

# Walking Track Management Strategy for the

Tasmanian Wilderness  
World Heritage Area

## Volume I

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Main Report

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DEPARTMENT of ENVIRONMENT  
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## Summary

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The *Walking Track Management Strategy* is a strategy developed by the Tasmanian Parks & Wildlife Service for the management of walking tracks and walkers in and adjacent to the Tasmanian Wilderness World Heritage Area (WHA), in accordance with the recommendations of the *World Heritage Area Management Plan*.

Key management issues in the region include the extensive deterioration of existing walking tracks and the unplanned development of new walking tracks in many areas. Campsite impacts, crowding, pollution and broadscale trampling damage to vegetation and soils are also creating serious problems in some areas.

The Strategy has been prepared on the basis of an extensive literature survey and an inventory of tracks and track conditions throughout the WHA. Research has also been undertaken to assess usage levels, usage trends and user attitudes and characteristics throughout the WHA.

The three-volume document includes:

- a summary of the findings of the literature survey (section 2 and appendix B);
- a description of the method used to compile the inventory of tracks and track conditions, and a summary of the findings of the inventory (section 3);
- a summary of available information on usage levels, usage trends, user characteristics and attitudes and social impacts throughout the WHA (section 4 and appendix C);
- an assessment of the opportunity spectrum for bushwalking in and adjacent to the WHA (section 5 and appendix D);
- a summary of current objectives, policies and planned actions for the management of walking tracks and walkers in and adjacent to the WHA, as specified by the *WHA Management Plan* (section 6);
- an overview of the strategies employed to date for the management of walking tracks and walkers in the WHA (section 7);
- an inventory of known recreational impacts in the WHA (appendix E)
- an inventory of the options for managing walking tracks and walkers in and adjacent to the WHA, and an assessment of those options (section 8 and appendix F);
- proposed management actions for the management of walking tracks and walkers in and adjacent to the WHA (section 9);
- a proposed track classification scheme, with classifications assigned to all known tracks and major routes in the WHA (sections 10 and 11);
- a summary of track conditions and details of proposed management actions for individual tracks and routes throughout and adjacent to the WHA (appendix A1);
- a summary of proposed works classified by priority, management district and area (appendix A2); and
- a strategy for the revision of existing track management plans and the preparation of new plans (appendix G).

Major components of the track management strategy are:

- the introduction of a 7-tiered track classification scheme (sections 9.4, 10);
- the introduction of a comprehensive permit system with restrictions on user numbers where necessary (9.6, 9.7);
- guidelines for the rerouting