 per cent of walkers who did not notice the number of campsites or their facilities, and 43-48 per cent of walkers who did not notice the number of private huts or their facilities. Whilst 9 per cent of respondents thought that the number of public huts detracted from their enjoyment, 35 per cent felt that it added. However, more respondents believed that the number of campsites and private huts detracted from rather than added to their enjoyment (16 per cent versus 11 per cent for campsites, 10 per cent versus 7 per cent for private huts). Appendix D contains several anecdotes which show how various walkers regarded both public and private huts.

Eight per cent of respondents felt that the visual impact of the campsites or public huts detracted from their enjoyment, whilst only five per cent felt that the private huts did so. Many more respondents thought that the

	Didn't notice	Added to enjoyment	Neutral	Detracted from enjoyment
Number of campsites	21 %	11 %	52 %	16 %
Facilities at campsites	20 %	25 %	45 %	10 %
Visual impact of campsites	18 %	21 %	54 %	8 %
Number of public huts	5 %	35 %	51 %	9 %
Facilities at the public huts	6 %	49 %	35 %	10 %
Visual impact of public huts	10 %	33 %	50 %	8 %
Number of private huts	43 %	7 %	41 %	10 %
Facilities at the private huts	48 %	16 %	31 %	5 %
Visual impact of private huts	49 %	10 %	36 %	5 %

TABLE 6.1

The influence of huts and campsites on trip enjoyment,
Overland Track Walker Survey

visual impact of huts and campsites added to their enjoyment. Similarly, whilst 10 per cent of respondents felt that the facilities provided at the public huts and campsites detracted from their enjoyment, 25 and 49 per cent respectively thought that campsites and public hut facilities added to their enjoyment. Whilst 5 per cent of those surveyed felt that the facilities provided at the private huts detracted from their enjoyment, 16 per cent (including all commercially guided hut-based walkers) thought that these facilities had added to their enjoyment of the trip.

Ten per cent of Overland Track walkers responding to the PWS's 1995 Wild Area User Survey encountered damaged campsites, whilst four per cent came across damage to soils and vegetation caused by firewood collection.

6.1.1.3 Sanitation and water supply problems

Poor sanitation is a serious problem in the Park (Tasmania, Parks and Wildlife Service 1994). Problems with the disposal of faecal wastes result in the pollution of waterways, groundwater, soil, and the atmosphere, the disruption of ecological processes, and provides an artificial food source for animals (Burgess 1993). The input of nutrients such as sewage effluent can have a detrimental effect on the vegetation, enriching the soil and leading to the death of plant species adapted to low-nutrient conditions such as buttongrass, subalpine tussock grasses, and spagnum moss (Tasmania, Department of Parks, Wildlife and Heritage 1991). Other species flourish in the enriched soil conditions, especially any introduced weeds, resulting in changes in species composition.

Originally, any toilets provided at huts along the Overland Track were simple pit toilets. When the pit was full, lime was added and the waste material was covered by soil (Tasmania, Department of Parks, Wildlife and Heritage 1991). A new pit then had to be dug. In 1988 Clivus Multrum dry-composting toilets were built into each of the four private huts on the Overland Track (Plate 6.14). Since then, they have gradually been installed at public huts along the Track. These Swedish designed toilets have proven incapable of handling the large amounts of solid and liquid wastes left in them. The cool air temperatures, high humidity and precipitation, and limited solar warming mean that decomposition can only occur slowly, if at all. Wastes inside the toilet are poorly aerated, resulting in slow anaerobic decomposition and smells. Flies occasionally gain access to the toilet, where they can feed and breed. They then pose a health risk as they may fly into the hut and land on food, cooking utensils, or tables.

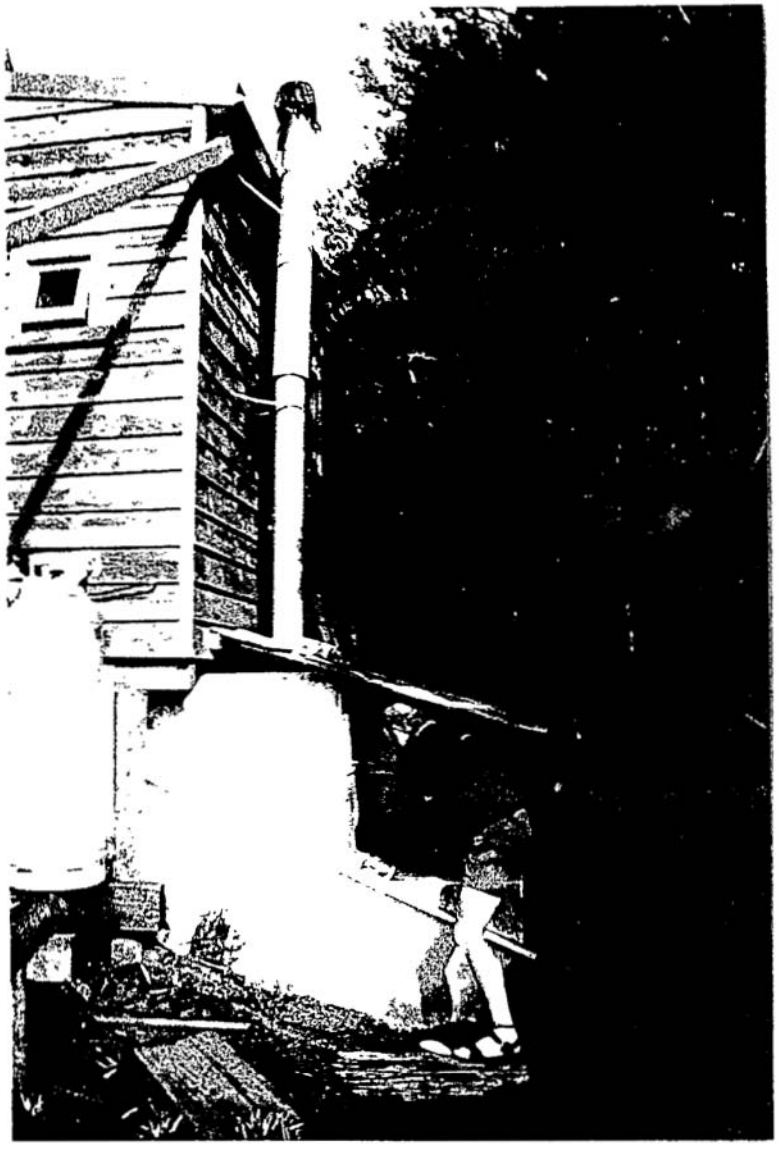


PLATE 6.14

Guide raking sewage in composting toilet,
Cradle Hut's Pine Forest Moor Hut

Clivus Multrum have made several design and operational modifications, attempting to improve the performance of their toilets, but these have also been of limited success. Because of their high nutrient levels, toilet wastes must be removed from the Park by helicopter. Each year semi-liquid toilet wastes must be dug out from the toilets. Not only is this extremely unpleasant for those involved, but it entails some health risk. Because wastes are poorly composted, pathogens may be preserved in the cool, damp, nutrient-rich conditions.

Locally designed and built toilet units have been installed at both New Pelion and Pine Valley huts (Plate 6.15). These have two inlets which are used alternatively, allowing wastes to dry out and decompose better. They have also proven more effective at aerating the wastes and have maintained higher temperatures. These toilets are also designed to allow the wastes to be more easily removed from the toilet and then flown out.

Both the Clivus Multrum and the local toilets suffer from the introduction of large amounts of urine. The PWS have tried to limit the introduction of liquid wastes by asking walkers to 'pee behind a tree', but there appears to be little compliance with this request. Urine is sterile on leaving the body, but becomes contaminated in the toilet as it percolates through the mass of faecal wastes. Effluent rich in micro-organisms overflows from the toilets and is discharged into the natural environment (Plate 1.2 and 6.16). An odorous black sludge accumulates downhill from the toilets, and these cesspools are frequented by masses of flies. The outlet of the Pine Valley toilet incorporates a grease-trap which will hopefully minimise this problem.

When walkers go to the toilet away from the composting toilets, the PWS requests them to bury faecal wastes away from water courses. The shallow soils, often full of roots, make this difficult and some walkers fail to comply. Root severing can damage and kill plants. Low soil temperatures limit microbial activity, meaning that pathogens may last in the soil for over a year (Tasmania, Parks and Wildlife Service 1994). The large amount of wastes buried around popular campsites may add so many nutrients to the soil that ecological changes occur.

Contaminated drinking water can represent a major risk to human health. For this reason drinking water must be free from disease-causing micro-organisms, known as pathogens. These can cause outbreaks of infectious

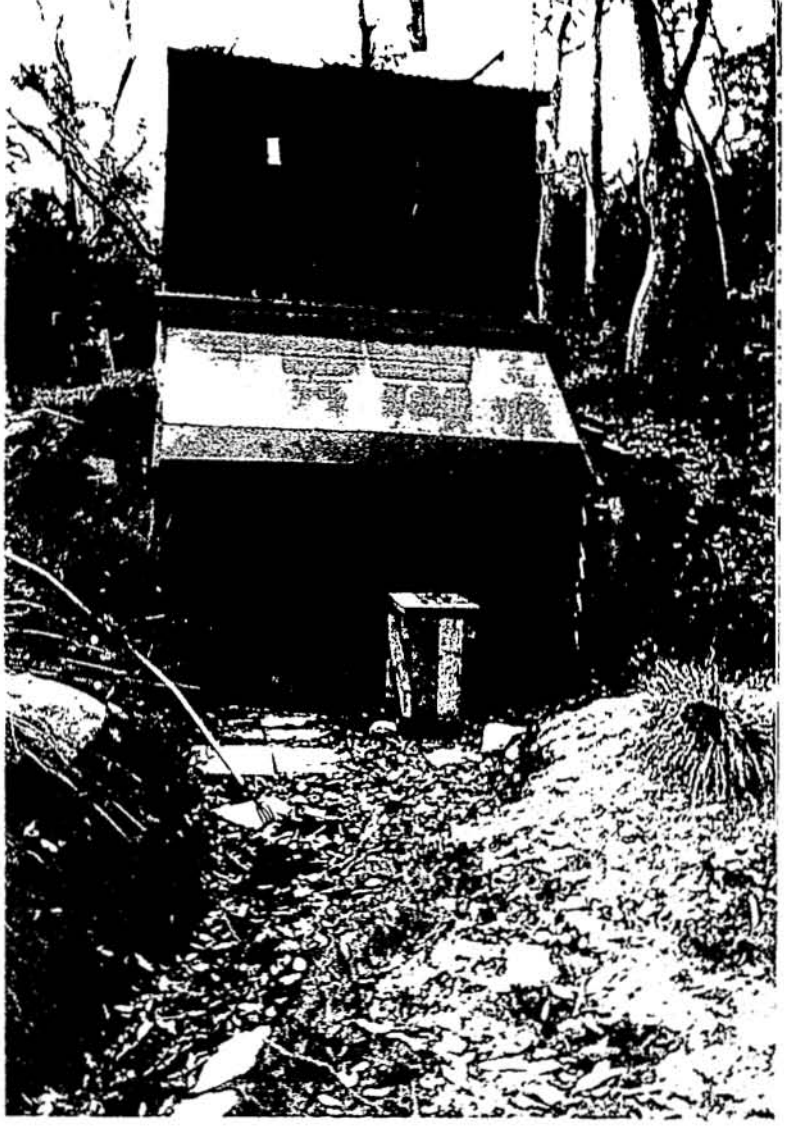


PLATE 6.15

Composting toilet at New Pelion Hut

PLATE 6.16

Water and effluent sludge below Cradle Hut's Pine Forest Moor Hut

disease, especially diseases of the intestine. The very young or old are most at risk. The Australian Drinking Water Guidelines (National Health & Medical Research Council and Agricultural & Resource Management Council of Australia & New Zealand 1994) are that no 100 ml sample of drinking water should contain any faecal coliforms or *E. coli*. Park users are also at risk from recreational use of contaminated water, either by primary contact (activities involving frequent direct contact with water, such as swimming and washing) or secondary contact (activities with less body contact with the water, such as fishing). The Australian guidelines for primary contact with recreational waters are that faecal coliforms should not exceed 150 organisms / 100 ml (Australia & New Zealand Environment & Conservation Council 1992). For secondary contact they are that faecal coliforms should not exceed 1,000 organisms / 100 ml.

The results of the study's water quality testing of Douglas Creek are included in Appendix E. The first eight samples of ambient water contained very low numbers of faecal coliforms. Most of the faecal coliforms proved to be *E. coli*, and the levels recorded all exceeded the Australian Drinking Water Guidelines (National Health & Medical Research Council and Agricultural & Resource Management Council of Australia & New Zealand 1994), though they did not exceed the guidelines for recreational contact. Sample 8 was taken from only 1 km upstream from Old Pelion Hut. The higher levels recorded at site 8, relative to those samples taken upstream, are possibly due to the effluent from the New Pelion toilet flowing northwards onto the Pelion Plains and reaching Douglas Creek much further downstream than the hut. A later investigation of the drainage pattern between the toilet, plains, and creek showed that this was probable. Another possible source is faecal contamination from the wildlife living on the Plains.

The two samples of effluent overflowing from the toilets contained high numbers of faecal coliforms/*E. coli*, between 2.6×10^4 and 9×10^8 per 100 ml, and clearly represent a significant source of contamination. Both of these emissions are clearly in breach of the *Environmental Protection (Water Pollution) Regulations 1974*, which state that, in emissions into inland waters (including all lakes, rivers, streams, or other waters including underground waters), faecal coliforms shall not exceed 200 organisms / 100 ml. This effluent poses some risk through accidental primary or secondary contact with it. Because the Cradle Huts' toilet is 'built in' to the hut, the effluent is released in close proximity to the hut. Walkers often explore the

surrounds of the hut and pass the toilet overflow pipe in order to wash their muddy boots and gaiters at a water tank. The author has accidentally stepped in pools of effluent sludge several times. The New Pelion Hut's toilet is located about 50 metres away from the hut, but still poses a considerable risk. Effluent runs into a small stream, which is bridged by the Overland Track about 20 metres to the north of the hut. Some walkers may make contact with this contaminated water when washing their muddy hands or legs after arrival at the hut.

The Cradle Huts' toilet's effluent flows downhill towards Douglas Creek, and any pathogens reaching the creek would enter it above the Ranger's Hut, New Pelion Hut, and the surrounding campsites. The New Pelion Hut toilet's effluent appears to flow towards the Pelion Plains, but sample 8 indicates that some faecal contamination may be indirectly reaching Douglas Creek further downstream, travelling via the Plains. This reaches the creek above Old Pelion Hut. It appears that while high levels of faecal contamination are present close to the two toilets, only a fraction reaches Douglas Creek. This may in part be due to the dry weather conditions preceding the sampling visit, and surface flushing after heavy rainfall may transport much more of the effluent into the creek. Both Cradle Huts and the designer of the New Pelion toilet have been provided with copies of the test results.

Outbreaks of gastroenteritis (vomiting and diarrhoea) have occurred among large numbers of walkers on the Overland Track in recent years (Tasmania, Parks and Wildlife Service 1994). Over the 1985-86 summer there were reports of up to half of Overland Track walkers getting sick with gastroenteritis (O'Loughlin 1993). It is still not known whether the problem was caused by faecal waste contaminating water supplies or by flies landing on exposed faecal waste and then on food, or by a combination of the two. At the end of that walking season, 100 piles of exposed faecal waste were found within thirty metres of one of the huts on the Track. Major improvements were made to the Track's toilet facilities, and the following season walkers were advised to bury faecal wastes away from huts and streams, which they largely did.

The 1986-87 Wilderness Walker Survey, which mainly surveyed walkers on the Overland Track, found that between eight and ten per cent of walkers had suffered gastroenteritis (O'Loughlin 1993). A 1990-91 PWS survey of bushwalkers on major WHA tracks (half were Overland Track walkers)

found that four per cent of respondents reported contracting gastroenteritis. The Overland Track Walker Survey found that ten per cent of respondents had suffered gastroenteritis on their walk. When these responses are analysed by the month the walk started, it appears that there is some variation in the incidence of gastroenteritis over the summer. Twice as many respondents starting their walk at the end of November (the questionnaire was first distributed in the middle of the Track on the 1st and 2nd of December) and in December contracted gastroenteritis as did those starting between January and April (the February result of 20 per cent has been disregarded as it was based on only five responses, and is probably unrepresentative).

November	December	January	March	April
13 %	13 %	5 %	6 %	7 %

44 per cent of respondents felt that poor sanitation (including smells, exposed faeces, or toilet paper) had detracted from their enjoyment of the walk, and some of their comments are included in Appendix D.

Several years ago, the intestinal parasite Giardia occurred at several locations in the Park, including Pine Valley and the Pelion Plains (Cannon 1994c). Giardia cysts are spread by human faeces entering water systems. They can survive in the very cold water of alpine streams and lakes. Although there are no current reports of Giardia in the Park, it was thought to have been present at Freycinet National Park during the 1993-94 summer (Cannon 1994c). It is common in many places frequented by backpackers and bushwalkers, including Asia, the USA, New Zealand, and the Australian Alps. Dysentery-like symptoms of severe diarrhoea, fever, vomiting, and stomach pains are occasionally reported.

Problems occurred in the 1980s when the Cradle Valley sewerage facilities were unable to cater for the increasingly large numbers of visitors to the area. Untreated sewage polluted waterways, groundwater, and soil (Bond 1990). Native pines and grasslands were damaged and killed (Smith 1987). The Cradle Mountain Lodge underwent a major upgrade and the PWS installed composting toilets at Waldheim.

Some huts along the Overland Track have watertanks which collect water from roof gutters, while others make use of nearby streams. These are the source for all water used by walkers for washing cooking utensils, personal hygiene, cooking, and drinking. Problems can occur with both tank and stream water. Tank water can be contaminated by possum faeces washed from the hut roof. This can potentially cause problems if the possums carry harmful micro-organisms. Tank water can also be polluted by soap left on top of the tank. Neither of these problems is thought to be common or great. However, the use of natural waterways presents greater problems. Many walkers wash their cooking utensils on the edge of lakes or streams, pouring grey water in or near the water and leaving remnants of food behind. The low water temperatures lead to the slow disintegration of food remnants. These decomposing food scraps and the grey water can pollute the stream or pool if it is relatively still. This polluted water must then be used by others for drinking, cooking and washing. The use of streams and lakes as water supplies also results in the erosion of their banks due to trampling.

Grey water from watertanks is concentrated around the tank outlet and is often less than satisfactory. The private huts have a separate grey water outlet. Water from sinks and showers first pass through a small grease trap which allows some solids to settle out. This system has trouble handling the large quantities of grey water passing through, and the effluent is often opaque, sludgy and stale. Soil around the huts is often saturated due to the high levels of rainfall and poor soil drainage (Plate 6.16). When this occurs, grey water may flow across the surface of the ground, modifying vegetation through changes in nutrient levels and drainage. Waste water often contains a high level of germs, which can find their way into surface water.

Watertank storage sometimes is inadequate during the height of the summer season, when usage is greatest and replenishment is slowest. Walkers are forced to find natural sources of water. This is normally no problem, but extremely dry conditions can occur where small streams dry up. This occurred during the 1993-94 and 1994-95 summers, and independent walkers were forced to use still water, or to 'steal' water from the private huts.

6.1.1.4 Displacement and recreational succession

Displacement and recreational succession result from the upgrading and increased use of walking tracks. When a track is upgraded or becomes more congested it changes the walking experience available on that track, making it less challenging and frequented by less experienced walkers. Many of its previous users find that the experience available no longer suits their needs and they are displaced elsewhere. 'The implementation of techniques such as ... extensive surface hardening have some 'purists' (who once frequented the walks) now scoffing at both experience and participants in terms such as 'training tracks' and 'walking freeways for yuppies'' (McArthur and Hall 1993: 21). Anecdotes included in Appendix D illustrate this. Previous users may still use these tracks to access and explore surrounding untracked regions which were previously less accessible. This inevitably leads to the creation of rough tracks and lowering of wilderness quality. Recreational succession occurs over time in an area, as one type of user creates the conditions which allow another type of user to expand into that area, displacing and replacing the original users.

The increased popularity of the Overland Track over the last decade has led to considerable recreational succession and displacement. The number of walkers has increased considerably over the last decade. Commercially-guided walking tours are common, and have allowed many older or less-experienced walkers to complete the Track. The proportion of walkers from the mainland and overseas have also increased. Many experienced walkers now find little challenge in simply walking the Track; instead they use sections of it to gain access to and explore the surrounding mountains. This puts greater pressure on the side-tracks, and these become damaged. Tracks to Pine Valley, Mount Ossa, Mount Oakleigh, Pelion Creek Falls, Lake Will, and Marions Lookout have all been considerably degraded due to increasing usage of the Overland Track. These side-tracks must also be hardened, making them available for less experienced walkers. Again, this forces more experienced walkers outwards, putting pressure on new areas and gradually pushing back the wilderness frontier.

Other experienced walkers, including many locals, have been pushed to the more challenging and remoter areas of the South-West and West Coast. The proportion of Overland Track walkers residing in Tasmania has halved over the last 16 years (see Chapter 5). In 1995 the PWS found that only 15 per cent of Overland Track walkers surveyed were Tasmanian, while 47 per cent

of walkers on major tracks in other national parks were. This is indicative of considerable displacement of the local population to these other areas. The increased numbers of walkers in these areas has caused considerable impact, including the unplanned creation of new tracks and campsites, many considerably degraded.

6.1.1.5 Littering

Up until the early 1980s each hut on the Track had an open rubbish pit where walkers could leave litter. Calais (1981) found that, during 1979, half of these were full. Calais found that 33 per cent of Overland Track walkers believed that littering had reduced their enjoyment of the Park. The use of pits was discontinued and they were covered over. During the mid 1980s the number of walkers carrying out all their rubbish increased significantly (O'Loughlin 1993). However, littering is still a significant problem along the Overland Track, though its level has fallen dramatically during the 1990s. Littering reduces the aesthetic appeal of an area, degrades waterways, can cause problems if eaten by native animals, and can add nutrients to the poor soils. The PWS believe that most littering is by inexperienced walkers (Phil Wyatt, personal communications). Track rangers often carry bags to collect rubbish as they patrol the length of the Track. The litter includes sweet and food wrappers, luggage tags, food scraps, cigarette butts, tissues, and toilet paper. Occasionally used tampons and sanitary pads are found along the Track. Litter and unwanted clothing is left at campsites and in the huts. Many walkers try to burn aluminium foil and tin cans in hut stoves, resulting in their eventual blockage.

The majority (61 per cent) of Overland Track Walker Survey respondents did not notice litter on the Track between huts. Of the 39 per cent that did notice litter, 19 per cent found it mildly detracted from their enjoyment, while 5 per cent found it greatly detracted. 7 per cent claimed that litter on the Track added to their enjoyment, and it is believed that these respondents meant that the lack of litter added to their enjoyment. Only 43 per cent of respondents did not notice dirty huts or campsites. 24 per cent found that this mildly detracted from their enjoyment, while 6 per cent found it greatly detracted. Only the 15 per cent of respondents staying in the private huts left rubbish in the Park (to be flown out later by helicopter). 78 per cent claimed that they carried all their rubbish out, whilst 6 per cent claimed that they burned some of their rubbish and carried the rest out. No walkers claimed to have left rubbish at the public huts or campsites.

6.1.1.6 Impacts on fauna

Bushwalking can have considerable adverse impacts on native fauna. The presence of people, tents, and huts can disturb animal's feeding, breeding and movement patterns. Most huts and campsites along the Track are located in flat grassy areas which are also prime areas for native marsupials. However, animal sightings are rare, with many Overland Track walkers seeing few if any. The increasing usage of the Track may have caused wildlife to relocate.

Where marsupials are seen, their feeding by humans can result in behavioural and population changes. Animals such as wallabies and possums are provided with a steady food supply during the summer tourist season (Plate 6.17). Their populations expand to artificially high sizes. This unnaturally-high concentration of animals can lead to the outbreak of disease, which can rapidly spread through the population. The animals become dependent on humans for food and may lose the ability to feed themselves. Animals and birds such as currawongs may become pests when they gather around huts and campsites to scavenge food. During the winter months there are fewer tourists, and the population declines due to the restriction of the food supply. The foods that the animals are fed are often processed and bad for them, making them overweight and causing diseases such as lumpy-jaw, which can be fatal. This problem is quite bad at Cradle Valley, and occasionally sick animals must be put down. Animals are also killed by cars on the roads entering the northern and southern ends of the Park.

44 per cent of Overland Track Walker Survey respondents claimed that they did not notice any disturbance to animals. This may include many cases where animals were not seen at all. 16 per cent of respondents claimed that disturbance to animals detracted from their enjoyment of the trip, and some anecdotal evidence is provided in Appendix D.

Introduced species can negatively impact on native species through resource competition for space and food, interference competition, predation, and parasitism. Bushwalking, and the related provision of tracks and huts, has assisted the spread of several introduced species into the Park. While 57 per cent of Overland Track Walker Survey respondents claimed that they did not notice any introduced species, 11 per cent thought that these had detracted from their enjoyment of the trip.

Feral cats are the most destructive introduced species found along the Overland Track. They use the Track as a highway to provide easy access into the Park from Derwent Bridge. They are established in a range of vegetation from eucalypt scrub to rainforest, and pose a significant threat to native fauna, especially birds and small mammals (Tasmania, Department of Lands, Parks and Wildlife 1988b). Feral cats can eat up to 900 grams of food daily, including invertebrates, birds, small mammals, and even possums. They can out-complete and displace native carnivores such as quolls.

The house mouse is found in accommodation facilities at both ends of the Park and along the Overland Track in both the public and private huts. Walkers are often disturbed at night by mice scavenging food (Plate 6.18). Mice breed continuously through the year and plagues can occur in huts when large supplies of food are available. Black rats are also found in the Park, inhabiting some huts along the Overland Track. Both mice and rats have expanded into areas away from the huts (Tasmania, Department of Parks, Wildlife and Heritage 1991). The effects of these species on native rodents is not known. European wasps have spread along the Overland Track, eating food scraps left by walkers. In March 1995 over a dozen were seen in Kia Ora valley. Wasp nests can contain over 1,000 individual wasps. Brown trout and rainbow trout have been introduced to both Lake St Clair and Dove Lake for recreational fishing, and are thought to have significantly modified the ecology of these lakes.

6.1.1.7 Phytophthora

Phytophthora cinnamomi is an introduced soil fungus, thought to have come from South-East Asia. It spreads naturally downhill with the movement of soil and water, at rates of up to 400 metres per year, but can also be spread by bushwalkers on boots, gaiters, toilet trowels, tents, and tent-pegs. It causes root-rot to a wide variety of plant species and has the potential to permanently modify moorland, heathland and dry schlerophyl communities (Tasmania, Parks and Wildlife Service 1994). The fungus occurs in several Tasmanian national parks. The distribution of *Phytophthora* was, until recently, limited by soil temperature to altitudes below 800 metres, and the Overland Track was thought to be not at risk from infection. However, in 1994 a new species of *Phytophthora* from North America and Chile, capable of surviving in cold high altitude areas was found at Pine Lake on the Central Plateau. This has killed pencil pines and many other alpine species around the lake, including scoparia and native

PLATE 6.17

Brushtail possum being fed at the Cradle Mountain Lodge

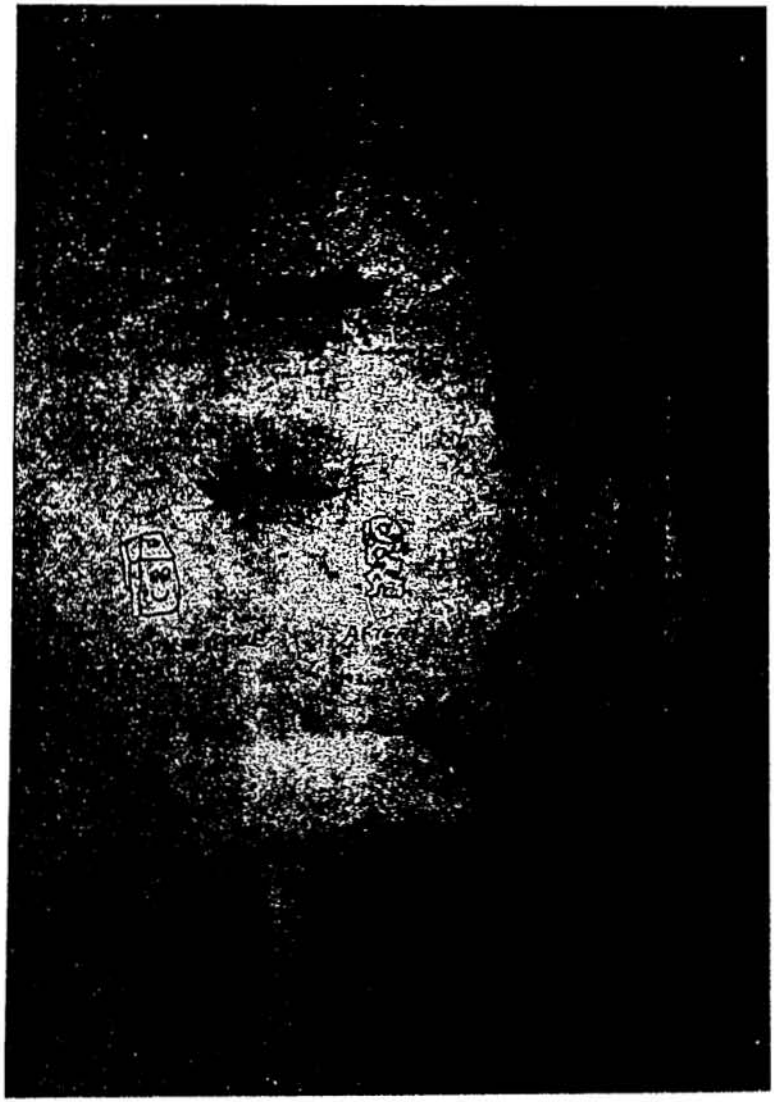


PLATE 6.18

Graffiti in New Pelion Hut describing encounters with mice

pepper. The area has been quarantined, treated with phosphonate to allow plants to build a resistance to the fungus, and the road through it sealed to prevent the fungus spreading. If spread into the Cradle Mountain-Lake St Clair National Park its effects could be devastating. Because of its ability to survive low temperatures, the highland species is a potential threat to wet forest and rainforest vegetation at moderate altitudes, in addition to alpine vegetation (*Mercury* 22 May 1995: 21). Walkers are asked to practice good hygiene and clean mud and dirt off all gear before entering new areas.

6.1.1.8 Overflights

During the summer months, scenic flights over the Park, in both light aeroplanes and helicopters, are operated from the airstrip near the Cradle Valley campground. Passenger services between Devonport and Queenstown sometimes pass Cradle Mountain and Barn Bluff at low altitude to provide passengers with spectacular views. In late October 1995 a passenger service to Cradle Valley from Launceston commenced operations (*Examiner* 25 October 1995: 5). One daily flight of a 6-seat plane is scheduled. Overflights of the Park by aeroplanes and helicopters negatively impact on wilderness values, intruding on the remoteness and sense of isolation of the area. This is especially so if flights are frequent or at low altitudes. In fine weather during the peak tourist season, up to a dozen scenic flights a day can overfly the Overland Track. Although Civil Aviation Regulations prevent aircraft from flying below 150 metres above the ground surface, flights are frequently observed to fly at altitudes lower than the mountains summits. On the other hand, flights have the advantage of causing minimal environmental degradation, having no impact on either soils, vegetation, or drainage, and providing less able people with an opportunity to view the remoter areas of the WHA (Tasmania, Department of Parks, Wildlife and Heritage 1992a).

Walkers frequently complain about the intrusion of scenic flights and seek restriction on their number, timing, type of aircraft used, and path of flights (Tasmania, Department of Parks, Wildlife and Heritage 1992b). 89 per cent of Overland Track walkers responding to the PWS's Wild Area User Survey experienced aircraft or helicopters flying over them. 42 per cent of these walkers thought that this detracted in some way from their experience, 7 per cent believing that it greatly detracted. 68 per cent of Overland Track Walker Survey respondents experienced aircraft passing overhead. 30 per cent of these walkers thought that this detracted from their experience, 9 per cent feeling that it greatly detracted.

6.1.2 Positive environmental impacts

There are several ways in which tourism can have a positive environmental impact. Tourism can provide a potent incentive for conserving natural areas or restoring degraded areas. Tourism has many economic benefits (see 6.3.2) and these provide an economic justification for reserving areas as national parks. Nature-based tourist operations have a vested interest in maintaining the protection of the natural environment they depend upon, and will lobby governments to do this: 'The tourist industry has as much interest in maintaining a quality environment as organisations specifically dedicated to that cause' (Mathieson and Wall 1982: 100). The first national parks, in Tasmania, mainland Australia, and throughout the Commonwealth, were created in order to protect both tourism and the natural environment (Hall 1991). As explained in Chapter 3, the creation of the Cradle Mountain-Lake St Clair National Park was largely due to the efforts of tourism pioneers, such as Gustav Weindorfer and E.T. Emmett. These individuals helped both Tasmanians and tourists to see and appreciate the area's natural values, and they were influential in lobbying the government of the day to reserve it.

When compared to alternative forms of economic development, such as forestry, mining, or agriculture, tourism is relatively sustainable and has minimal impact on the environment. These other forms of development, by contrast, cause massive environmental disruption.

Tourism can enhance environmental management through the provision of financial and physical resources for environmental conservation and management (Australia, Commonwealth Department of Tourism 1994). National park managers can generate income from tourists that can be used for the park's conservation and management. Ecotourism may directly involve tourists in such conservation projects as wildlife surveys.

Most tourists to national parks and wilderness areas live in large cities and have little daily experience with nature. A nature-based tourism experience can produce considerable value change. By developing an understanding of nature's processes, ecotourism can create an awareness of the need for conservation, and can force people to re-evaluate their understanding of the relationship between humankind and the rest of the environment. They may develop a greater realisation of the potential humans have to impact negatively on the environment and come to recognise the need to guard against these impacts.

6.2 Social impacts

The social impacts of tourism are those that effect changes in collective and individual value systems, behaviour patterns, community structures, lifestyle and quality of life (Hall 1991). Tourism-related social impacts can occur three ways. Tourists and tourism can have impacts on local residents. Local residents and the destination visited can produce impacts on tourists. And thirdly, tourists can have impacts on other tourists. Social impacts arise because of differences in attitudes, perceptions, values and expectations among tourists and between tourists and resident populations (Grey, Edelmann and Dwyer 1991). Impacts include changes in value systems, individual behaviour, collective lifestyles, family relationships, creative expression, traditional ceremony, community organisation and quality of social relationships in general.

The number of tourists, their characteristics, and the activities that tourists are engaged in are all important factors in determining the nature and extent of social impacts. The larger the number of tourists visiting an area, and the greater the size of the tourist population in relation to the host population, the greater the impact of tourists. The greater the differences in appearance, colour, language and behaviour between tourists and residents the more likely impacts are to occur (Grey, Edelmann and Dwyer 1991). This phenomenon occurs in Australia in relation to Japanese tourists. The characteristics of the tourist destination are also important factors in determining the nature and extent of tourism impacts. The destination's state of economic development, spatial location, the degree of local involvement in tourism, and the viability of the local culture are all important (Grey, Edelmann and Dwyer 1991). The greater the level of economic development, the smaller the economic and social impacts of tourism. The more tourist destinations are spatially separated from the host population, the less contact there is between residents and tourists.

6.2.1 Negative social impacts

6.2.1.1 Impacts of tourists on the host population

Tourist-host relationships are usually transitory, constrained in time and space, characterised by a lack of spontaneity, and provide unequal and unbalanced experiences (UNESCO, quoted in Mathieson and Wall 1982). While tourists may perceive meetings to be fascinating and unique, their

hosts are more likely to feel they are merely superficial meetings that are regularly endured. Differences in economic status between tourists and residents can give rise to resentment. There are often obvious and considerable contrasts in material wealth between tourists and the host community. Residents may feel like 'second class' citizens in comparison with wealthy tourists (Grey, Edelmann, and Dwyer 1991). They may exploit the tourist's wealth to compensate for this (Mathieson and Wall 1982), which can lead to behavioural changes in the host population. Social relationships within the host community may be disrupted because of the need to provide services to tourists (Australia, Industries Assistance Commission 1989). Family values and religious structures and beliefs are often marginalised. People may become mercenary as relationships become monetarised. Tourism may replace traditional economic pursuits such as fishing and farming. This can lead to the original function, pattern of settlement, and lifestyle of local residents being altered. While these problems are much greater in less-developed countries, they occur to a limited extent in developed countries such as Australia.

Hosts must compete with tourists for scarce resources, including land, labour, government support, resources, goods, and services. This generally results in local inflation, including increases in land prices, rents, rates, and consumer prices (Grey, Edelmann, and Dwyer 1991). Inflation is also due to salespersons recognising that they can charge rich tourists higher prices. This competition is usually to the detriment of traditional activities which cannot compete economically with tourist-related activities. Conflict may occur where residents have to put up with the congestion caused by tourists. Hosts often have to modify their behaviour in order to coexist with tourists, which is not always easy and may also result in social tensions.

Tourist patronage of cultural events and artefacts such as traditional dances, buildings, art and ceremonies can lead to their devaluation. While the performers and artists earn income, traditional culture can become commercialised and bastardised, rendering it of little cultural value to either the visitor or resident. When tourists are provided with culture on demand, a fake culture can arise as practices are performed out of place, time, or context, and authenticity is staged. Tourist destinations are transformed to suit the needs of tourists and tourism, becoming uniform and similar to each other. Areas take on an international character and lose their individuality and meaning to their residents, creating 'placelessness'.

Tourist development may destroy some or all of the unique qualities which attracted local residents and tourists in the first place, such as seclusion, scenic views, or easy access to nature (Lynch, undated). According to Relph (1976: 93): 'Tourism is a homogenising influence and its effects everywhere seem to be the same - the destruction of the local and regional landscape that very often initiated the tourism, and its replacement by conventional tourist architecture and synthetic landscapes and pseudo-places'. Relph believed that this standardisation was one of the processes through which 'placelessness' could be created. Many tourists require an 'environmental bubble' with familiar and comfortable accommodation. This separates them from the host population for much of their stay and exacerbates the social stress inherent in tourist activities (Australia, Industries Assistance Commission 1989). Whilst these problems are greatest in less-developed countries, they can occur in developed countries. A good example is the French people's opposition to Euro-Disney, which was perceived to be an invasion by American kitsch. Tasmania is a small, decentralised society, and these features, which add to its distinctiveness, also make it more vulnerable to the negative effects of mass tourism (Tasmania, Department of Tourism, Sport and Recreation 1990).

Tourism to wilderness areas makes them become less wild, even if only because of the presence of people. Tourism accommodation, transport, and other infrastructure results in a loss of remoteness and naturalness. The presence of numerous visitors in remote natural areas can result in aesthetic loss due to littering and physical environmental damage, diminishing the quality of the experience. Many environmental and social impacts are interdependent. Environmental impacts such as track erosion, trampling of vegetation, and changes to water drainage affect tourists' aesthetic enjoyment of the natural environment. Noise and visual intrusion also occur. An important part of this experience is usually based on the isolation of remote natural areas. The upgrading of tracks has increased their ease of use. This has attracted more inexperienced walkers and lessened the opportunity for challenge and adventure. Crowding occurs due to tourist usage of tracks such as the Overland Track. These factors have repelled many walkers seeking solitude, especially those from Tasmania, who have been forced to go elsewhere (see section 6.1.1.4).

Tourist destinations are likely to experience higher crime rates than elsewhere. This may be due to the victimisation of tourists or due to crime which functions as part of the tourist industry (including prostitution and

drug use) (Craik 1991). Criminals are likely to be attracted to such areas by the large amounts of money available. Theft may be encouraged by the vulnerability of visitors who find themselves in unusual environments. Illegal activities such as prostitution, gambling, and black markets in prohibited products are likely to be established in these areas (Ritchie 1990). Increased crime rates are likely to lead to the need for increased government expenditure on law enforcement and crime prevention. In many American national parks rangers must devote as much time to policing as they do to nature interpretation and conservation, and many receive law-enforcement training and carry guns.

Little crime occurs in the Cradle Mountain-Lake St Clair National Park. Some illegal lighting of fires occurs (the Park is a Fuel Stove Only Area). Occasionally ranger stations in the public huts and at Pelion Plains are broken into and things stolen. Bushwalker's cars parked at either end of the Track, and on roads in the Forth, Arm, and Mersey River valleys are sometimes broken into and valuables, including car stereo systems, are stolen. Walkers often leave backpacks untended at the start of side-tracks, usually with no problems. Several isolated incidents occurred in December 1994, where daytrippers opened packs left at the start of the track to Barn Bluff, emptying them as they looked for things worth stealing (see Appendix D). The PWS and Tasmania Police launched the Bush Watch crime prevention initiative in 1995, encouraging bush users to report crimes.

An excessive number of visitors to historical or natural sites may also result in their degradation through graffiti, souveniring, or vandalism. On the Overland Track cultural heritage sites at Du Cane and Old Pelion huts have suffered considerable graffiti. Many visitors leave their mark simply because others have done so before. Some of the graffiti is of historic interest, providing a testament to the early use of the huts (see Appendix D). 54 per cent of Overland Track Walker Survey respondents did not notice either vandalism or graffiti during their walk. However, 25 per cent of respondents felt that these practices had detracted from their enjoyment of the walk.

Many of the impacts listed in the following section 6.2.1.2 'impacts of tourists on other tourists' also affect local residents visiting the same areas as the tourists.

6.2.1.2 Impacts of tourists on other tourists

Crowding and other forms of social impact are becoming serious problems in some areas (Tasmania, Parks and Wildlife Service 1994). Congestion occurs when a concentration of tourists in time and space leads to the perception that the place is crowded. Crowding usually entails a subjective view that there are too many encounters with similar types of user, for example bushwalkers on the Overland Track meeting too many other walkers. Overcrowding may significantly detract from users' experiences, especially during peak periods on popular tracks and at campsites. Sites become congested and infrastructure is overloaded.

According to the Parks and Wildlife Service (1994), perceptions of crowding will vary according to the background, expectations and preferences of each user, sightings of human impact such as litter, and the nature and locations of the encounters. Some types of user tend to be more tolerant of encounters than others; for example inexperienced users tend to be more tolerant than experienced users. Most users are more tolerant of encounters near track starting-points than they are of encounters in remote areas, and more tolerant of encounters on tracks than at campsites.

29 per cent of Overland Track Walker Survey respondents felt that the number of groups encountered on the Track whilst walking had detracted from their enjoyment, though 26 per cent felt that it had added. 32 per cent felt that the number of groups encountered at the huts and campsites detracted from their enjoyment, though 20 per cent felt that it had added.

The number of walkers encountered at huts and campsites is much greater than those encountered whilst walking on the track. As shown in Figure 6.3, 45 per cent of Overland Track Walker Survey respondents had daily encountered more than ten other walkers on the track, while 65 per cent had daily encountered more than ten other walkers at the huts or campsites. The duration of encounters is also usually much greater at huts and campsites. As a result, crowding is more apparent at huts and campsites than on the track between. Whilst 14 per cent of Overland Track Walker Survey respondents felt that they had encountered too many people on the track between huts and campsites, 38 per cent felt that they had encountered too many people at the huts or campsites. The proportion of walkers feeling that they had encountered too many people is even higher during the peak usage period, shown in Figure 6.4. Similarly, 15 per cent of Overland Track

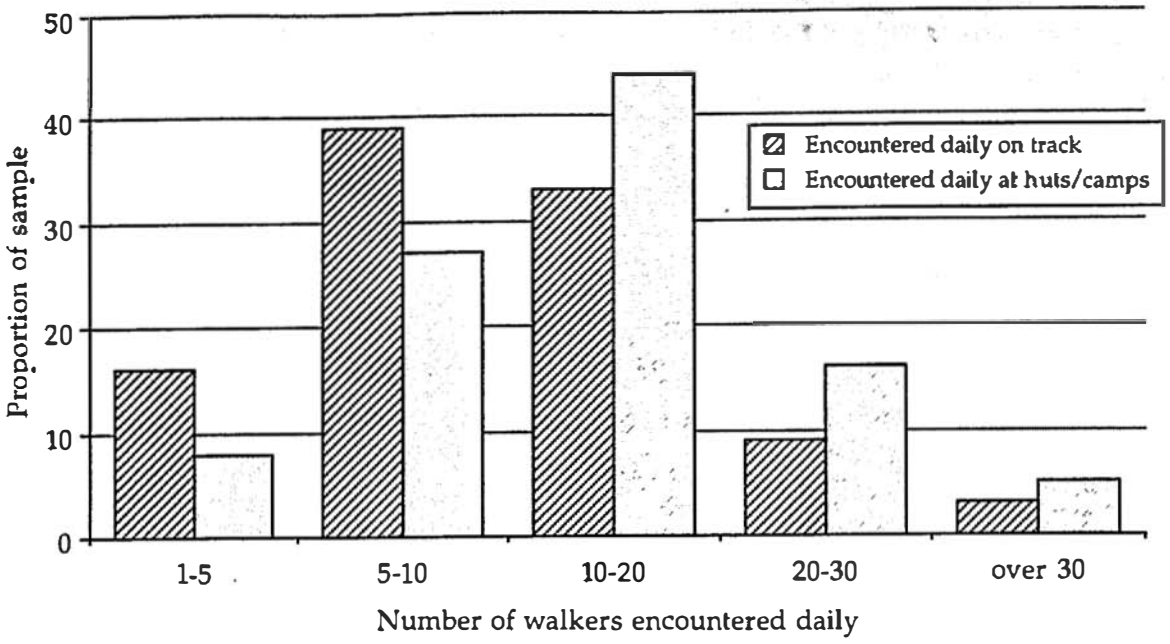


FIGURE 6.3

Number of walkers encountered daily on the track and at the huts/campsites, Overland Track Walker Survey

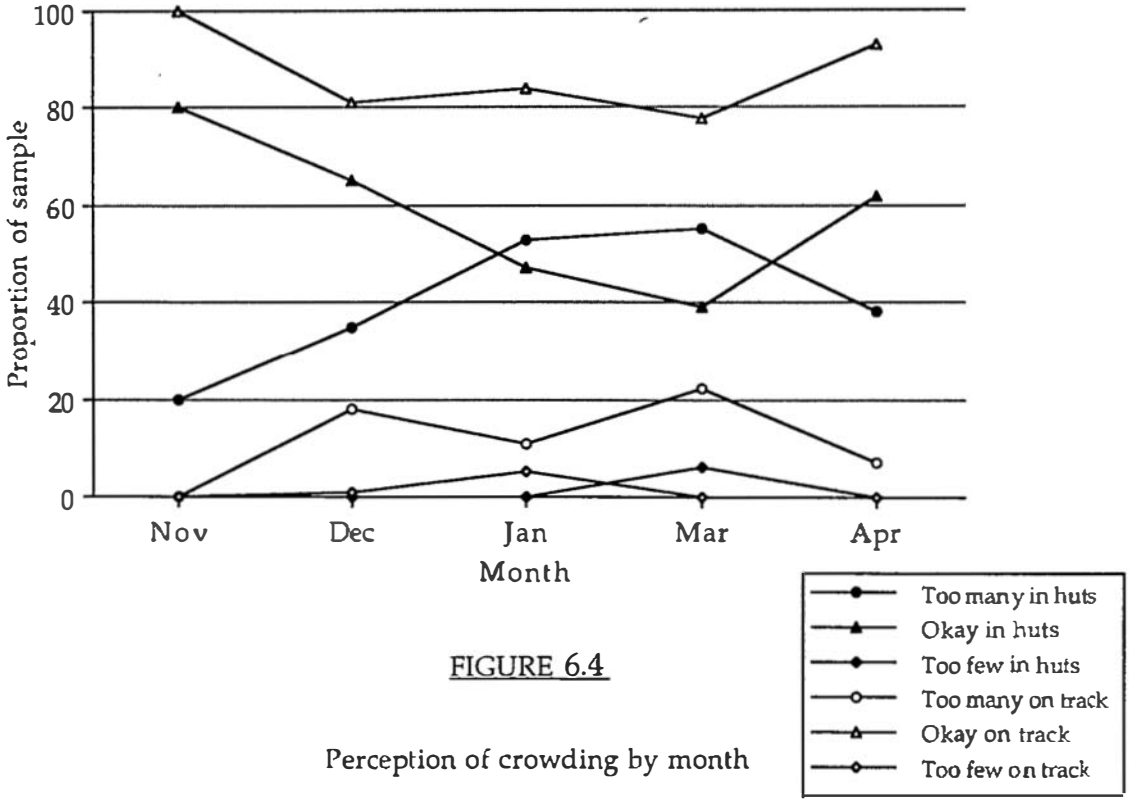


FIGURE 6.4

Perception of crowding by month

walkers responding to the PWS's 1995 Wild Area User Survey encountered too many people on the track, while 39 per cent encountered too many people at the campsites. 21 per cent of walkers encountered at least one campsite which had no more room for tents.

Large groups tend to have a major crowding effect. Calais (1981) found that 25 per cent of Overland Track walkers were dissatisfied with large parties encountered on the Track, especially large school groups from interstate which varied in size between 25 and 48 people (Calais 1981). 30 percent of Overland Track Walker Survey respondents felt that the size of groups that they met on the track between huts had detracted from their enjoyment of the walk, while 35 per cent felt that the size of groups met at campsites had. Appendix D includes many anecdotes concerning reactions to large groups. Responses were received from members of a Victorian school group comprising 24 members, two Army Adventure Training groups comprising 20 and 10 members, two Army Reserve groups each comprising 12 members, a scout group comprising 12 members, and many commercially guided groups comprising 10-13 members. A third of the Overland Track walkers responding to the PWS's 1995 Wild Area User Survey met at least one party that they considered to be too large.

Problems also occur as a result of encounters between different types of park users looking for different experiences. Users tend to react more negatively to encounters with different types of user than to encounters with those with similar background (Tasmania, Parks and Wildlife Service 1994). Stress occurs when the activity preferences and perceptions of one group are upset or constrained by the activities of another. Use conflict has occurred on the Overland Track between extended walkers and daytrippers; commercially guided and independent bushwalkers; army groups and recreational walkers; school bushwalking groups and others; and bushwalkers and marathon runners.

Tables 6.2 and 6.3 show the reactions of Overland Track Walker Survey respondents to other walkers, by type of group, at the huts and campsites and on the track in between. These reactions are also illustrated by anecdotes collated in Appendix D. Because of their predominance, most respondents noticed independent walkers - only 11 to 13 per cent claimed that they had not seen them. In comparison, the proportion of respondents who did not notice walkers from groups other than independent, at either the huts and campsites or on the track, varied between 38 and 53 per cent. Most

Group type	Did not notice	Positively	Neutral	Negatively
Independent group	11 %	52 %	34 %	4 %
Scout/school trip	38 %	18 %	29 %	15 %
Commercially guided tent-based	46 %	12 %	34 %	8 %
Commercially guided hut-based	46 %	13 %	29 %	12 %
Other	48 %	14 %	26 %	12 %

TABLE 6.2

Reaction to different types of group, on the track between huts and campsites, Overland Track Walker Survey

Group type	Did not notice	Positively	Neutral	Negatively
Independent group	13 %	45 %	40 %	1 %
Scout/school trip	41 %	10 %	34 %	15 %
Commercially guided tent-based	48 %	10 %	35 %	8 %
Commercially guided hut-based	53 %	8 %	33 %	6 %
Other	45 %	7 %	36 %	12 %

TABLE 6.3

Reaction to different types of group, at the huts and campsites, Overland Track Walker Survey

respondents reacted positively towards independent walkers, finding them friendly and good to talk to. Whilst walking on the track, 15 per cent of respondents reacted negatively to scout/school trips, 12 per cent did so to commercially guided hut-based and army groups, and 8 per cent did so to commercially guided tent-based groups. Similarly, at the huts and campsites 15 per cent of respondents reacted negatively to scout/school trips, 12 per cent did so to army groups, whilst 8 per cent did to commercially guided tent-based groups. The reasons for these negative reactions are evidenced by the anecdotes in Appendix D. Only 6 per cent reacted negatively to commercially guided hut-based walkers at the huts and campsites, half as many as did so on the track. This is probably due to most of the private huts being located away from both the public huts and the track itself. Walkers staying in the private huts only use the public huts for lunch or shelter during the day, and do not compete for space at night when huts are often full. 18 per cent of respondents thought that their encounters with daytrippers detracted from their enjoyment of the trip.

Other social impacts occur as a result of strangers being forced to 'live' in close proximity to each other (see Appendix D). Some people have trouble tolerating behaviour that they are unaccustomed to, and many hut users are inconsiderate of others. 21 per cent of Overland Track Walker Survey respondents felt that the behaviour of other groups met on the track had detracted from their enjoyment, though 26 per cent felt it had added. 24 per cent felt that the behaviour of other groups met at the huts and campsites had detracted from their enjoyment, though 22 per cent felt it had added. Noise detracted from the enjoyment of 21 per cent of respondents while walking, and 27 per cent of respondents while at the huts or campsites.

6.2.1.3 Impacts of the host population and the environment on tourists

Tourists may find that local customs, behaviour, laws, beliefs or practices are not to their liking. They may find local people to be unfriendly and unwelcoming (Ritchie 1990).

Bushwalking in wilderness areas involves some risk of injury or death due to the rugged nature of the physical environment, its severe climate, and the remoteness from transport and medical facilities. The pollution of drinking water with decomposing food scraps and pathogenic micro-organisms from faecal wastes, and the contamination of food by flies create health hazards to users. Injuries such as sprains and strains, digestive problems resulting in vomiting and diarrhoea, and blisters are common. Fractured limbs, strained

backs, hypothermia, and wounds are less common, but occur every year. The risk of injury or death is often exacerbated by walkers being ill-prepared to cope with poor conditions or unexpected situations. This is of concern to many experienced walkers, some of whom are quoted in Appendix D. 17 deaths have occurred within the Park due to hypothermia, snake bite, and injuries sustained by walkers falling down cliffs. Ten of these occurred due to hypothermia, nine of which occurred within a day's walk of Cradle Mountain. Four of these victims of hypothermia were members of school groups. Cirque and Scott-Kilvert huts were built following several of these deaths. The most recent deaths occurred in the 1995 winter when two brothers died after falling down cliffs on the Acropolis in the Du Cane Range. In 1990 a Canadian tourist also fell on the Acropolis and died. Two walkers have also died after falling down cliffs in the Mersey River area whilst visiting D'Alton and Cathedral Falls.

Social impacts may result from environmental impacts. Lucas (1979, 1980, quoted in Parks and Wildlife Service 1994), found that environmental impacts adversely affected user satisfaction to a greater extent than any other factor, including crowding. Appendix D includes many anecdotes concerning this.

Management practices primarily aimed at minimising environmental impacts may negatively impact on tourists through restricting where and how they visit national parks. Some management techniques, such as the use of cording, may result in just as much aesthetic degradation as the environmental impact it aims to remedy. Restrictions on access to a park, or part thereof, and the enforcement of minimal impact bushwalking techniques, both restrict individual freedom in order to minimise environmental impacts.

6.2.2 Positive social impacts

6.2.2.1 Impacts of tourists on the host population

Social benefits to the local residents may include greater understanding of visitor customs, values, and culture (Grey, Edelmann and Dwyer 1991). This is especially so in less-developed countries with traditional cultures, and only occurs to a limited extent in a westernised country such as Australia, as most tourists are also westernised. It may be argued that the temporary nature of social relationships between tourists and hosts cannot, in any case, provide meaningful contact or understanding of each other's customs, values, or culture.

On the other hand, tourist patronage of cultural venues such as museums, art galleries, theatres, and concerts can help to ensure their survival, benefiting the host population. Tourism can create demand for traditional cultural elements, such as entertainments, arts, crafts and music (Ritchie 1990). This can revitalise dead or dying traditions. It can be argued that this demand helps to preserve these cultural elements.

Tourism creates employment, wealth and infrastructure which would otherwise not exist. These are all of social benefit to the host population.

Tourism encourages local communities to value, and benefit from, their natural environment. Earning a living from national parks and associated nature-based tourism may provide an incentive for local communities to value and identify with them, in that the locals may come to recognise the importance of maintaining the environmental integrity of their region.

6.2.2.2 Impacts of tourists on other tourists

At any one tourist destination, tourists will have come from quite different places to participate in the experience. It is common to find a mix of domestic and international tourists from all over the (developed) world. Tourists have a wide range of characteristics, backgrounds and experiences. The extent of contact between different tourists is often greater than that existing between tourists and the host population. Many tourists befriend others from different countries and backgrounds. This leads to a better understanding of other people and other places.

6.2.2.3 Impacts of the host population and the environment on tourists

Tourists can gain an increased understanding of the host country - its people and their culture. Tourists can gain personal and social benefits from active experiences in natural environments. Bushwalking has many positive impacts on its participants. It offers a number of recreational experiences, including physical exercise, aesthetic enjoyment of the environment, adventure, and companionship (Mosley 1963).

Bushwalking leads to an improvement in physical health and fitness. It requires participants to be resourceful and self-reliant. Group members must work together to achieve common goals, and leadership skills are developed. The social medium of small groups of people travelling in natural areas for several days can help to break down personal barriers, enabling attitude and behavioural changes to take place much more easily than in an urban environment (Burgess 1993).

Extended wilderness bushwalking offers an extreme contrast with everyday life. Many walkers claim this wilderness experience provides mental stimulation and complete relaxation. This 'getting away from it all' and 'getting back to nature' leads to an improvement in mental health.

Some find that contact with the environment provides them with a greater understanding of the true relationship between humans and the rest of the environment. Ecotourism experiences such as these can positively influence community environmental attitudes and ethics. They encourage support of nature conservation, not only at the tourist destination where the experience occurs, but also at the tourist's place of origin.

The degree of trip satisfaction reported by individual wilderness users is a subjective judgement, dependent on their backgrounds, motivations, preferences, experience and expectations, which in turn are mediated by experience (Tasmania, Parks and Wildlife Service 1994). Figure 6.5 shows Overland Track Walker Survey respondents' trip satisfaction. 29 per cent of respondents felt that their trip far exceeded their expectations and were extremely satisfied with it. Another 47 per cent thought that the trip was better than they expected. 22 per cent felt that the trip was satisfactory, while only 2 per cent felt that it was unsatisfactory.

Figure 6.6 shows how important various aspects of the walk were to respondents' enjoyment of the trip. Scenery and geological features/landforms were by far the most important factors. Wilderness experience, naturalness, quietness, plants, and animals were also important aspects. These aspects are all related to experiencing the natural environment, indicating that many respondents undertake the walk as an ecotourist experience. However, the aspect fourth in importance to trip enjoyment was adventure, indicating that the experiencing of adventure is also an important part of many walkers' trips. Scout/school groups thought adventure was very important. Physical exercise was of moderate importance to most respondents, but again scout/school trips thought it was very important. Socially related aspects tended to be of lesser importance to most respondents.

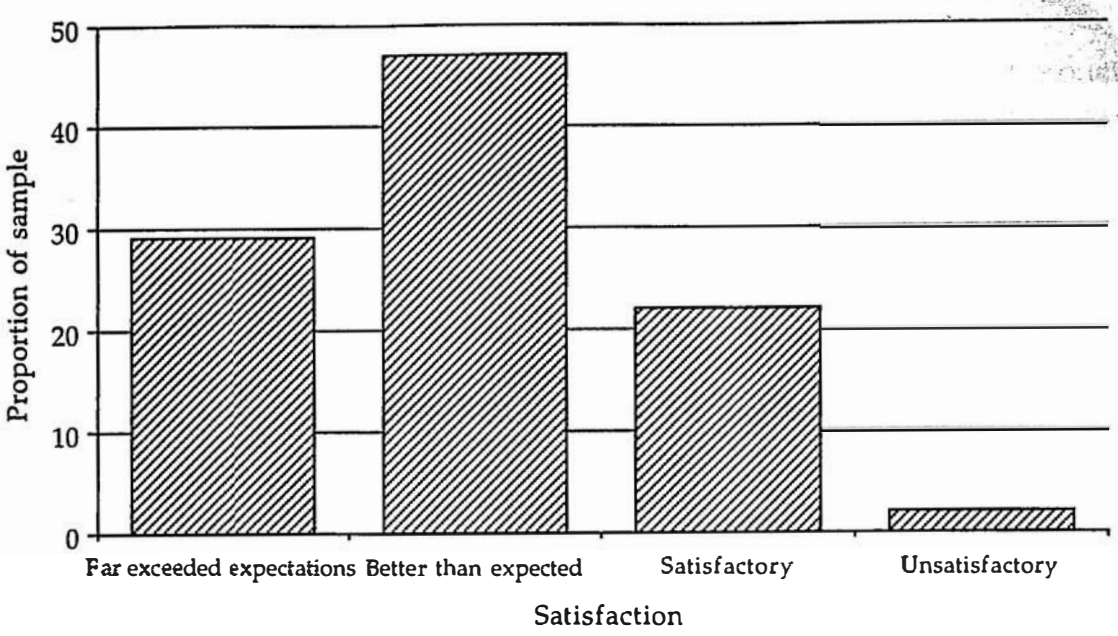


FIGURE 6.5

Trip satisfaction, Overland Track Walker Survey

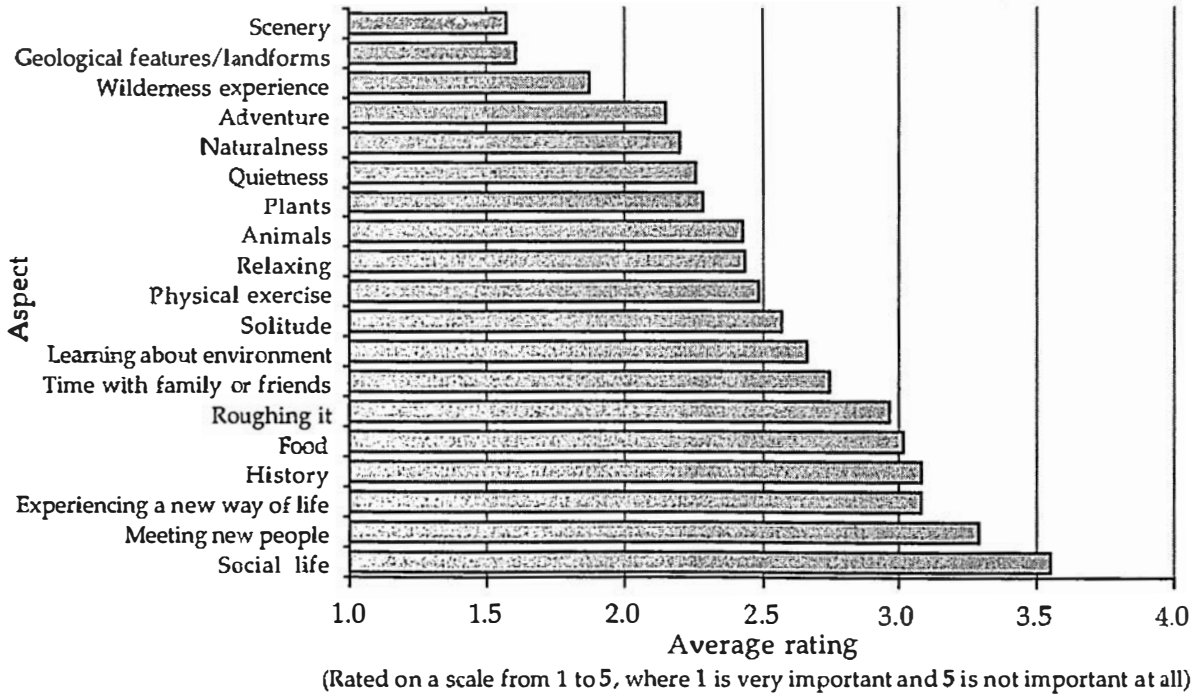


FIGURE 6.6

Importance of different aspects to enjoyment of trip, Overland Track Walker Survey

6.3 Economic impacts

The economic impacts of tourism are both the direct and indirect monetary benefits and costs associated with it. Direct impacts are brought about by the flow of money from tourists to the providers of goods and services. include profits, wages paid to staff, and foreign exchange earnings from international tourists. This money flows on to other sectors of the economy, creating indirect impacts (for example, when profits are reinvested or staff spend their wages).

6.3.1 Negative economic impacts

Direct negative economic costs involve operational and maintenance costs. Tourist accommodation and facilities require services and infrastructure, such as water, power, sewerage, roads, and waste disposal. Developers have often been successful in shifting the cost of these requirements onto the local councils and the Tasmanian government (Lynch undated). Examples include the upgrading and construction of the Cradle Mountain and Cradle Mountain Link roads, the upgrading of the Overland Track, and the joint-venture development at Cynthia Bay. In these cases most costs are borne by the public, while most benefits are privatised. Indirect negative economic costs include interest that the government must pay on any funds borrowed in order to construct infrastructure.

Bushwalking on the Overland Track requires considerable service and infrastructure provision. The costs of managing bushwalking impacts include track work, hut construction and maintenance, erosion control, the supplying of wood and coal, and track rangers, all of which are borne by the Parks and Wildlife Service. Track hardening alone costs between $20 and $100 per metre, including materials, labour, and transport (Tasmania, Department of Parks, Wildlife and Heritage 1991). Huts cost between $60-70,000 dollars each to construct (Phil Wyatt, personal communications). Composting toilets cost $10-15,000 each. Total costs amount to hundreds of thousands of dollars annually, and are only partly off-set by revenue generated from park entrance, licence, and concessionaire fees. This places a huge economic burden on the PWS.

Tourism is an unstable source of income, influenced by many external factors beyond the control of any government. The factors with the greatest potential for damage are domestic and international political instability, bad weather, income swings due to recession, changes in prices, and exchange rate fluctuations.

Tourism in Tasmania is highly seasonal, meaning that operators must generate enough profit during the summer 'high season' to cover any loss incurred during the winter 'low season'. Some operators, including those running guided bushwalking tours on the Overland Track, close during the winter months. This reduces costs during this time, but the operations must still be promoted and any loans serviced. It is inefficient and costly to have equipment and buildings lying idle during this time. Seasonal tourism also means that most staff will only be seasonally employed. Bushwalking tour operators who employ university students to work during their summer vacation, encounter problems when these students return to their studies in late February.

Many users are opposed to commercial operations occurring within national parks. Calais (1981) found that 89 per cent of 1978-79 visitors surveyed were opposed to the introduction or expansion of commercial developments within the Park. The Department of Parks, Wildlife and Heritage's (1990) public participation program for managing the WHA found that 110 submissions, 59 per cent of all submissions received, advocated the removal of all commercial huts within the WHA. Another 25 submissions, 19 per cent, disapproved of the existing huts but accepted them as a *fait accompli.* 42 submissions, 22 per cent, supported retaining the existing huts or constructing additional huts. Commonly cited reasons for opposition to the huts include the belief that commercial operations degrade the character and philosophy of the Park and WHA, detract from the Park's natural, wilderness, and cultural values, are elitist or foster elitism, are polluting their surroundings, and that private enterprise is profiting from a public resource and publicly funded infrastructure (Tasmania, Department of Parks, Wildlife and Heritage 1992b). Several quotes concerning this are included in Appendix D.

When public land is privatised it becomes economically alienated. The Cradle Huts operation has been criticised by Tasmanian conservation movement leader Bob Brown on this basis. He claimed that it was 'wrong to lock away facilities for the benefit of paying hikers only ... all facilities should be provided on an equal footing' (*Mercury* 20 August 1985: 9). He believed that it was elitist to deny something to one group on the basis of cost. This view argues that, in order to preserve the integrity of wilderness areas, access to them should be limited to those capable of walking in on their own, and who are self-sufficient by way of food, tent, and protective clothing. Figgis (1993) also advocates the location of tourist facilities outside national parks, preferably within the boundaries of existing towns.

Other potential problems stemming from commercial developments within national parks include environmental impacts, future pressure to expand either the size or the nature of the operation, loss of control of activities within the Park and their impacts, additional management problems and costs, loss of control over information and education, and the possibility that profit motives may conflict with management aims (Tasmania, Department of Parks, Wildlife and Heritage 1991). The imperative to bend or overturn environmental controls becomes greater as the amount of capital at risk increases (Sutton 1994). Hall (1993: 213) has observed: 'With few exceptions, the tourism agenda has been industry controlled, with a small number of corporate bodies and significant individuals having an undue influence over tourism development in this country. However, the domination of one sectorial interest over other interests and community concerns is antithetical to the goal of sustainable development'. The economic power of private concessionaires makes then a strong political lobby group, and this can be detrimental to park management. In Yosemite National Park concessionaires holding leases over facilities such as lodges, shops and camping areas were able to lobby conservative Federal governments to overturn changes that the National Park Service wanted to make to the park's management plan (Westcott 1993). These changes would have restrained tourism to the park, and concessionaires argued that their profits would be adversely affected. Park managers were unable to counter these claims. In Tasmania concessionaires and accommodation operators such as Cradle Mountain Lodge were able to pressure the state into reducing the size of park entry fees. Pressure from Cradle Huts on the Minister for the Environment resulted in the hardening of Pine Forest Moor and the probable construction of an additional private hut at Kia Ora.

6.3.2 Positive economic impacts

The positive economic impacts of tourism are considerable. Tourist travel, accommodation, and participation in activities nearly always involves expenditure of some sort, and the extent of this can be considerable. Many goods and services are only provided by firms operating on a commercial basis to generate a profit. Pearson (1994: 3) claims that this profitability is an essential part of ecotourism: 'While the "eco" in ecotourism is generally considered to be referring to ecological concerns, it is suggested that the more important underlying premise is economic benefit ... Economics is the engine that powers the vehicle of ecotourism. Without it, ecotourism will go nowhere'.

The direct beneficiaries of tourism are those firms that support tourists by supplying goods and services, such as tours, food, and accommodation. Tourism developments generate profits for the land owner, the developer, purchaser, and operator. In the local economy, turnover, incomes and employment are all increased. Demand for local goods and services directly distributes income throughout the local community. This income flows on to other firms that provide goods and services to those firms directly dealing with tourists, including their employees.

Both employment and income from tourism in Tasmania are rapidly increasing. In 1988 the Centre for Regional Economic Analysis (CREA) (1989) found that tourism directly employed 15,214 Tasmanians or 8 per cent of total employment in Tasmania, and that tourism's total contribution to income in Tasmania was $409.2 million, representing approximately 6.3 per cent of Tasmania's gross state product. More recent statistics show that in 1994 tourism directly employed 17,000 Tasmanians or 10 per cent of all jobs in the state, and that tourism revenue constituted about 8 per cent of Tasmania's gross state product (*Mercury* 31 December 1994: 39). In 1995 Tourism again directly accounted for 10 per cent of all jobs in the state, while its contribution to gross state product increased to 9 per cent (Felmingham 1996). This makes tourism Tasmania's fourth most significant industry, behind manufacturing and mineral processing, forestry and timber processing, and agriculture and food processing. Job and income contributions were divided almost evenly between direct and indirect impacts (Hall 1991).

CREA (1987) found that in 1986-87 the National Parks and Wildlife Service directly contributed to some 2,368 jobs and $61.5 million, 1.25 per cent of Tasmania's Gross State Product. This includes spending by visitors to national parks and other reserved land and the employment generated from this, and spending and employment resulting from activities consequent on reserve management (Burgess 1991).

The Overland Track Walker Survey found that, on average, respondents spent $470 to walk the Overland Track. This included expenditure on commercial guiding fees, accommodation, food, transport to and from the Track (excluding travel to Tasmania), and on other goods and services. This income flows on to other firms that provide goods and services to those directly dealing with tourists, including their employees. The amount spent by respondents from different types of group varied considerably. Army

walkers (and commercial guides) spent nothing, and were instead paid to walk the Track. Solo walkers spent only $110 on average, bushwalking club group members spent $193 on average. Friends/family walkers spent $254 on average. Commercially guided walkers spent much more to walk the Track than others, tent-based walkers spending $814 on average, while hut-based walkers spent $1312.

Many people are directly employed as a result of bushwalkers walking the Overland Track. Transport providers, such as Maxwell's Coaches, Wilderness Transport, and Lakeside St Clair are partly dependent on Overland Track walkers, who comprise the significant proportion of their customers. Dedicated staff are employed to drive walkers to and from the Track. Each company operating commercial tours along the Track hires many guides to lead walks, cook, and carry equipment. The guides usually work for six months, and may guide as many as fifteen trips in a season. Other support staff employed by these companies include office managers, secretaries, accountants, builders, plumbers, and helicopter pilots.

The development of tourist infrastructure generates employment, and capital is attracted for investment in infrastructure development. Services may be provided that would not be possible if tourists were absent. Most ecotourism developments require a relatively low level of capital investment, which provides opportunities for members of the local community to establish services.

Taxation and other government charges are collected and available for redistribution. Indirect taxes derived from tourists visiting Australia and the tourist industry in 1987-88 were estimated to be about $2.7 billion (Strang 1989). National park managers can generate income from tourists that can be used for the Park's conservation and management. This income is largely non-exploitative and allows a proportion of the costs of managing national parks to be recovered. In the Cradle Mountain-Lake St Clair National Park entry fees have allowed existing tracks to be maintained and new ones to be developed.

The tourist industry is relatively labour intense. In 1993-94, tourism directly accounted for employment of around 500,000 people, amounting to 6.6 per cent of Australia's workforce (Australia, Commonwealth Department of Tourism 1995). Around 200,000 new jobs are expected to be created by the tourist industry by the year 2000, most due to increased numbers of international tourists visiting Australia.

The tourism industry contributed an estimated 6.6 per cent to Australia's Gross Domestic Product in 1993-94 (Australia, Commonwealth Department of Tourism 1995). Three-quarters of this was attributable to domestic tourism. Total expenditure derived from tourism in Australia was $43.6 billion in 1993-94, of which $19 billion (44 per cent) was attributed to domestic overnight tourism, and $13.5 billion (31 per cent) to domestic day trips, $10.4 billion (24 per cent) was spent by foreign tourists, and $0.7 billion (2 per cent) was attributed to the domestic component of outbound tourism (Australia, Commonwealth Department of Tourism 1995). In the year ending June 1995, foreign tourists' average expenditure (excluding pre-paid package tour expenditure) was $1950.

International tourism to Australia is similar to an export industry, assisting Australia's balance of payments by earning foreign exchange. Tourism is Australia's largest export earner, generating $12 billion in 1994-95, 12.4 per cent of total export earnings. These export earnings exceed those of Australia's traditional export commodities such as coal, iron ore, wheat, meat and wool (Strang 1989). Gross export earnings from tourism are expected to rise to around $20 billion by the year 2000 (Australia, Commonwealth Department of Tourism 1995). Tourism diversifies Australia's export base, helping to stabilise foreign exchange earnings (Mathieson and Wall 1982). 16 to 19 per cent of Overland Track walkers surveyed in 1994-95 were from overseas, and their proportion has greatly increased in recent years.

Similarly, Australians travelling overseas negatively affect Australia's balance of payments as money earned here is spent elsewhere (Hall 1991). These inflows and outflows of currency must be off-set against each other in order to evaluate the net gain or loss, known as the tourism balance. Since 1987, the number of foreign tourists visiting Australia has exceeded the number of Australian short-term departures, and the extent of this gap, shown in Figure 6.7, has widened. Although resident departures have increased, their rate of increase is only half the rate of increase in visitors to Australia. In 1991, the growth rate for Australians travelling overseas slowed. In the year 2000, 6.3 million people are expected to visit Australia, more than double the number who visited in 1993 (Australia, Tourism Forecasting Council 1995). Over 3.5 million Australians are expected to leave the country on short-term departures.

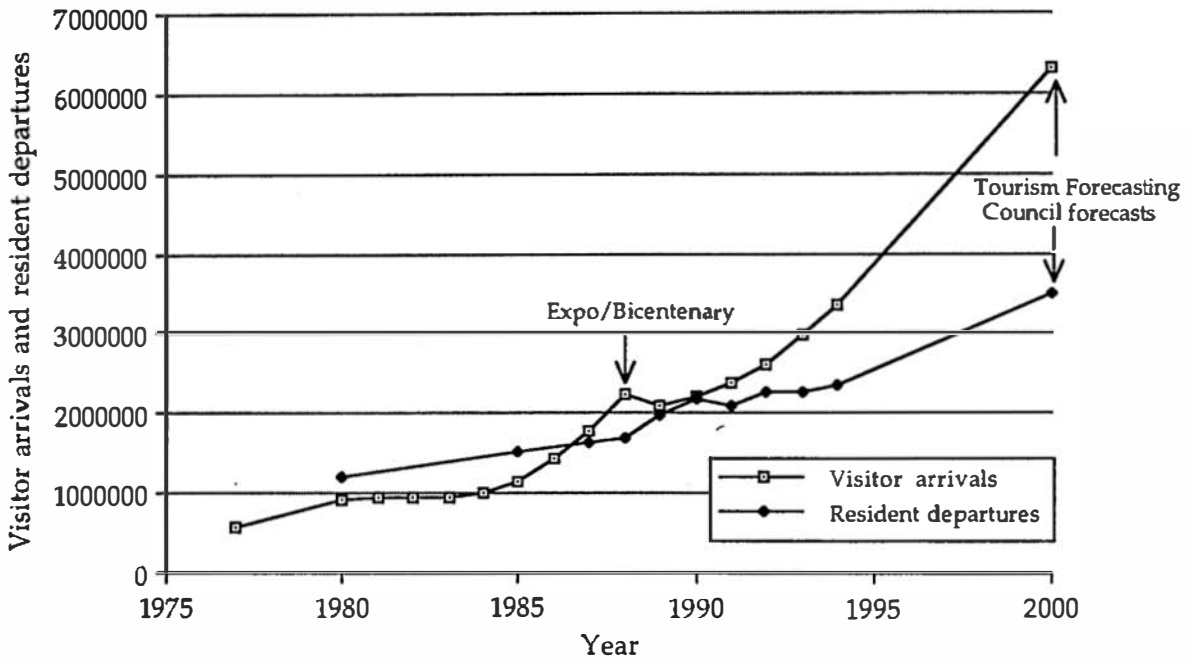


FIGURE 6.7

Foreign visitor arrivals and short-term resident departures

Source: Australian Bureau of Statistics Cat. No 3401.0, Tourism Forecasting Council 1995

Likewise, domestic tourism redistributes income, jobs, and investment within Australia, from the tourist's origin to the tourist destination. Just as with international tourism, domestic tourism to and from Tasmania must be off-set against each other in order to evaluate the net gain or loss. According to the Tasmanian Department of Tourism, Sport and Recreation (1993) the number of interstate and overseas tourists visiting Tasmania was 35 per cent greater than the number of Tasmanian tourists visiting interstate and overseas, resulting in a net gain for the state.

Tourism can bring in foreign exchange or investment from outside the state, but money known as 'leakages' may leave the state as well. Expenditure is often necessary to repatriate profits to foreign or interstate investors; to pay interest on loans; and to promote and advertise outside Tasmania (Boo 1990). The less local involvement in providing goods, finance, and staff, the greater the leakage (Mathieson and Wall 1982).

Many interstate and foreign visitors base their decision to visit Tasmania on the existence of national parks and the World Heritage Area (Tasmania, Department of Parks, Wildlife and Heritage 1991). CREA (1987) estimated that nearly one third of interstate visitors would not have come to Tasmania except for the existence of national parks, historic sites and state reserves. Tourists who come to Tasmania primarily to visit national parks bring other indirect benefits. They make use of other services for food and drink, accommodation, and transport. The total expenditure during their stay in Tasmania can be attributed to the existence of the national parks and other reserved areas. If all the spending by these visitors is included, the corresponding economic benefits generated by the National Parks and Wildlife Service in 1986-87 were estimated to be over 4,700 jobs and almost $119 million income (CREA 1987).

The majority (55 per cent) of Overland Track Walker Survey respondents residing outside Tasmania visited the state for between one and two weeks. Another 33 per cent spent between two and four weeks in the state. On average, almost a week (6.7 days) of this time was spent in walking the Overland Track. Overland Track walkers spent an average of $767 in Tasmania on activities other than walking the Overland Track, such as accommodation, transport (including travel to Tasmania), food, and other goods and services. Again, the amount spent by respondents from different types of group varied considerably. On average, army walkers spent $155, solo walkers spent $618, friends/family walkers spent $709, commercially guided tent-based walkers spent $806, and commercially guided hut-based walkers spent $1154.

In particular, Cradle Mountain plays an important role in attracting tourists to Tasmania and the north-west region of the state. A survey of visitors to the west/north-west region of Tasmania found that scenic, wilderness, environmental and heritage values were the most important factors attracting tourists to the region (Wilderness Gateway 1993).

National parks are mainly located in peripheral rural and mountain areas, which have few sources of economic activity (Boo 1990). Tourist developments in and adjacent to national parks can stimulate economic growth in these areas. Developments require local goods and services and attract tourists, who then patronise local businesses. Employment opportunities are often filled locally, dispersing income directly to these peripheral areas and increasing the indirect benefits to the local economy. In the case of the Cradle Mountain-Lake St Clair National Park, tourism has created employment for locals from Derwent Bridge, Sheffield, and even Devonport. The development of Buckhurst Lodge at Pump House Point will revitalise Tarraleah, a partly-decommissioned Hydro-Electric Commission town, where empty housing will be used to accommodate 60-70 Lodge staff.

Commercial tourism in wilderness areas provides safety and experience to those lacking in confidence, fitness, experience, or ability, including those who are handicapped, are with young children, or lack the skills or equipment to survive on their own. The 'equity of access' view argues that these people should not be denied access merely because they need (and are willing to pay for) assistance to do so. Commercial tourist operators are often subject to more stringent controls than independent tourists, and may therefore cause less impact per person. On the Overland Track, commercial walking tours must operate according to controls on party size, the number of guides, and places visited, and must ensure that clients practice minimal impact bushwalking.

6.4 Conclusion

Tourism has resulted in many impacts, some positive and some negative. Tourism's positive impacts are mainly economic and involve the earning of income, the generation of profit, and the provision of employment. Positive social and environmental impacts can also be significant. For example, tourism, especially ecotourism, can have considerable impact on individual values, and tourism in national parks can play an important role

in generating support or finance for conservation. Tourism's negative impacts are largely environmental, and include damage to vegetation and soils, the pollution of water and air, damage to aesthetic and wilderness values, the risk of bushfires, and impacts on fauna. Host populations may be negatively impacted, and this can occur to tourists too. One of the main economic costs of tourism in national parks is involved in managing and repairing the damage resulting from that tourism. Methods of minimising these negative impacts will be discussed in the following chapter.

CHAPTER 7
MANAGEMENT OF NEGATIVE IMPACTS - DISCUSSION AND RECOMMENDATIONS

7.1 Problems with planning

A major weakness of the management and planning system is that it has been dominated by development objectives. Although the plans contain global objectives about the conservation and protection of the natural and cultural environment, these are compromised by the emphasis given to development objectives by the present state government. The zoning system is weak as it is based solely on different levels of appropriate development. The zones have been designed to fit existing uses, rather than to direct uses towards particular goals. Zoning areas to exclude particular uses is ineffective. Such zoning makes areas extremely valuable to influential operators who are able to bend the rules. Wilderness values and exclusivity are very lucrative to adventure tour operators. Leaseholders and licensees have knowledge, power and the political influence to affect zoning and management outcomes. Rather than operate on a bureaucratic level, where they are likely to encounter opposition, they operate at the political level, where sympathetic state ministers are keen to offer support.

This politicising means that planning tends to be reactive, and policies are developed each time a new proposal comes up. Future development proposals cannot always be forecast and consequently park managers are often unprepared and disadvantaged when one comes up. The failure of planning to cope with incremental development within parks is a major failing, and may lead to 'death by a thousand cuts' (Sutton 1994). Cumulative impacts are rarely considered. Zoning lacks the power to control development when developers operate on a political level in an ad hoc manner. The developments mentioned in sections 5.3.2 and 5.5.2 are all examples of successful use of such political influence. That these developments were not assessed objectively and impartially is a major failing of the existing politicised framework. Commercial development and operations need to be subject to stricter development assessment and day-to-day management, as the imperatives of their short-term economic goals can lead to cost-cutting and short-cuts, resulting in undesirable environmental and social impacts.

Figgis' (1995) concept of nature-centred planning, where the natural environment is of highest priority, should be adopted. The needs and requirements of natural areas should lead to a modification of tourist needs, adaptation of tourist demand, and a reduction in tourist pressure. Identifying allowable uses and the objectives of those uses would be a more appropriate method of managing tourism within a wilderness area. This would allow proposed developments to be easily assessed according to whether or not they fit within the stated objectives.

Another problem with the planning of the Park has been in managing the juxtaposition of its natural and cultural heritage. Several valuable buildings have been destroyed to protect natural values or 'improve' visitor comfort, including the original Waldheim, Pine Valley Hut, and the Hobart Walking Club Hut at Mount Rufus. The zoning system is based around controlling and protecting natural values, ignoring the extensive cultural heritage of the Park. Cubit (1993) claims, additionally, that land managers have interpreted cultural heritage purely in terms of physical remnants, ignoring any remaining live cultural practices such as cattle drives.

7.2 Methods used to reduce negative environmental and social impacts

The Parks and Wildlife Service has been forced to take a defensive role, spending millions of dollars each year to counter negative impacts. Four main management approaches have been used to combat damage:
(1) hardening tracks and campsites to withstand tourist impacts;
(2) restoring and revegetating degraded areas;
(3) educating visitors to change their behaviour; and
(4) controlling visitor behaviour and numbers.
The effectiveness of each of these techniques is discussed below, and recommendations as to their future use made.

7.2.1 Hardening

The main approach adopted by the PWS has been to harden walking tracks in order to increase their durability. Hardening usually involves the laying of wooden boardwalk, parallel boarding (Plate 7.1), or corduroy (Plate 7.2), the construction of steps, the digging of drains, or the laying of gravel or stones on the ground. While most hardening is aimed at repairing and preventing environmental damage, some hardening is designed to primarily improve user comfort (at, for example, Pine Forest Moor). In

PLATE 7.1

Parallel boarding covered with gravel and tar ("licorice sticks") and water bar on Cradle Cirque

PLATE 7.2

Corduroy and drainage ditches north of Pine Forest Moor

many cases there appears to be little alternative to hardening. Some alpine and rainforest environments are easily damaged by only a few walkers, meaning that preventing degradation entails either prohibiting visitation altogether, or track hardening (Sawyer 1991). Calais (1981) advocated the comprehensive hardening of the entire Overland Track. While this advice ignored many of the problems inherent in intensive hardening programs, it has been largely followed by the PWS.

Hardening alone is not an adequate solution to the negative impacts of bushwalking. By it very nature, hardening a track makes it easier to walk on, improving access, and attracting more walkers. Walker numbers have greatly increased on the Overland Track since it has been hardened. This has often meant that erosion and other problems have appeared on sections of track which were previously in a good condition. Other problems are also caused by the increase in usage, such as crowding, displacement and recreational succession, as discussed in Chapter 6. Hardening can also be visually obtrusive, resulting in a lowering of wilderness values. Boardwalks are highly visible and can dominate the natural landscape. Many walkers seeking a natural experience do not enjoy walking on artificial surfaces. In addition, hardening is extremely expensive.

Since the construction of the Overland Track there has never been adequate funding to maintain or repair it, and intensive hardening can cost between $20,000 and $100,000 per kilometre in remote and rugged areas (Tasmania, Parks and Wildlife Service 1994). Much hardening has a short life, and even boardwalks need replacing every 40 years. The PWS's limited funds have forced it to discontinue the practice of completely hardening areas, as it can only afford to do this over a limited area. The PWS is now trying to spread its funds over a greater area, by restricting works to the containing of erosion and performing minimal repairs as quickly and as cheaply as possible. This approach is known as priority erosion control (PEC), and has been described as 'first aid across the board' (Phil Wyatt, personal communications). In order to obtain any funds a section of track hardening must be of very high priority .

The Overland Track Walker Survey found that whilst 57 per cent of respondents found the Track condition to be acceptable or reasonable, with very few or no repairs needed, 43 per cent felt that it was deteriorating or heavily damaged and that parts needed to be repaired. 50 per cent of respondents advocated the construction of more boardwalks should be

constructed in order to minimise negative environmental impacts. 11 per cent of respondents felt that track work and boardwalk detracted from their enjoyment of the walk. 11 per cent thought that toilets should be improved or additional ones constructed. 10 per cent of respondents claimed that more maintenance of existing boardwalk and drainage channels was needed. 8 per cent thought that more campsites were needed, while 5 per cent thought that more public huts were needed. These responses were unprompted.

Respondents where asked to identify specific sections in need of repair, shown in Figure 7.1. According to respondents, the Overland Track sections most in need of repair were Pine Forest Moor (40 per cent of respondents), Narcissus to Cynthia Bay (35 per cent of respondents walking that section), and Frog Flats (23 per cent of respondents). These sections have since been hardened by the PWS. The side-tracks most in need of repair were those to Pelion Creek Falls (50 per cent of respondents that walked there), the Acropolis (38 per cent of respondents that walked there), and the Cuvier Valley (33 per cent of respondents that walked there). Eight respondents complained about the side-track to Lake Will and Innes Falls. Since the survey the Pelion Creek Falls track has been closed for rehabilitation.

The PWS's Wild Area User Survey 1995 found that 69 per cent of Overland Track walker respondents thought that the PWS should harden tracks to fix track impacts. 10 per cent thought that campsites should be hardened. 11 per cent thought that tracks should be relocated, and 6 per cent thought that campsites should be relocated.

Although the majority of Overland Track walkers advocate the use of hardening, this should be limited to those sections most urgently needing it. While hardening stabilises eroding surfaces and improves walking comfort, it has many undesirable side-effects. Pine Forest Moor and Frog Flats have required hardening for several decades. The side tracks to Innes Falls and Mount Oakleigh urgently require some hardening to halt their rapid degradation and the formation of parallel braiding. The introduction of Priority Erosion Control should be more effective than traditional hardening in halting erosion without improving access.

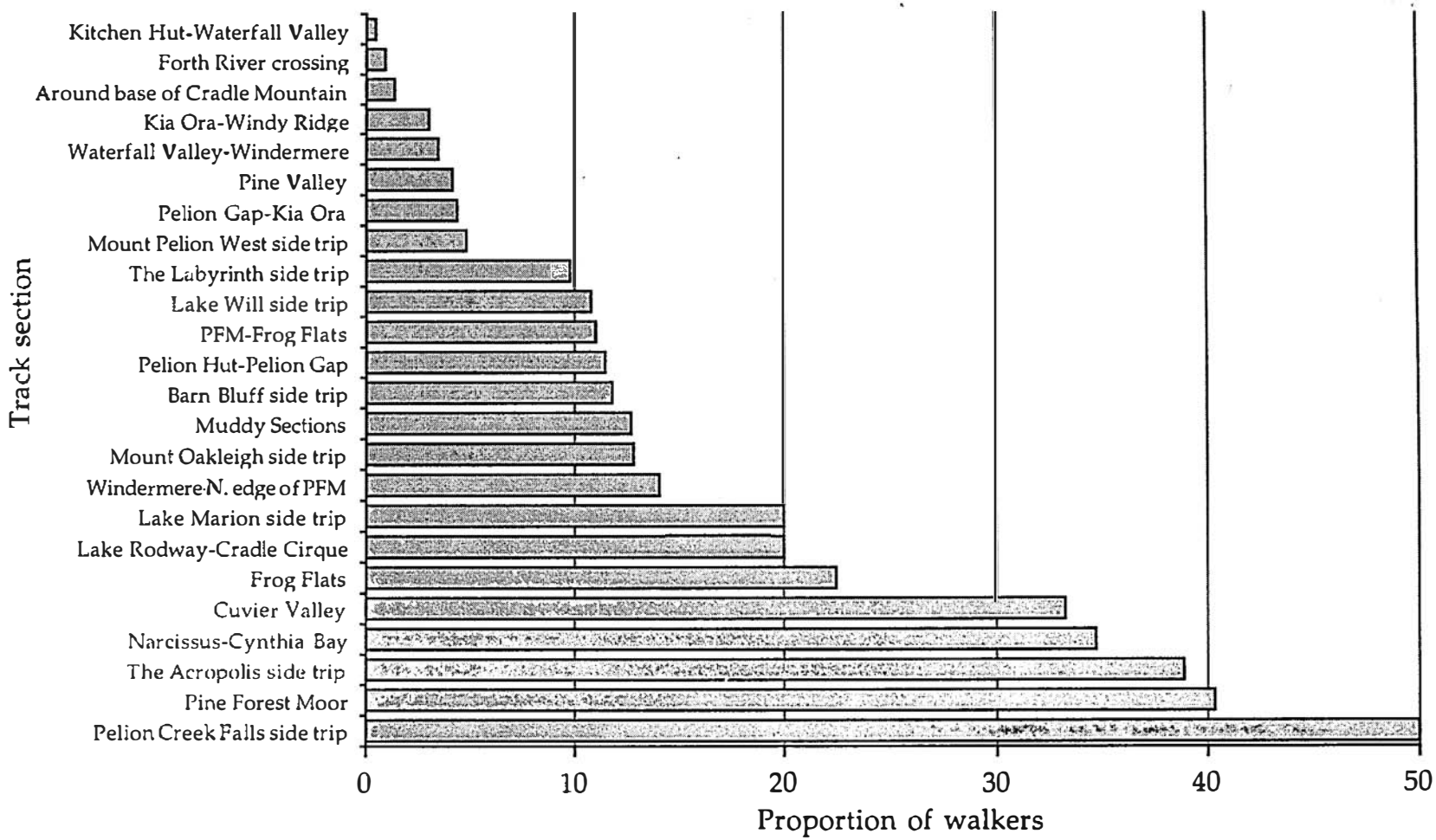


FIGURE 7.1

Proportion of those walking each track section that think it needs repair, Overland Track Walker Survey

7.2.2 Restoration

The restoration of degraded sites involves similar techniques to track hardening, especially those used for PEC. These include the digging of drains, the construction of water bars, the laying of soil or stones, covering the ground with jute netting to assist revegetation (Plates 7.3, 7.4, and 7.5), and the restriction of access to badly degraded sites. Restoration of some damaged sites is impossible, and the best that can be achieved is stabilisation. Track hardening alone or closing superfluous track sections may be sufficient in some environments, such as on flat buttongrass plains. The PWS has undertaken extensive restoration work on Cradle Plateau (Plate 6.1) and Cradle Cirque (Plate 7.1); has closed degraded side-tracks to Pine Valley, Paddy's Nut, Pelion Creek Falls; and has rerouted sections of the Overland Track south of Cirque Hut and crossing Pine Forest Moor.

Some tracks around Cradle Valley could probably be closed with little impact on walk opportunities, including the Horse Track below Crater Lake, the track from Dove Lake to Marions Lookout, and the Hansons Peak traverse. More active restoration techniques are required on the closed sections of track above Lake Lilla, on Cradle Cirque, and crossing Pine Forest Moor. These old tracks are very degraded and have shown few signs of vegetation recolonisation.

7.2.3 Education

Education can play a major role in altering user behaviour to prevent the occurrence of impacts in the first place. Education involves informing users of track and weather conditions, how crowded or uncrowded the track will be at different times, and what behaviour is considered appropriate or inappropriate. It provides an alternative or addition to both hardening and regulation of use. Education has the potential to substantially redistribute use and reduce impacts. Many impacts result from users not knowing how to behave properly.

The PWS has used education extensively since the 1985-86 summer, focusing on promoting minimal impact bushwalking (MIB) techniques (O'Loughlin 1993). Their education effort has been greatest on the Overland Track, including pre-walk briefings in MIB by rangers, posters in huts, and the use of roving track rangers. Education has the advantage of being cheaper and more aesthetically pleasing than hardening, and is more

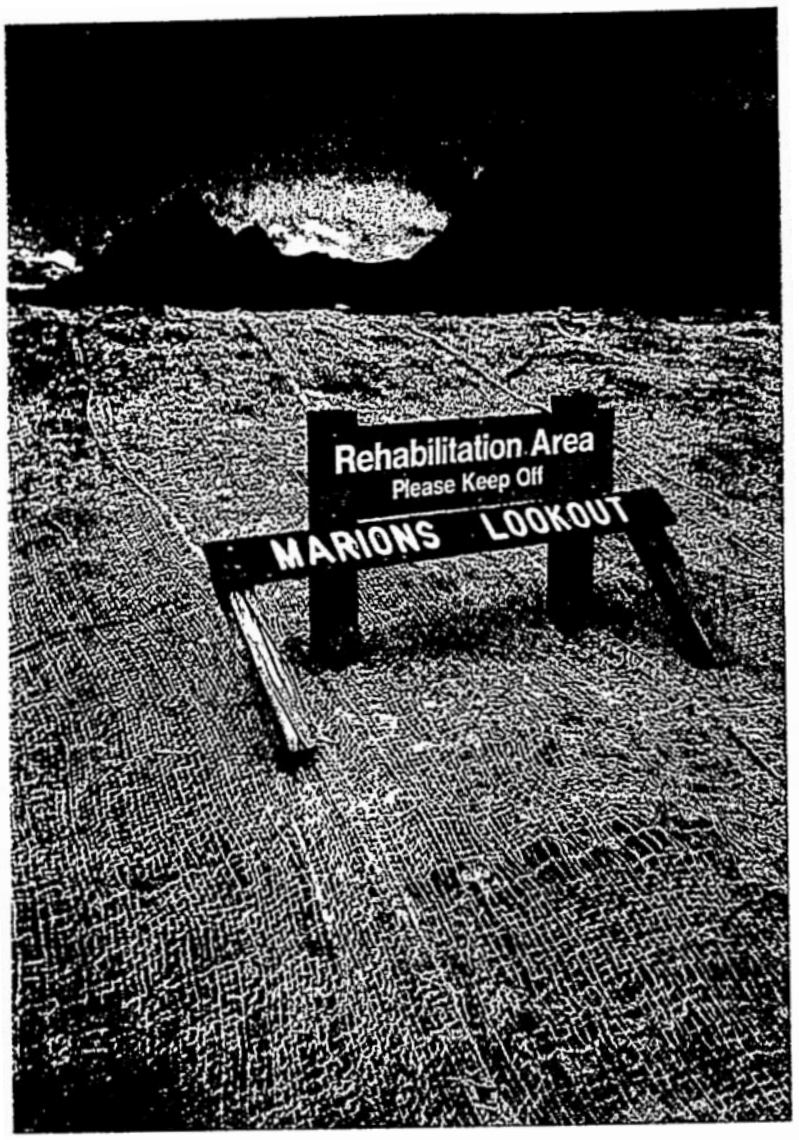


PLATE 7.3

Newly-laid jute netting, Marions Lookout

PLATE 7.4

Coniferous heath with everlasting daisies growing through jute netting,

PLATE 7.5

Partly-rehabilitated coniferous heath, Marions Lookout

politically acceptable than authoritarian options such as controlling behaviour by fiat or restricting numbers. It has had considerable success in lowering the incidence of gastroenteritis, the use of campfires, and littering within the Park.

Education appears to have been less successful in encouraging walkers to keep to muddy tracks, to walk in small groups, to adequately prepare for the track and weather conditions, and to respect other park users. 'Experience both here [Tasmania] and overseas shows that education, while extremely valuable, has little or no effect on the damage being done at certain heavily used sites. A misplaced trust in education without the employment of other management options such as permits, quotas and restrictions on party size will increase the problem' (Diggins 1996: 49). At present most education occurs when users are already on the track, and often this is too late. Many users are unprepared for the conditions experienced on the Track and in the huts, and have different expectations of walking tracks. The provision of information beforehand concerning the muddiness of the Track and the need to practice minimal impact bushwalking could have a profound influence on walkers' behaviour during the walk.

21 per cent of Overland Track Walker Survey respondents thought that more MIB information should be provided, both before and on the Track, in order to minimise environmental impacts. This response was unprompted. Nine per cent of Overland Track walkers responding to the PWS's 1995 Wild Area User Survey thought that the PWS should reduce usage by discouraging publicity of the area. 13 per cent thought that the PWS should encourage users to fan out in trackless areas.

Education has been a very useful and cost-effective method of modifying behaviour. It works well by itself, or in conjunction with other methods such as the use of controls. More emphasis is needed on targeting education to specific groups of users before they go on the Track. There appears to be very little compliance with MIB practices by many groups, especially school/scout trips, and many walkers in these groups are inadequately prepared for the weather and track conditions. Overseas backpackers are another group of walkers that tend to be poorly equipped for the conditions. Mandatory equipment checks before the walk, minimal impact lectures, and the introduction by the PWS of an equipment rental service at each end of the Track may be solutions. The idea would be that equipment could be rented for $20/item/week plus a refundable deposit equivalent to the cost of

replacing the equipment (for example, a credit card slip which could be torn up once the equipment is returned). Equipment could be rented at one end of the Track and returned to the other. All of the commercial tour operators on the Overland Track have similar rental services for their clients, and these have operated at a profit. Poorly equipped walkers could be given the choice of renting equipment or having access denied for safety reasons.

Several commercial operators have failed to mention to their clients that deep mud is found on some sections of the Track, and that walkers are expected to walk through it rather than around it. Guides are placed in an awkward position when reluctant clients argue that 'nobody told me about this beforehand'. The PWS should strongly recommend to operators that their clients be provided with this information before the walk. In contrast, Tasmanian Expeditions shows each group of clients a minimal impact bushwalking video before the walk. This prepares clients for the track conditions and shows them how to minimise impacts while walking.

7.2.4 Controls

Controlling visitor behaviour and numbers is usually considered to be the approach used as a last resort. Western liberal democracies only allow the alienation of an individual's right to freedom of choice, movement, behaviour, or access in situations where this control is demonstrably to the overwhelming benefit of society. This is especially so when it comes to controlling access to public land such as national parks. Because of this, any use of controls may negatively impact on the users' experience, as freedom and escape are important reported motivations for visiting national parks in the first place. Controls often require enforcement by legal sanctions, or many users otherwise fail to comply. Educating users as to the need for formal controls can also greatly assist in ensuring their compliance. In 1986 only 19 per cent of Overland Track walkers supported the policy of banning fires throughout the Park, while in 1995 68 per cent did. Formal controls on numbers of users allow use to be more evenly distributed in space and time.

Controls on behaviour enable activities likely to cause negative impacts to be prevented. The PWS has controlled the lighting of fires in parts of national parks which have been declared Fuel Stove Only Areas. Initially informal in nature, these restrictions were formalised once they had gained public acceptance, with fines of up to $5,000 for lighting fires. There are restrictions preventing camping in the Cradle Mountain day walk area, an

extremely sensitive alpine area already suffering from extreme track erosion. Kitchen, Rangers (north of Cradle Mountain), and Du Cane huts are designated to be emergency shelters only, and walkers are not allowed to sleep in them otherwise. This is because of the small size of these huts, their heritage value, their sensitive location, or their lack of facilities. Commercial groups are asked to not to use unofficial tracks and pads, and their size is rigorously controlled.

The PWS has been acutely aware of the potential political fall-out from restricting use and has been extremely careful in planning the introduction of controls. The Overland Track permit was introduced in 1991, collecting fees of between $10 and $20 per adult, but initially not restricting usage. The PWS planned to use the permit to gradually introduce controls upon walker numbers on all major tracks, including the Overland Track. However, the permit was dropped in 1993 when park entry fees were introduced. The PWS has planned the introduction of usage restrictions on over-used tracks for several years, but this has been postponed due to opposition from the Tasmanian walking community, especially bushwalking clubs. The *WHA Walking Track Management Strategy* (Tasmania, Parks and Wildlife Service 1994) incorporates the introduction of a system of mandatory access permits to most parts of the WHA, with restrictions to specified usage quotas. User groups have been consulted, and investigations are currently under way to determine what type of permit system would be most appropriate and how permits would be allocated.

27 per cent of respondents to the Overland Track Walker Survey advocated restrictions upon the number of walkers on the Track in order to minimise both environmental and social impacts. 17 per cent thought that group size should be limited. Seven per cent of respondents thought that rangers should enforce MIB practices and hut rules. Four per cent thought that walkers' gear should be checked before the walk. These responses were unprompted.

The PWS's Wild Area User Survey 1995 found that 33 per cent of Overland Track walker respondents thought that the PWS should reduce usage by introducing a quota or permit system in order to fix track impacts, while 27 per cent thought that this would also fix crowding problems. Only 8 per cent of Overland Track walkers responding to the PWS's 1995 Wild Area User Survey thought that the PWS need take no action to fix negative social impacts such as crowding. 44 per cent thought that the PWS should limit

party size to minimise crowding. Overland Track walkers were asked where they would go if a permit system were introduced and they were unable to get one. 52 per cent claimed they would go on a walk elsewhere in Tasmania. 15 per cent claimed that they would go on a walk in another state. 3 per cent claimed they would stay at home. 5 per cent didn't know, and 25 per cent failed to answer the question. None claimed that they would go anyway.

The *WHA Walking Track Management Strategy* (Tasmania, Parks and Wildlife Service 1994) states that usage restrictions will include restrictions on party sizes. Permits will not be issued for parties exceeding limits specified by the Strategy. For the Overland Track, the maximum party size allowed will be 13, a level which allows for commercially guided tours comprising ten clients and three guides. Party sizes of less than six will be encouraged.

It is essential that party size restrictions be imposed. Responses from the Overland Track Walker Survey show that the factor generating most negative social impacts is interactions with large groups. The greatest social impacts from large parties appear to occur when independent walkers meet large commercial, scout/school, or army groups. Impacts are greater at huts and campsites than whilst walking on the track. Several respondents indicated what they thought the maximum party size should be, as shown in Figure 7.2.

44 per cent of respondents to the PWS's Wild Area User Survey 1995 thought that limiting party size would fix crowding problems. When directly asked whether maximum party sizes should be set for that area, 87 per cent of Overland Track respondents supported this, while 10 per cent were opposed. Walkers were asked what level maximum group size should be, and their responses are shown in Figure 7.3. The average maximum group size preferred is 6.25 walkers.

Management controls are needed to separate conflicting uses, in order to improve the quality of the walking experience. In addition to restricting party sizes, another solution may be to require these large 'dissimilar' groups to camp rather than use the public huts, and to camp away from the huts. It may be desirable to not allow some current uses of the Overland Track to continue. Large army groups appear to use the Overland Track for adventure training, and the question must be asked whether this is the

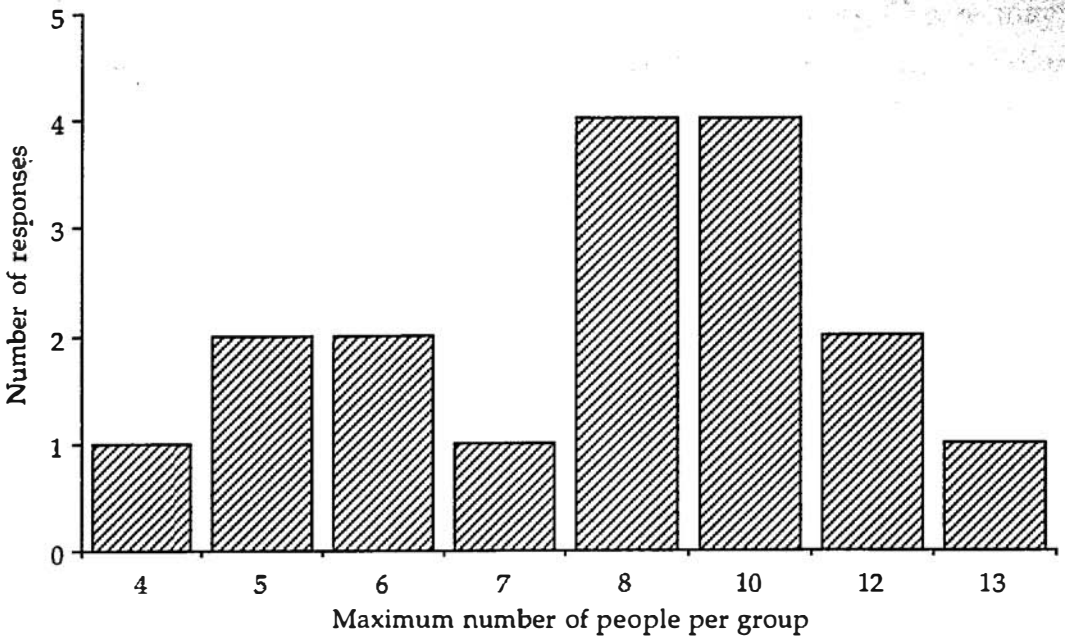


FIGURE 7.2

Preferred maximum group size limits,
Overland Track Walker Survey

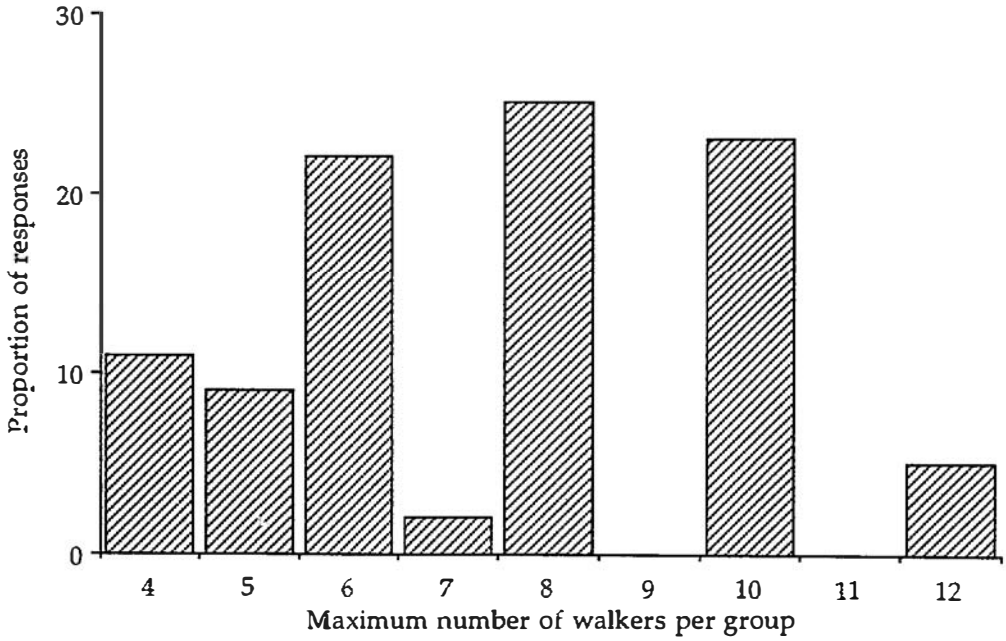


FIGURE 7.3

Preferred maximum group size, Wild Area User Survey 1995

appropriate location for that activity. Exercises on the Central Plateau based at the Australian Antarctic Division's Bernacchi Training Centre may be more suitable, making better use of that facility, and providing soldiers with a wide variety of options, some much more challenging than the Overland Track, and resulting in less conflict with recreational walkers.

Similarly, marathon races are clearly unsuitable on the Overland Track. They result in conflict with walkers and considerable environmental impacts. It is impossible to practice minimal impact bushwalking when you are trying to run the Track in under ten hours, and many runners run around muddy sections. It is unfair to make bushwalkers practice minimal impact bushwalking and walk through thigh-deep mud but turn a blind eye to marathon runners trampling the vegetation. Other parks, with drier tracks, less sensitive ecosystems, and fewer bushwalkers may be more suitable for this activity.

Scenic flights are another use that may result in less impact if they are diverted elsewhere. At present flights overfly the Overland Track, meaning that they have the potential to adversely impact on over 5,000 walkers. A better solution may be to ask flights to fly along the western sides of Barn Bluff, Mount Pelion West, Mount Ossa, and the Du Cane Range, making use of the bulk of these mountains to shield walkers from the sight and sound of the flights. This would be just as scenic and spectacular for the passengers, but have much less potential impact on a smaller number of bushwalkers. Flights could still avoid the Eldon Range, preserving the wilderness qualities of that area.

7.3 Revenue collection to cover management expenses

The potential for nature tourism to provide financial benefits to the Tasmanian government and/or the Parks and Wildlife Service remains largely unexploited. The majority of economic benefits accrue to commercial tour, transport, and accommodation operators and only a small amount go to the state. At the same time, the state is responsible for most of the expenses resulting from nature tourism. The revenue gained from fees collected in national parks is only a fraction of the expenditure needed to repair or prevent the impacts of that visitation. There is no reason why Tasmania should subsidise visits to its parks, especially when most visitors come from interstate or overseas. This is especially so in the Cradle Mountain-Lake St Clair National Park, where in 1987-88 only 34 per cent of

visitors to Cradle Mountain and 15 per cent of visitors to Lake St Clair came from Tasmania. Similarly, in 1994-95 only 15-16 per cent of walkers on the Overland Track came from Tasmania. It is essential that the principle of 'user pays' be applied to national parks in order to fund the ever-increasing costs involved in their management. There are several ways that increased revenue collection could be achieved.

Concessionaires are charged fees in exchange for the right to provide their services within the Park, based on client numbers or a proportion of takings. One of the objectives for managing concessions is that the state gains a fair return from concessions granted (Tasmania, Department of Parks, Wildlife and Heritage 1992a). The standard licence allowing the operation of bushwalking tours in national parks states that only $2 per customer per day must be paid. These charges amount to only one to two per cent of each commercial operator's income. This is a poor return to the state, considering that it owns and controls the environmental resource that is being used to generate private profit and is responsible for the associated social, environmental and economic costs. The Tasmanian Environment Minister claims that increasing the charges for concessionaires and commercial operators in the WHA would threaten their economic viability (*Saturday Mercury* 21 May 1994), but there is little evidence to support this. Charging commercial operators to cover the cost of preventing or repairing the resulting social and environmental impacts would have the added advantage of encouraging them to reduce these impacts, and it would also limit the demand for further development. Operators should also be encouraged to make voluntary contributions towards the conservation and management of the environment which they utilise.

Another method of raising revenue to fund national park management is to tax visitors staying in accommodation near the Park through a room tax (Sherman and Dixon 1991). Most tourists who spend more than a few hours in the Cradle Mountain-Lake St Clair National Park stay in accommodation at either Cradle Valley, Lake St Clair, or Derwent Bridge. A tax of five to ten per cent would amount to only a minor increase in accommodation costs for any individual visitor, but would generate a large amount of revenue for park management. This method of revenue collection would be unobtrusive and cheap for park managers as accommodation providers could collect the tax from their guests.

The easiest method of capturing benefits from nature tourism is to charge a fee to enter or use the area (Sherman and Dixon 1991). The PWS instituted a system of entry fees in 1993, but these represent little more than a token payment and are only a fraction of what most users would be willing to pay. Given the expense of travelling to Tasmania, higher fees would probably have little effect on visitation levels. The present discriminatory system, where Tasmanian residents are effectively charged less than visitors from interstate or overseas by being able to purchase an annual car pass, should be maintained as locals already contribute through taxation. There appears to have been little opposition to entry fees from the general public, but considerable opposition from concessionaires operating within the parks who feared a loss of business. When Overland Track Walker Survey respondents were asked what the PWS should do to minimise environmental degradation, eight per cent of them advocated an increase in walker fees to cover the costs of environmental protection. This response was unprompted.

At present there is no charge to walk the Overland Track, to use the public huts, or to camp nearby and make use of facilities such as toilets and water tanks. This results in over-use due to unrestrained demand. When park entry fees were introduced, the Overland Track fee was abolished, because 'there was no longer any need for a charge to use the Track' (Cleary in *Examiner* 2 August 1993: 7). Environment Minister Cleary claimed that the new entry fees would make money available for vital tasks along the Track, including hut maintenance. He described the entry fee as 'a bargain for visitors or Tasmanian bushwalkers alike'. Unfortunately this bargain meant that fewer funds were available for track repairs, and most of these came from Tasmanian taxpayers or funds provided by the Commonwealth government. In 1994 only $50,000 was spent on maintaining the Overland Track, and in 1995 the state government sought $60,000 additional funding from the Commonwealth to repair a badly degraded track section.

Conversely, New Zealand national park users must pay a nightly fee to sleep in or camp near public huts (NZ$14, similar to the cost of staying in a youth hostel or backpackers). Fees are collected by volunteer hut wardens, who are rewarded by the park's managers with food and pocket money, and are free to go walking during the day and to socialise with walkers at night. As a consequence the huts are clean and well maintained, they are equipped with facilities such as running water and gas stoves for cooking, and most users are happy as they feel that they are getting good value for their money.

7.4 Other

Additional water tanks are required on the Track, at both Pelion and Windy Ridge Huts. Douglas Creek has provided water to walkers staying at New Pelion until now, but the risk of contamination from both campers and the Cradle Huts' Pelion Hut upstream are considerable health risks. Windy Ridge's water tank frequently runs dry, and walkers are forced to search the neighbourhood for water, some 'stealing' water from Cradle Huts' Windy Ridge Hut.

At present sewage has to be flown out because the composting toilets do not work with so many users in the Park's cold, wet environment. The PWS has recognised this, and has redesigned toilets to allow sewage to be removed more easily (in tanks) and flown out. This improved system should be implemented in all toilets along the Track, including those at Cradle Huts' private huts. The release of bacteria-rich effluent from the toilets directly into environment is of major concern, and poses a significant health risk. Steps should be taken to minimise the input of liquid wastes into the toilet. The policy of asking walkers to 'pee behind a tree' is unreasonable and ineffective. Toilet users require privacy and convenience. An option must be provided to separately dispose of liquid wastes from within the toilet, whilst they are still sterile. The easiest solution would be to provide PVC urinals for male use, as done on the Routeburn Track in New Zealand. If designed properly no flushing, and only periodic cleaning would be required.

CHAPTER 8
CONCLUSION

The aim of this study has been to document and gain an understanding of the nature of tourism in the Cradle Mountain-Lake St Clair National Park. This has been done by examining the physical, historical, and political / managerial contexts in which tourism occurs within the Park; how the Park fits into Tasmania's tourist framework; the physical infrastructure and services provided in the Park to cater for tourists; the numbers and characteristics of tourists visiting the Park; factors motivating tourists to visit the Park; and the positive and negative environmental, social, and economic impacts of tourism.

The Cradle Mountain-Lake St Clair National Park is a special natural area with unique natural and cultural heritage values, recognised world-wide by its World Heritage Area status. These values, outlined in Chapters 2 and 3, include endemic plant species with Gondwanan affinities growing in a patch-work of communities, complex geological features, landforms largely resulting from extensive glaciation, evidence of prehistoric Aboriginal occupation, and remnants from a range of previous uses.

These values have made the area attractive for both passive tourism and extended bushwalking. Chapter 3 traced the historical growth of tourism and bushwalking in the area. Chapter 5 examined how this growth has continued in recent decades. Independent adventurers and bushwalkers explored the area from the 1860s onwards, initially with utilitarian motives, but, from the 1890s onwards, purely for recreation. This tradition of independent walking has been maintained until the present. The number of walkers has greatly increased, as has the reputation of the area's walking tracks. Walkers are now attracted from throughout Australia and from overseas.

Starting around 1890, commercially guided bushwalking tours have also been provided within the area. These tours were initially conducted by experienced bushmen who had prospected or trapped the areas visited. They utilised several old huts built by miners and snarers. These tours opened the then poorly-tracked area to tourists with less experience or self-sufficiency than the earlier adventurers. Subsequently, the newly-formed Tourist Bureau became involved in arranging and operating guided tours in the 1930s. These tours ceased when the Overland Track was

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upgraded to a standard where it could be easily followed, and huts were provided along the Track for walkers to use. Guided tours recommenced in the 1940s, when packhorses, which carried walkers' equipment to make the walk easier, were used. This phase of commercially guided bushwalking ceased following the retirement of ranger Connell in 1948. Guided walking tours were not reintroduced until 1969. Since then the number of operators has increased, the length of trips has grown so that side-trips can be offered, and the services provided to clients have expanded, with one operator utilising a series of private huts along the Track.

Public tourist accommodation was first provided at Lake St Clair in 1894. Waldheim was constructed by the Weindorfers in 1912, providing commercial accommodation to tourists visiting Cradle Mountain. The construction of each of these buildings predated the reservation of the Park. Their existence eventually resulted in access being improved, allowing greater numbers of tourists to visit. Commercial accommodation was provided by Fergusson at Derwent Bridge and Cynthia Bay in the early 1930s after the public facilities had become run-down. Accommodation facilities at each end of the Park expanded through the 1930s, but these eventually closed down after years of decline. Several proposals were made in the 1930s and 1940s to develop high quality tourist accommodation at each end of the Park, but these failed to reach fruition, and it was not until the 1970s and 1980s that high quality accommodation was constructed at either end of the Park. The accommodation at the northern end of the Park has greatly expanded in both size and the number of services provided, while additional commercial accommodation has been provided inside the Park at its southern end. This growth has be encouraged and supported by the state government.

While undoubtedly nature-based, the factors motivating tourists have varied. Some tourists are motivated by adventure and challenge, others seek environmental enlightenment, some are content to stay in comfortable accommodation set in a beautiful natural environment, whilst the majority are happy to briefly visit, take a photo, then leave for the next tourist icon. There are elements of ecotourism, adventure tourism, and mass tourism operating within the Park.

The Park has been set aside for conservation and protection, as well as for recreational use by both locals and tourists. This dual protection / presentation role, described by Sutton (1994) as a paradoxical mandate, has

been entrenched in all Tasmanian national parks since their creation. As shown in Chapter 3, reservation of the Cradle Mountain-Lake St Clair area was brought about by the cooperation of two groups, one interested in flora and fauna conservation, the other interested in securing the area's continued availability for tourism and bushwalking. The dual protection / presentation role is also firmly stated in the legislation providing for management of the Park, and of the WHA. It is this role duality that creates most of the management problems in Tasmania's parks. Almost all human activities are liable to impact on the environment in one way or another. Chapter 6 illustrated how use of the Park can both conflict with, and provide support for its conservation. Negative impacts are produced when usage conflicts with conservation. Major negative impacts that have occurred within the Cradle Mountain-Lake St Clair National Park include damage to vegetation, soil erosion, water pollution, public health dangers (such as gastroenteritis), littering, loss of wilderness values, and crowding.

The PWS is faced with a dilemma in allowing nature-based tourism to occur within the Park whilst trying to ensure that its natural and cultural heritage values are preserved. This dilemma is complicated even more by the positive impacts of tourism, especially its economic impacts, which create additional pressures. Tourist operators and development interests have considerable power and influence in the state. The PWS is subject to political control, and major policy decisions concerning tourist accommodation and infrastructure developments are often made at the political level. This means that the PWS has not always had a free hand to manage the Park as it feels best. Some necessary compromises have been made, and some negative impacts tolerated. The extent of these impacts has increased over the years, in accordance with the rapid growth in the number of tourists visiting the Park.

The PWS has been forced to implement various management strategies in order to minimise impacts, and these were discussed in Chapter 7. There is a need for increased management of tourism within the Cradle Mountain-Lake St Clair National Park, in both its commercial and non-commercial phases. The planning system used has proven too flexible and subject to political influence. There is a need for further revenue-raising strategies to be implemented, and these were outlined in Chapter 7. Unfortunately, more authoritarian management methods will be needed if the ever-increasing degradation of the Overland Track and its surrounds is to be halted.

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Centre for Environmental Studies
University of Tasmania

Overland Track Walker Survey

Over this summer the Overland Track is being surveyed to find out bushwalkers' experiences of their impacts. The results will be used in a project that examines the positive and negative impacts of bushwalking on the Overland Track. These include environmental, social and economic impacts. This project is being conducted by the Centre for Environmental Studies at the University of Tasmania. By filling in this questionnaire you will be helping to improve our understanding of this area and aiding the future management of the track.

General instructions ✍

- Each individual should fill in a separate questionnaire immediately after or towards the end of their trip. Please answer each question on your own without discussing answers with others.
- Where boxes are provided and there are several options, tick your choice. ✓
- No names and addresses will be collected with this survey, so you can afford to be candid!
- Please mail to Overland Track Walker Survey, c/- Mike Byers, Centre for Environmental Studies, University of Tasmania, GPO Box 252C, Hobart 7001 ✉

TRIP AND GROUP DETAILS

1. Trip route:

Entire Overland Track - north to south ☐
Entire Overland Track - south to north ☐
Other >

2. What side trips were done along the Overland Track?

3. Trip length: days **Month started:**

4. What reasons were most important in your choosing to walk the Overland Track? (Tick those you consider most important)

To learn about the environment	☐	Wilderness experience	☐
To visit a famous tourist icon	☐	Contact with nature	☐
Enjoyment of alpine scenery	☐	Escape from city life	☐
Self-discovery	☐	Physical exercise	☐
Adventure	☐	Social interaction	☐
Challenge	☐		

Other >

5. Type of group:

Independent ☐ → Solo ☐, Friends/family ☐, Bushwalking club ☐
Scout/school trip ☐
Commercially guided - tent based ☐
Commercially guided - private hut based ☐ } Company:
Other >

6. Number in group:
list any commercial guides, school or scout leaders separately:

7. What reasons were most important in choosing your type of group?

Comfort	☐	Convenience	☐
The type of people expected	☐	Cost	☐
Lack of bushwalking experience	☐	To take it easy	☐
Fitness level	☐	To rough it	☐
Other>			

8. How would you describe your own previous experience as a bushwalker?

Novice	☐	(less than 5 nights spent in the bush)
Moderately experienced	☐	(5 - 25 nights spent in the bush)
Very experienced	☐	(more than 25 nights spent in the bush, with 2 or more extended walks)

9. How would you describe your group's previous bushwalking experience?
(Average for group, excluding any commercial guides, school or scout leaders)

Novice	☐	(less than 5 nights spent in the bush)
Moderately experienced	☐	(5 - 25 nights spent in the bush)
Very experienced	☐	(more than 25 nights spent in the bush, with 2 or more extended walks)

10. What use was made of public huts? **No. of days used:**
(list the number of days)

Sleeping	☐
Cooking	☐
Eating lunch	☐
Eating dinner	☐
Shelter from bad weather	☐
Social interaction	☐
Other >	

ECONOMIC IMPACTS

11. Approximately how much did/will you spend <u>on walking</u> the Overland Track?
e.g. commercial guiding fees, accommodation, food, transport to and from the track (excluding travel to Tasmania), other goods and services

<u>The following four questions (12 - 15) are for interstate and overseas walkers only. If resident in Tasmania then please turn to question 16 on the next page.</u>

12. If non-resident in Tasmania, what is the length of your visit to Tasmania?
1 week or less ☐ 1 - 2 weeks ☐ 2 - 4 weeks ☐ Over 4 weeks ☐

13. Approximately how much did/will you spend in Tasmania <u>on activities other than walking</u> the Overland Track? e.g. on accommodation, transport (including travel to Tasmania), food, other goods and services

14. Before coming to Tasmania, had you planned to walk the Overland Track?

Yes ☐
No ☐

15. If yes, how important was it in influencing you to come to Tasmania?

The only reason ☐
The most important reason ☐
One of several equally important reasons ☐
Not really important ☐

TRACK IMPACTS

16. Below is a list of factors that may have influenced your enjoyment while walking <u>on the track between huts or campsites</u>. For each of them indicate how they affected your enjoyment:

	Didn't notice	Greatly added	Mildly added	Didn'tadd or detract	Mildly detracted	Greatly detracted
Litter on the track						
Track conditions						
Trampled vegetation						
Number of groups met						
Size of groups met						
Behaviour of groups met						
Noise						
Other >						

17. Did you tend to react differently <u>on the track between huts or campsites</u> towards any particular type of group?

	Didn't notice	Very positively	Slightly positively	Neutral	Slightly negatively	Very negatively
Independent group						
Scout/school trip						
Commercial- tent based						
Commercial- private huts						
Other >						

Explain if your reaction was other than 'neutral' or 'didn't notice':

18. On average, how many other walkers did you encounter <u>on the track between huts or campsites</u> each day?

1 - 5 ☐ 5 - 10 ☐ 10 - 20 ☐ 20 - 30 ☐ Over 30 ☐

19. What do you think about the number of walkers you encountered <u>on the track between huts or campsites</u>?

Too few ☐
Not too many or too few ☐
Too many ☐

20. Whilst walking, what did you do when faced with muddy sections of track?

Always walked through ☐
Mostly walked through ☐
Half and half ☐
Mostly avoided the mud ☐
Always avoided the mud ☐

21. How did you find the condition of the track?

Acceptable - no repairs needed ☐
Reasonable - very few repairs needed ☐
Deteriorating - parts of it needs repair ☐
Heavily damaged - most of it needs repair ☐
Other >

22. If repairs are needed, are these on particular sections of the track? Which:

IMPACTS AT HUTS AND CAMPSITES

23. Below is a list of factors that may have influenced your enjoyment <u>while at the huts or campsites</u>. For each of them indicate how they affected your enjoyment:

	Didn't notice	Greatly added	Mildly added	Didn't add or detract	Mildly detracted	Greatly detracted
Dirty huts/camps						
Poor sanitation (e.g. smells, faeces, toilet paper visible)						
Number of groups met						
Size of groups met						
Behaviour of other users						
Noise						
Other >						

24. Did you tend to react differently <u>at the huts or campsites</u> towards any particular type of group?

	Didn't notice	Very positively	Slightly positively	Neutral	Slightly negatively	Very negatively
Independent groups						
Scout/school trip						
Commercial- tent based						
Commercial- private huts						
Other >						

Explain if your reaction was other than 'neutral' or 'didn't notice':

25. On average, how many other walkers did you encounter <u>at the huts or campsites</u> at the end of each day?

1 - 5 ☐ 5 - 10 ☐ 10 - 20 ☐ 20 - 30 ☐ Over30 ☐

26. What do you think about the number of walkers you encountered <u>at the huts or campsites</u> at the end of each day?

Too few ☐
Not too many or too few ☐
Too many ☐

27. If you camped out in a tent, did you find it necessary to do any of the following?

Dig drainage channels around your tent ☐
Clear any new campsites ☐
Modify any of the campsites you camped at ☐

28. What did you do with rubbish on your trip?

Left it at the public huts/campsites ☐
Left it at the private huts ☐
Burned, bashed and buried it ☐
Carried it all out ☐
Burned some, carried rest out ☐
Other >

29. Did any of the following factors relating to huts and campsites influence your enjoyment of your trip? Indicate how:

	Didn't notice	Greatly added	Mildly added	Didn't add or detract	Mildly detracted	Greatly detracted
The number of campsites						
Facilities at the campsites						
Visual impact - campsites						
The number of public huts						
Facilities at the public huts						
Visual impact- public huts						
The number of private huts						
Facilities at the private huts						
Visual impact - private huts						

Explain if added or detracted:

OTHER FACTORS

30. Did any of the following influence your enjoyment of your trip? Indicate how:

	Didn't notice	Greatly added	Mildly added	Didn't add or detract	Mildly detracted	Greatly detracted
Track work/boardwalk						
Aircraft passing overhead						
'Daytrippers'						
Impacts on plants						
Impacts on soils/landforms						
Introduced species						
Disturbance to animals						
Vandalism or graffiti						
Other >						

31. Did you suffer from gastroenteritis (stomach upsets, vomiting, diarrhoea) on your walk?

32. What did you think of your trip?

Far exceeded expectations ☐
Better than I expected ☐
Satisfactory ☐
Unsatisfactory (explain) ☐

33. How important were these aspects to your enjoyment of the trip? (rate each on a scale from 1 to 5, where 1 is very important and 5 is not important at all)

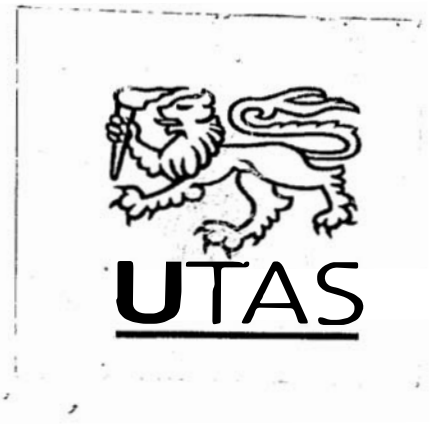
rating:

Geological features/landforms . . . .
Experiencing a new way of life . . . .
Learning about environment . . . .
Time with family or friends . . . .
Wilderness experience . . . .
Meeting new people . . . .
Physical exercise . . . .
'Roughing it' . . . .
Naturalness . . . .
Adventure . . . .
Social life . . . .
Quietness . . . .
Relaxing . . . .
Animals . . . .
Solitude . . . .
Scenery . . . .
History . . . .
Plants . . . .
Food . . . .

Other >

34. What methods should the National Parks and Wildlife Service use to minimise
(a) any environmental degradation

(b) any negative social impacts?



35. Are there any other comments you would like to make?

Please fill in your personal details on the back of this page.

PERSONAL DETAILS

The questions asked in this section will help to identify what types of people participate in walking the Overland Track. No names and addresses should be attached to this questionnaire and all information will be regarded as strictly confidential.

36. Sex

Female ☐ Male ☐

37. Age .... years

38. What education level have you completed?

High school (up to year 10) ☐
Matriculation (up to year 12) ☐
Technical education ☐
Tertiary (University) ☐

39. Where is your usual place of residence?

Town/city
State
Country (if overseas)

40. What is your employment status?

Employed ☐
Unemployed ☐
Student ☐ Level:
Retired ☐
Unpaid work at home ☐
Other >

41. If employed, what group does your main occupation fall into?

Managers & Administrators ☐
Professionals ☐
Semi-professionals ☐
Tradespersons ☐
Clerks ☐
Salespersons & Personal Service Workers ☐
Plant & Machine Operators & Drivers ☐
Labourers & Related Workers ☐

If unsure write occupation >

Please mail to Overland Track Walker Survey, c/- Mike Byers, Centre for Environmental Studies, University of Tasmania, GPO Box 252C, Hobart 7001 ✉

Total number of responses = 229

Centre for Environmental Studies
University of Tasmania

Overland Track Walker Survey

Over this summer the Overland Track is being surveyed to find out bushwalkers' experiences of their impacts. The results will be used in a project that examines the positive and negative impacts of bushwalking on the Overland Track. These include environmental, social and economic impacts. This project is being conducted by the Centre for Environmental Studies at the University of Tasmania. By filling in this questionnaire you will be helping to improve our understanding of this area and aiding the future management of the track.

General instructions

- Each individual should fill in a separate questionnaire immediately after or towards the end of their trip. Please answer each question on your own without discussing answers with others.
- Where boxes are provided and there are several options, tick your choice. ✓
- No names and addresses will be collected with this survey, so you can afford to be candid!
- Please mail to Overland Track Walker Survey, c/- Mike Byers, Centre for Environmental Studies, University of Tasmania, GPO Box 252C, Hobart 7001

TRIP AND GROUP DETAILS

1. Trip route:

	%
Entire Overland Track - north to south	90.8
Entire Overland Track - south to north	5.3
Other >	3.9

2. What side trips were done along the Overland Track?

3. Trip length: Mean 6.7 days **Month started:**

4. What reasons were most important in your choosing to walk the Overland Track? (Tick those you consider most important)

	%		%
To learn about the environment	14	Wilderness experience	70
To visit a famous tourist icon	17	Contact with nature	55
Enjoyment of alpine scenery	73	Escape from city life	39
Self-discovery	20	Physical exercise	54
Adventure	50	Social interaction	17
Challenge	57		

Other >

5. Type of group:

	%		%
Independent	70	Solo	8
Scout/school trip	1	Friends/family	60
Commercially guided - tent based	12	Bushwalking club	2
Commercially guided - private hut based	15		
Other >	2.		

Company:

Mean

6. Number in group: 5
list any commercial guides, school or scout leaders separately:

7. What reasons were most important in choosing your type of group? %

Comfort	17	Convenience	43
The type of people expected	17	Cost	14
Lack of bushwalking experience	11	To take it easy	7
Fitness level	15	To rough it	7
Other >	17		

%

8. How would you describe your own previous experience as a bushwalker?

Novice	14	(less than 5 nights spent in the bush)
Moderately experienced	39	(5 - 25 nigh s spent in the bush)
Very experienced	47	(more than 25 nights spent in the bush, with 2 or more extended walks)

%

9. How would you describe your group's previous bushwalking experience?
(Average for group, excluding any commercial guides, school or scout leaders)

Novice	21	(less than 5 nigh s spent in the bush)
Moderately experienced	49	(5 - 25 nights spent in the bush)
Very experienced	30	(more than 25 nigh s spent in the bush, with 2 or more extended walks)

%

10. What use was made of public huts? (list the number of days)

	Mean No. of days used:
Sleeping	2.6
Cooking	2.8
Eating lunch	1.3
Eating dinner	2.5
Shelter from bad weather	1.2
Social interaction	1.4
Other >	1

%

ECONOMIC IMPACTS

11. Approximately how much did/will you spend <u>on walking</u> the Overland Track?
e.g. commercial guiding fees, accommodation, food, transport to and from the track (excluding travel to Tasmania), other goods and services

$470 Mean

<u>The following four questions (12 - 15) are for interstate and overseas walkers only. If resident in Tasmania then please turn to question 16 on the next page.</u>

12. If non-resident in Tasmania, what is the length of your visit to Tasmania?
1 week or less [6%] 1 - 2 weeks [47%] 2 - 4 weeks [28%] Over 4 weeks [4%]

Tasmanian 15%

13. Approximately how much did/will you spend in Tasmania <u>on activities other than walking</u> the Overland Track? e.g. on accommodation, transport (including travel to Tasmania), food, o her goods and services

$ 767 Mean

14. Before coming to Tasmania, had you planned to walk the Overland Track?

Yes	94
No	6

%

15. If yes, how important was it in influencing you to come to Tasmania?

The only reason	29
The most important reason	36
One of several equally important reasons	30
Not really important	5

%

TRACK IMPACTS

16. Below is a list of factors that may have influenced your enjoyment while walking <u>on the track between huts or campsites</u>. For each of them indicate how they affected your enjoyment:

	Didn't notice	Greatly added	Mildly added	Didn't add or detract	Mildly detracted	Greatly detracted	
Litter on the track	60.6	5.4	1.4	8.6	19.0	5.0	%
Track conditions	2.3	20.7	17.1	25.2	27.0	7.7	%
Trampled vegetation	11.9	0.9	2.7	31.1	43.8	9.6	%
Number of groups met	5.5	8.7	16.9	39.7	20.5	8.7	%
Size of groups met	6.5	1.9	7.9	54.2	19.0	10.6	%
Behaviour of groups met	7.3	11.9	4.2	46.1	17.4	3.2	%
Noise	31.8	4.2	0	43.5	17.3	3.3	%
Other >							

17. Did you tend to react differently <u>on the track between huts or campsites</u> towards any particular type of group?

	Didn't notice	Very positively	Slightly positively	Neutral	Slightly negatively	Very negatively	
Independent group	10.8	31.1	20.7	33.8	3.2	0.5	%
Scout/school trip	37.9	6.6	11.4	28.9	13.7	1.4	%
Commercial- tent based	45.9	3.7	8.8	33.7	5.4	2.9	%
Commercial- private huts	46.4	5.3	7.2	29.0	8.2	3.9	%
Other >	47.7	6.2	7.7	26.2	4.6	7.7	%

Explain if your reaction was other than 'neutral' or 'didn't notice':

18. On average, how many other walkers did you encounter <u>on the track between huts or campsites</u> each day?

1 - 5 [16] 5 - 10 [39] 10 - 20 [33] 20 - 30 [9] Over30 [3] %

19. What do you think about the number of walkers you encountered <u>on the track between huts or campsites</u>?

%

Too few	1
Not too many or too few	85
Too many	14

%

20. Whilst walking, what did you do when faced with muddy sections of track?

Always walked through	13
Mostly walked through	41
Half and half	24
Mostly avoided the mud	19
Always avoided the mud	3
	%

21. How did you find the condition of the track? %

Acceptable - no repairs needed	7
Reasonable - very few repairs needed	50
Deteriorating - parts of it needs repair	38
Heavily damaged - most of it needs repair	5
Other >	%

22. If repairs are needed, are these on particular sections of the track? Which:

IMPACTS AT HUTS AND CAMPSITES

23. Below is a list of factors that may have influenced your enjoyment <u>while at the huts or campsites</u>. For each of them indicate how they affected your enjoyment:

	Didn't notice	Greatly added	Mildly added	Didn't add or detract	Mildly detracted	Greatly detracted	
Dirty huts/camps	42.6	2.8	2.3	22.2	24.1	6.0	%
Poor sanitation (e.g. smells, faeces, toilet paper visible)	31.9	1.9	1.4	20.8	28.2	15.7	%
Number of groups met	12.0	7.8	12.4	35.9	24.9	6.9	%
Size of groups met	12.1	5.6	6.5	40.9	25.1	9.8	%
Behaviour of other users	14.4	11.1	10.6	39.8	19.0	5.1	%
Noise	27.9	1.9	1.4	42.3	21.2	5.3	%
Other >							

24. Did you tend to react differently <u>at the huts or campsites</u> towards any particular type of group?

	Didn't notice	Very positively	Slightly positively	Neutral	Slightly negatively	Very negatively	
Independent groups	13.2	27.8	17.5	40.1	0	1.4	%
Scout/school trip	41.0	5.4	4.9	33.7	12.2	2.9	%
Commercial- tent based	47.5	4.5	5.4	34.7	5.9	2.0	%
Commercial- private huts	52.5	4.4	3.9	32.8	3.9	2.5	%
Other >	45.2	2.7	4.1	35.6	8.2	4.1	%

Explain if your reaction was other than 'neutral' or 'didn't notice':

25. On average, how many other walkers did you encounter at the huts or campsites at the end of each day?

1 - 5 [8] 5 - 10 [27] 10 - 20 [44] 20 - 30 [16] Over 30 [5] %

26. What do you think about the number of walkers you encountered at the huts or campsites at the end of each day?

	%
Too few	1
Not too many or too few	61
Too many	38
	%

27. If you camped out in a tent, did you find it necessary to do any of the following?

	n
Dig drainage channels around your tent	1
Clear any new campsites	0
Modify any of the campsites you camped at	1

28. What did you do with rubbish on your trip?

	%
Left it at the public huts/campsites	0
Left it at the private huts	15
Burned, bashed and buried it	0
Carried it all out	78
Burned some, carried rest out	6
Other >	%

29. Did any of the following factors relating to huts and campsites influence your enjoyment of your trip? Indicate how:

	Didn't notice	Greatly added	Mildly added	Didn't add or detract	Mildly detracted	Greatly detracted	
The number of campsites	20.8	3.3	8.0	51.9	14.2	1.9	%
Facilities at the campsites	19.9	11.7	13.6	45.1	8.3	1.5	%
Visual impact - campsites	17.6	10.0	11.0	53.8	7.6	0	%
The number of public huts	5.2	18.1	17.1	51.0	8.6	0	%
Facilities at the public huts	6.2	28.4	20.9	34.6	9.5	0.5	%
Visual impact- public huts	9.6	10.5	22.0	50.2	7.7	0	%
The number of private huts	42.9	5.7	0.9	40.6	6.6	3.3	%
Facilities at the private huts	47.7	13.6	2.3	31.3	2.8	2.3	%
Visual impact - private huts	49.1	7.0	2.8	36.0	2.8	2.3	%

Explain if added or detracted:

OTHER FACTORS

30. Did any of the following influence your enjoyment of your trip? Indicate how:

	Didn't notice	Greatly added	Mildly added	Didn't add or detract	Mildly detracted	Greatly detracted	
Track work/boardwalk	3.7	48.9	23.7	12.8	10.0	0.9	%
Aircraft passing overhead	31.8	0.5	2.7	35.5	20.9	8.6	%
'Daytrippers'	23.5	0	2.3	56.2	15.7	2.3	%
Impacts on plants	14.4	1.9	2.3	36.3	38.6	6.5	%
Impacts on soils/landforms	13.8	2.3	1.4	30.9	42.9	8.8	%
Introduced species	57.4	1.4	0	30.6	7.4	3.2	%
Disturbance to animals	44.4	1.4	2.3	36.1	12.5	3.2	%
Vandalism or graffiti	53.7	1.4	1.4	19.0	17.1	7.4	%

Other >

31. Did you suffer from gastroenteritis (stomach upsets, vomiting, diarrhoea) on your walk?

	%
Yes	10
No	90

32. What did you think of your trip?

	%
Far exceeded expectations	29
Better than I expected	47
Satisfactory	22
Unsatisfactory (explain)	2

33. How important were these aspects to your enjoyment of the trip? (rate each on a scale from 1 to 5, where 1 is very important and 5 is not important at all)

	Mean rating:
Geological features/landforms	1.0
Experiencing a new way of life	3.1
Learning about environment	2.7
Time with family or friends	2.7
Wilderness experience	1.9
Meeting new people	3.3
Physical exercise	2.5
'Roughing it'	3..
Naturalness	2.2
Adventure	2.1
Social life	3.5
Quietness	2.3
Relaxing	2.4
Animals	2.4
Solitude	2.6
Scenery	1.6
History	3.1
Plants	2.3
Food	3..

Other >

34. What methods should the National Parks and Wildlife Service use to minimise
(a) any environmental degradation

(b) any negative social impacts?

35. Are there any other comments you would like to make?

Please fill in your personal details on the back of this page.

PERSONAL DETAILS

The questions asked in this section will help to identify what types of people participate in walking the Overland Track. No names and addresses should be attached to this questionnaire and all information will be regarded as strictly confidential.

36. Sex

	%
Female	41
Male	59

37. Age 34.9 years
Mean

38. What education level have you completed?

	0	1
High school (up to year 10)		13
Matriculation (up to year 12)		12
Technical education		8
Tertiary (University)		66

39. Where is your usual place of residence?

urban 71%
rural 29%

	Town/city				
	State	overseas	16	Qld	7
	Country (if overseas)	Tas	16	SA	9
		Vic	21	WA	3
		NSW	26	NT	0.4
		ACT	3		

40. What is your employment status?

	%	
Employed	60	
Unemployed	4	
Student	27	Level:
Retired	6	
Unpaid work at home	3	
Other >		

41. If employed, what group does your main occupation fall into?

Managers & Administrators	16
Professionals	50
Semi-professionals	7
Tradespersons	13
Clerks	5
Salespersons & Personal Service Workers	7
Plant & Machine Operators & Drivers	0
Labourers & Related Workers	1

If unsure write occupation >

Please mail to Overland Track Walker Survey, c/- Mike Byers, Centre for Environmental Studies, University of Tasmania, GPO Box 252C, Hobart 7001

Respondents were asked to describe their reactions (positive or negative) to different types of walker.

Independent groups

- 'Independent groups - friendliness and cooperation'.
- 'It was interesting to learn about others' country of origin and the walks they planned to do'.
- 'Good to meet other walkers'.
- 'Good to meet others - social interaction an important part of trip'.
- Ten responses were similar to 'Nice to meet other walkers and gain information on route ahead, sidetracks worth taking, etc.'.
- 'Independent people were generally experienced in bushwalking, therefore had the right attitude, karma, and good knowledge to share'.
- 'Independent groups were much more experienced/concerned with what their impact on the Track was'.
- 'I really enjoyed the trip because of the nature and being with all the people in the huts'.
- 'Nice to have a chat, relate experiences, and exchange information with others on Track'.
- 'Met independent groups which were very good and ones which could fairly be described as the family from hell'.
- 'Some independent large groups are very inconsiderate towards other independent groups and take over huts, often being rude to people seeking shelter. Huts should be equally available to everyone, including commercial 'inexperienced' bushwalkers'.
- One commercial guide reacted negatively to independent groups 'when they behave negatively and abuse and put down commercial groups and individual clients (when they themselves are under-equipped and relying on huts). When the weather shits on them, I know who will help them when in trouble'.
- Some commercially guided walkers react negatively to independent walkers who obviously fail to practice minimal impact bushwalking

Commercially guided groups

- 'Environmental awareness of commercial trips was very nonchalant and not valued - somewhat taken for granted'.
- 'Those individuals and groups unsponsored or without guides were usually more hospitable to talk to and knew more about the area. Those who went with guides were usually passive and uncommunicative'.

- 'Felt some resentment felt towards commercial groups. Feel they are cheating and not fully enjoying the wilderness experience'.
- 'Did not like commercial groups - took advantage of common person with outrageous fees and did not provide satisfactory service. Commercial groups make individual use harder. Hate private use - bad! Kill all commercial groups and red-neck yobbos who do not know what they are doing!'.

Commercially guided tent-based groups

- A tent-based commercial group was 'supposed to be tent-based but used huts. Didn't walk together as a group'.
- One independent walker reacted very negatively to a Tasmanian Expeditions group of 12, which 'took over Kia Ora Hut. The leaders were very domineering and pompous. Other larger groups took over hut facilities a fair bit, hogging the tables, and leaving us smaller parties to eat where we sleep - no room'.
- 'Size of groups met was not a problem until we met a Tasmanian Expeditions group which has 12 people in it and they took over the whole hut. We spent over 12 hours in a patch of area 2 m by 1 m - we couldn't move because of their stuff everywhere'.
- 'Resent commercial tent-based group for getting there without the work'.

Commercially guided hut-based (Cradle Huts) groups

- 'I was appalled at the grey-water sludge outlet at the private huts and the amount of litter around them. I am not sure that I agree with private huts in a national park'.
- 'Private facilities effluent is causing local eutrophication. Huts not very tidy outside. Knowing that a privileged group is able to have showers detracts from everybody's wilderness experience'.
- 'Commercial private huts group require unnecessary extra facilities. Huts, if any, in wilderness areas should be public and for emergency use only'.
- One Craclair guide stated that 'Private huts in national parks suck'.
- 'I find private huts in a national park totally unacceptable - greatly detracted'.
- 'I can't conceive that any private group can control part of a WHA'.
- 'Private huts are an unnecessary eyesore'.
- One Craclair walker 'felt this type of facility was unnecessary and an intrusion on a general egalitarian spirit - aloofness! Was annoyed at the anomaly of the private huts - greatly detracted'.
- '"Club Med" group = rich arseholes. Rich people huts make you envious - heaps of water tanks and gas'.

- 'Rich people spoil the environment - having the (private) huts encourages them to come and destroy. The rich people get to live in luxury, while we spend our time roughing it. PWS should disallow the private huts. All the campers despise people who are too scared to stay in tents because something might happen to their Country Road clothes and they would have to carry a heavy pack, which would be impossible without servants'.
- 'Private huts groups I treat with sheer contempt'.
- 'Don't like commercial groups using huts and exploiting their customers'.
- 'I don't like the commercial use of the walk. The private huts are too modern and comfortable for a 'wilderness''.
- 'I am not a great fan of the private huts. I think that the more traffic there is over the Track, the more degenerated it becomes. If you're willing to rough it and carry all, then you should be encouraged to do so. How much do the companies contribute towards park maintenance? Lots, I hope'.
- 'I do not believe commercial groups should be encouraged as they increase numbers. They are expensive also. Groups are insular, while independent walkers are interactive'.
- 'Private huts guides seemed to be rushing everywhere'.
- 'The private huts party we met were a large group and walked slowly!'.
- 'At first the private huts seemed very posh - not really bushwalking, but I suppose they fulfil the needs of certain types of people and the huts didn't detract from the scenery'.
- 'I consider people staying in private huts as almost cheating, however it caters for older people'.
- 'No problem with private huts as long as the group size is not too large'.
- 'Excellent facilities at private huts. Would not have enjoyed staying in public huts - sanitation poor, etc. Facilities top class - just what was needed!'.
- One sixty year old walker explained 'Without the private huts I could not have contemplated the trip as I could not physically carry a heavy enough rucksack to camp and self-cater'.

School/scout groups

- 'School groups loud and very large!'.
- 'School groups were annoying and inconsiderate of other people'.
- 'Very negative reaction to large school groups invading huts, making them crowded and noisy'.

- 'Scout/school groups were noisy, had a 'Rambo' mentality, and left garbage behind. Were very selfish'.
- 'School children left Pelion Hut in a very untidy state, with socks and food left behind in large quantities. Surprised to see the junk left behind by some of these younger walkers'.
- 'Unfortunately, the many school trips meant that the huts were always full'.
- 'There were two scout/school trips that I reacted negatively to. One was a school group which virtually took over Pine Valley and Narcissus huts - were noisy at times. The other was a noisy girl guides group at Pine Valley - were very noisy at night'.
- 'A school trip we met were a bit noisy and there were a large number of them, detracting from the feeling of being in the wilderness'.
- 'Scout/school groups were less sociable and more disturbing'.
- 'School trips were large and dominated the huts, were noisy, took up all the room'.
- 'I have little respect for the outdoor prowess of scout/school groups'.
- 'A school group of 22 we encountered was rather overwhelming, even though we were a school group of 13'.
- 'The bigger (school) groups were more annoying as they took up more space and were a bit noisier and more careless'.
- 'Met scout group from Canberra - 3 suffered hypothermia. I thought that their preparation was inadequate'.
- 'Large school groups can take over and make noise'.
- 'I would have used the huts but two school groups travelling simultaneously monopolised them. School groups had lots of energy and were always happy, so this rubbed off positively on us, but one group had 22 people, annoyingly large. This group dominated the huts/toilets, etc. and spread out over a large area of track when walking. Also made a lot of noise - one group of 22 makes more noise and causes more damage than 11 groups of 2'.
- 'School trip with 24 students is too big'.
- 'One school group of 15 at Pine Valley Hut were very noisy and other walkers had difficulty finding a campsite - had 9 tents'.
- 'Scouts/schools are too young. Groups should be limited in size - 20 scouts is a nightmare'.
- 'Large groups of school kids take over hut. They should be camping'.
- 'Too large a school group at same camps'.
- 'One large school group of 13 is not terribly environmentally friendly. I was pleased to see them until their behaviour disappointed me - i.e. not collecting wood, putting non-burning materials in fire'.

- 'One school group took over one hut - no room for independent walkers'.
- 'School group of 24 occupied the entire hut on two nights - took all the hut's beds/resources'.
- 'Sometimes school groups seemed to take over the huts'.
- 'Large school groups of young kids tend to be noisy and leave rubbish around'.
- 'Scout groups rather big and tend to block the track'.
- 'Too many school groups. It is great for them to experience the wilderness, but the huts and campsites are not able to accommodate the large groups of people going through. The noise level can be annoying. Sometimes the school groups hogged the huts and the area surrounding'.
- The author has met many large school/scout groups on the track, many poorly equipped for the track conditions and few complying with minimal impact bushwalking practices. One group had made gaiters out of plastic bags, but still avoided mud by hopping from plant to plant. Another group of 24 (mentioned above by several respondents) dominated the huts, forcing other walkers to camp, sleep on the floor, or even avoid staying at the same place. The teachers seemed to have difficulty controlling their students. One teacher led a dozen students up Mount Ossa in poor visibility and freezing winds. The following day, while en route from Kia Ora Hut to Pine Valley Hut, most of the group entered Windy Ridge Hut for a rest. The last four students were tired and had dropped behind the rest of the party. They did not know the others were in Windy Ridge Hut (and may not even have seen it) and walked on alone to Pine Valley. When they failed to arrive at Windy Ridge the teachers thought they were lost, panicked, and sent people off in all directions. They organised all the students and other walkers in the hut to search the area back to Du Cane Gap. After 4 hours someone was sent to Narcissus Hut at the top of Lake St Clair to radio for a Police Search and Rescue party. Finally, a student was sent to check Pine Valley Hut, and returned with positive news after 7 hours of chaos. Many independent walkers were very annoyed and most decided to avoid Pine Valley, because the school group would be there.

Army groups

- One Craiclair walker described an army group she met as 'a big group of men (20), some smoking. Just a general feeling of discomfort'.
- 'Army group seemed to take over hut and to be deterring other users'.
- 'Group of army personnel monopolised huts. Steered clear of them'.
- 'Met an army group who slept in one hut, taking over so to speak'.

Marathon runners

- 'The runners' impact was a concern. Do they come out muddy or pristine clean?'.
- 'Reacted very negatively to the running group - we were in the park when the race was on, and I was very confused why the PWS would allow such a maximum-impact activity to take place - money perhaps?'.
- 'My only disappointment, after happily walking through bogs, was to see the 45 runners in the park - obviously not minimal impact. Perhaps you could stop it on this basis?'.

Large groups

- 'When groups were large it took away from the 'getting away' experience of the wilderness'.
- 'Large groups overwhelmed other hut users and made it very uncomfortable. They just assumed huts were for their use, and showed a total lack of respect for others. They left lots of rubbish in the huts. Too many large groups!'.
- 'Behaviour of large groups of people who know each other can be raucous'.
- 'The main problem was a group of 20 or more, which was frustrating as you end up seeing them every night'.
- 'Reduce big group sizes. I realize there is a limit on commercial groups, but we had a group of 20 army people staying in the huts for most of the time, which is very different from 20 people in a hut from different groups'.
- 'Big groups were a bit messy and loud'.
- 'Lack of consideration for others by large groups, i.e. taking over huts completely, leaving packs all over huts'.
- 'Sometimes large groups, especially children, can be disrespectful to other hikers, especially when it comes to noise levels. Minimise group size, especially younger scout/school trips. I realise they have a right to be there too, but its no fun to share a hut with them or be walking close to them'.
- 'Large groups (1) detract from the wilderness experience, (2) cause more impact, (3) seem less aware of the environment and their surroundings since they talk among themselves rather than look around, (4) are noisy at the campsites, (5) are intimidating at the huts. I therefore think the PWS should impose a maximum group size of 6-8'.
- 'Maybe restrictions are needed on larger groups, who can often get carried away with themselves and their activities. Smaller groups are often more

aware of procedures to conserve the environment and wilderness, and maybe make more of a point about being careful. In large groups it is a lot easier to forget about one's own responsibilities - other issues come into play'.

- 'Large groups or too many people cause a negative feeling. Groups of 2-4 are a good size for social interaction. Also, very tightly packed huts that have a lot of wet gear drying and larger groups using the tables all night have a negative social impact - Kia Ora had 30 plus in it'.
- 'I feel you go to the wilderness to view and participate in it, but when you have a continuous line of people passing you or taking over the whole hut it detracts badly from what you are trying to experience. I think large groups that use huts, other than private, should be banned and numbers kept down to no more than 4 or 5 for independent groups'.
- 'Large non-commercial groups such as school/scouts/army also need to have group size limits as there is on commercial groups'.
- One walker reacted negatively to both school and private huts groups because 'very large groups of people detracted from the sense of wilderness, etc., and dominated their surroundings'.
- 'Large independent groups are not environmentally sound, as well as being unsafe and hard to control'.

Other anecdotal evidence:

Track conditions

- 'I hated the frustration of the trek - having to worry about bog holes or injury caused by some tree root'.
- 'Walking through mud and slipping on tree roots didn't allow much time to look around because you had to keep on looking down at the track'.
- 'It is hard to make yourself walk through 60 cm of mud not knowing what is hidden beneath it which could cause you to fall over'.
- 'Overall track conditions did not compare well with tracks of similar nature (and with similar weather) in Europe and New Zealand that I have walked on'.
- Two people mentioned that the Forth River crossing was flooded and dangerous at the end of March 1995 due to snow melt and heavy rains.
- 'Impact of erosion where trees fall over near tracks amazed me'.
- 'On the sidetrack to Mount Oakleigh I fell into a mud bog up to my shoulders!'.

- 'Where the boards are flat on the ground they need raising above the mud as they make more mud when large groups walk on them. The others we called floaties, because when you step on them they go under water and so do you. I fell in once and thought I was going to disappear!'.

Trackwork

- 'Track work and maintenance seems to be random, both in quality and location. Some sections have bad trackwork and in some cases are a waste of effort'.
- 'Some steps too high for short-legged people with packs, e.g. the climb to Du Cane Gap'.
- 'On the whole the track work is good. I feel there is a reasonable balance between keeping it natural and preserving the environment'.
- 'I was surprised to see rangers cutting back growth on the side of the track. Provided the track is well marked, it does not need to be more than about 0.75 metres wide. Rather than cutting the track wider, duckboarding and keeping runoff drains clear is far more effective. I think a man with a mattock is far more effective than a man with a brush-cutter!'.
- 'Avoid clearing path - why is whipper-snipping done anyway?'.
- 'Upgrade urgently if promotion is continued. More people, more damage'.
- 'At first I was taken aback to see the boarding and thought it detracted from the wilderness, but by the end of day two I was very grateful for it and wished for more!'.
- 'I have mixed feelings about the use of boardwalks. I can appreciate they help minimise damage, so I guess I just have to accept them'.
- 'Recent tree-felling was very noticable on Pine Forest Moor and greatly detracted from that section of the walk'.
- 'The track in the Pine Forest Moor forest had been partly destroyed by workers'.

Huts and campsites

- 'Campsites under water due to wet weather, otherwise would have used them'.
- Two German tourists camping at Frog Flats at the end of March 1995 were flooded in the middle of the night and forced to move to Old Pelion Hut.
- 'Campsites around some huts are expanding without any direction or management'.
- 'Flattened vegetation at campsites around huts'.
- 'I feel there are too many huts'.

- 'Plenty of huts - too many?'.
- 'The number of huts is not excessive, just enough for the convenience of a walk. Fire, shelter, and tables were appreciated for drying clothes, cooking, and sleeping when too wet to camp'.
- 'Huts were points of interest, milestones, gave comfort, had a discreet visual impact'.
- 'For safety reasons consideration should be given to construction of a public hut in the Pine Forest Moor - Pelion West area'.
- 'A hut is needed between Windermere and Pelion, as Frog Flats is a swamp and unreliable for camping'.
- Two respondents recommended the addition of drying rooms to the public huts: 'An extra facility of a drying room at the huts would be greatly appreciated by all'. 'Nothing fancy but somewhere to stop moisture ruining the sleeping areas'.
- 'We were concerned that the three windows at Kia Ora were covered in steel-mesh. In the event of a fire near the door, people would be unable to get out. Why the windows need to be covered we are not sure'.

Loss of wilderness qualities and recreational opportunities

- 'The track was too eroded, not wild enough, and too popular, i.e. huts packed'.
- 'At some cross-roads it felt more like Bourke Street than wilderness'.
- 'The walk, apart from some of the sidetrips, is no longer a wilderness walk. The scenery and beauty of the area was better than expected, but the number of people, huts, and signs of development (e.g. huts, duckboards, and signposts) detracted from the wilderness experience. Back in NSW the Overland Track is considered a tourist walk, and nothing more, which is a real shame'.
- 'I hope the track's increasing popularity does not come to the stage where it is exclusive only to pre-booking and private groups, thereby excluding the majority'.
- 'The more comfortable the "highway-track" gets, the more (inexperienced) people will walk the track, leading to overcrowding and overuse'.
- 'At the start of the trek we met a couple of small groups of 2-3 people and we had a brief talk, which was good. We stopped for lunch, and within half an hour 40 people had walked past us. I went from really enjoying the walk to thinking "this reminds me of walking down the main street of Sydney", and thinking "if this is what is going to be encountered for the rest of the walk then I'm turning around and going home". The

amount of people made me feel unhappy and angry rather than good. Small groups were good and nice to talk to, but big groups were ridiculous'.

- 'Trip was unsatisfactory because it was too comfortable, no challenge - the track was a highway'.
- 'Nice to see other people enjoying the adventure, however it would have been nice for it to be my own adventure'.

Littering

- 'Rubbish and pieces of clothing were left behind in huts'.
- Five respondents stated that they had carried out rubbish that others had left behind.

Safety

- 'Alarmed at the ill-preparedness of some overseas walkers not equipped for possible weather changes'.
- 'By making the walk so easy, with duckboards, signposts, huts, and a clearly defined track the PWS encourages people to do the walk who are not really experienced enough to handle difficult conditions or emergencies. At times some people I have met on the Track are totally oblivious to the dangers of going on a day walk from one of the huts with just the clothes they are wearing - no food, no rain wear, and no maps!'.
- One commercial guide 'met so many people, poorly equipped and inexperienced in minimal impact procedures. Too many walkers rely on hut accommodation. I am amazed to meet people with so little experience that they cannot use their Trangia (portable stove) safely, carry tents that they can't erect or don't carry them at all, no water-proofing of gear, no overpants, and walking in jeans during snow storms'.
- 'Some walkers are ill-equipped for the extremes encountered. For their own safety, and the safety of those who must rescue them, more education or check-lists of equipment and clothing required should be mandatory. We encountered people in tropical army disposal clothing (cotton) in blizzard conditions, two with mild hypothermia'.
- 'Man nearly set fire to Windy Ridge Hut by pouring shellite onto the stove. This was a low point, but no harm was done, thank goodness'.

Sanitation

- 'Toilets smelt, badly overloaded, and not working at many sites'.
- 'Some of the composting toilets were not working. This is potentially a big sanitation problem'.

- 'Kia Ora campsites showed many signs of previous toilets all over the place'.
- 'Toilet paper and faeces in most campsites greatly detracted'.
- 'After using Du Cane water source, every bit of indigestion for two days after was a cause for cold sweat. If any water source is susceptible to human contamination it is here as it is a popular campsite. A toilet may be an option'.
- 'I suffered gastro even though I purified all water. I have never suffered from it on a previous trip. I'm sure most germs are picked up from those toilets'.
- 'Where toilets are for faeces only alternative facilities for urinating should be provided near high use areas (huts), especially for women. The aesthetics of peeing near the hut are problematical, especially if (1) it is also a campsite, or (2)

it is boggy'.

- 'Toilets should be able to handle urine. It is unrealistic for everyone to not urinate in the toilets'.

Crime

- On New Years Day 1995, a German tourist became the victim of attempted theft: 'Daytrippers greatly detracted - my pack was broken into and they tried to rob me at Barn Bluff. About 30 minutes after the Barn Bluff junction I put my backpack beside the track. On the way to the summit I met four daytrippers - I said hello and pass them, I go up Barn Bluff, they go down. When I came back to my backpack the top was opened and all my things were spread over the ground. I collected all my things and went to Waterfall Valley Hut. Another man who also came to the hut told me that the four people had tried to do the same to his backpack. He had hidden his backpack about 10 minutes after the junction from the Overland Track, behind some bushes. When he came back the four people were just opening his backpack. They saw him and ran away'.
- 'There were reports of thefts from the Pine Valley Hut area and from packs left at the Overland Track-Barn Bluff junction. Perhaps this could be patrolled a little by rangers. It would appear that the thieves were daytrippers after money. They would pull out the contents of the pockets of the backpacks and take money or wallets and flee. Bad news and a bit sad. People should be warned to take money and obvious valuables with them on side-trips'.
- 'Other users didn't clean hut. One group stole some food!'.

Fauna

- 'I saw a feral cat!'
- 'Possums that get angry when you politely tell them to 'piss off' are a great detraction, but it is not their fault'.
- 'Animals in huts greatly detracted from enjoyment'.
- 'Need more signs "Don't feed the animals". They are very tame and eat left-over scraps which are bad for them - a kangaroo (wallaby) threw up all over our backpack!'.

Vandalism and graffiti

- 'The graffiti and vandalism in the huts is terrible - enforce capital punishment on all vandals and those who write, burn, carve, draw, or in any way deface the huts'.
- 'The only vandalism/graffiti that I saw was in the huts, and I personally didn't find this offensive. Rather, it gives you a bit of history from the people who stayed there'.
- 'Some say modern graffiti is bad, but in 1932 it was also bad. Now 1932 graffiti evokes a sense of nostalgia'.
- 'Graffiti added - funny jokes on walls, etc.'.

Social problems

- An English couple complained: 'Stop Germans! They were horrible!'.
- 'Three out of four nights people snored in the hut'.
- 'Some hikers were rude to latecomers, which was embarrassing'.
- 'An elderly man masturbating violently at Pelion was greatly distracting!'. (The author can verify this as he was trying to sleep next to him.)
- 'I find it a bit difficult sleeping next to some strange unknown person in the bunks in the huts. Especially when we had our daughter along, and some of the guys on the track don't have the highest moral standards. Nothing happened, but it made us parents feel uneasy. Maybe partitioned areas would be better'.
- 'Groups became competitive for hut space. Whilst sharing space, be it on the verandah or at a table, people were rude and inconsiderate of others'.
- 'I hated thinking about the huts at night and the number of people we would have to fight to get a little area to rest in. 90 per cent of the nights we couldn't get near a table or a heater because one larger group would take over the whole area of the hut. A larger group of 4-6 would leave their stuff over tables and the bedding area so no others could use it, and that would be theirs. Large groups tended to be less friendly, while the smaller groups tended to be more open and have better manners'.

Other

- 'The little white scenic flight aeroplane constantly flying up and down the valley was very annoying and disturbed the natural ambience of the wilderness experience'.

- Communications in the park extremely poor and difficult to walk a sick person out of park. Look to Milford Track - inter-hut and back to base. I know this is a wilderness experience, but the cost of rescuing a lost or dying person is enormous'.

- 'I was surprised that the track fees were so low! Given the facilities at the huts: stoves and coal, toilets, water, etc. The Milford Track in New Zealand cost about $30 each night; I do not think that a charge of $20 for the whole track would be unreasonable'.

- 'Introduce a bit of competition at Lake St Clair. Those bloody ferry operators are a pack of bandits. With some competition, they would charge less, use less noisy transport, and be friendlier to customers. Otherwise put on a subsidised government-run service'.

- 'This park can be developed further without detracting from its natural beauty'.

- 'Little written information on the Koori history'.
- 'In the maps and guidebooks that I read barely a mention was made about the original inhabitants of this area. I would like to see more information and also the renaming of some areas with their original Aboriginal names'.

- 'The experience has exceeded every expectation I had of this journey. Mount Ossa summit left me astounded. I have to say that the day I climbed and witnessed that panorama will go down in my own personal journey as one of those special days in your life (like wedding days and graduation for some). These eight days have certainly featured as a major 'up peak' in my own personal history'.

AQUAHEALTH
NATA Registered Laboratory No. 3314
(Biological Testing)

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MICROBIOLOGICAL RESULTS FORM (1995)

Submitted by: C. Garland for M. Byers
Address: University of Tasmania

Signed: C Garland

Organisation: Dept. of Geography and Env. Studies
Report no. W26/95
Page 1 of 2
Date report issued: 20/2/95

Sample No.	Lab No.	Sample Type	Sample Site	Sample Use	Date & Time Collected	Date Sub-mitted	Date of Tests	Tests* Required	Results FC /100mL	Results *E.coli* /100mL
1	2/58	Water	Douglas Ck aboveCradle Hut	Ambient	15/2/95,7.30am	15/2/95	16/2/95	FC/*E.coli*	5	5
2	2/59	"	Side stream below Cradle Hut	"	" 7.45am	"	"	"	7	7
3	2/60	"	Douglas Ck. above side stream	"	" "	"	"	"	5	5
4	2/61	"	Douglas Ck. below side stream	"	" "	"	"	"	2	2
5	2/62	"	Douglas Ck. water hole	"	" 8.05am	"	"	"	6	6
6	2/63	"	Douglas Ck. adjacent to New Pelion Hut	"	" 8.25am	"	"	"	8	8
7	2/6	"	Dougl s Ck.below New Pelion Hut	"	" 9.00am	"	"	"	8	8
8	2/65	Water	Douglas Ck. at Mt. Oakley turnoff	"	" 9.20 m	"	"	"	36	30

* tests were performed on samples as received

FC = Faecal Coliform

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9	2/66	Effluent (semi solid)	CradleHut toilet	Waste	15/2/95, 8.00am	15/2/95	16/2/95	FC/*E.coli*	9×10^8	$<1 \times 10^8$
10	2/67	Effluent	New Pelion Hut toilet	"	" 8.30am	"	"	"	2.6×10^4	2.6×10^4

National [illegible] Testing Authority [illegible]

[illegible]

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Overland Track condition assessment 16th - 21st Jan 95							
Track Segment	% Local Braiding	% Mud	% Eroded	% Impacted (Max)	Condition	% Bare Ground	% Boarded
Kitchen Hut-knoll above hut 380m	5	0	49	49	fair	75	25
knoll-brow of spur 325m	0	0	0	0	good	10	90
brow-Fury Gorge 810m	2	0	5	5	good	85	15
Fury Gorge-Rodway Track 1.58km	5	5	60	60	bad	80	20
Rodway Track-drop off ridgeline 1.375km	15	2	90	90	very bad	75	25
drop off-base of conglomerate scree 660m	0	0	75	75	very bad	65	35
base of hill-SE edge of plain 350m	5	5	75	75	very bad	65	35
SE edge of plain-edge of Cirque (top of waterfall) 250m	5	5	75	75	very bad	65	35
edge of Cirque-bottom of spur slope 250m	0	0	0	0	good	100	0
bottom of spur slope-top of ridge 270m	0	0	0	0	good	0	100
top of ridge-base of slope (Cirque Hut turnoff) 160m	0	10	100	100	very bad	90	10
Cirque Hut - S edge of hut plain 150m	5	20	10	20	good	0	100
S edge of hut plain - top of slope 750m	0	0	0	0	good	0	100
top of slope - base of spur (above Lake Holmes) 600m	0	1	0	1	good	1	99
base of spur - S edge of Lake Holmes plain 750m	0	0	0	0	good	0	100
S edge of Lake Holmes plain - base of slope 900m	5	0	30	30	fair	30	70
base of slope - bluff above Windermere 550m	5	2	50	50	bad	50	50
bluff above Windermere - bottom of slope 200m	0	0	90	90	very bad	100	0
bottom of slope - Lake Windermere 1.3km	2	1	60	60	bad	85	15
Lake Windermere - bank S and overlooking lake 300m	0	0	5	5	good	5	95
bank S and overlooking lake - Windermere Hut 400m	0	0	0	0	good	0	100
Windermere Hut - ledge on plain 590m	0	0	0	0	good	0	100
ledge on plain - edge of plain before descent 150m	0	0	0	0	good	0	100
edge of plain before descent - lower edge of tree line 110m	0	0	40	40	fair	100	0
lower edge of tree line - S edge of Lake Curran Plain 200m	0	0	0	0	good	0	100
S edge of Lake Curran Plain - brow of hill 350m	0	0	20	20	good	90	10
brow of hill - gully at base 120m	5	0	80	80	very bad	100	0
gully at base - edge of PFM plain 900m	95	50	65	95	very bad	100	0
edge of PFM plain - base of hill 321 1.9km	95	100	95	100	very bad	95	5
base of hill 321 - brow of first creek gully 850m	20	100	90	100	very bad	90	10
brow of first creek gully - Pelion Creek 2.02km	15	50	60	60	bad	75	25
Pelion Creek - Forth River 3km	5	25	85	85	very bad	100	0
Forth River - New Pelion Hut 4.08km	5	10	10	10	good	60	40
New Pelion Hut - Pelion Gap 4.15km	20	25	25	25	fair	95	5
Pelion Gap - edge of Richea swamp 700m	0	1	1	1	good	0	100
edge of Richea swamp - Pinestone Creek 400m	5	5	10	10	good	50	50
Pinestone Creek - brow of hill 955m	0	1	20	20	good	50	50
brow of hill - base of slope 740m	0	1	25	25	fair	100	0
base of slope - N edge of flat plain 860m	1	1	10	10	good	90	10
N edge of flat plain - Kia Ora Hut 560m	1	1	2	2	good	1	99
Kia Ora Hut - Du Cane Hut 2.6km	0	5	1	5	good	85	15
Du Cane Hut - before slope beyond rainforest 2.8km	5	25	5	25	fair	100	0
before slope beyond rainforest - small creek 610m	0	2	5	5	good	75	25
small creek - Du Cane Gap 925m	0	2	10	10	good	99	1
Du Cane Gap - Windy Ridge Hut1.86km	1	3	5	5	good	100	0
Windy Ridge Hut - top turnoff to Pine Valley 2.98km	0	1	3	3	good	100	0
top turnoff to Pine Valley - bottom turnoff to PV 2.34km	0	1	3	3	good	100	0
bottom turnoff to Pine Valley - Narcissus Hut 4.2km	0	2	4	4	good	85	15
Narcissus Hut - beginning of forest 1.08km	0	1	1	1	good		
beginning of forest - Watersmeet 13.48km	0	5	5	5	good		
Pine Valley bottom track	5	5	2	5	good	80	20
PV bottom track - PV top track intersection	0	1	2	2	good	50	50
PV track intersection - Pine Valley Hut	0	5	5	5	good	50	50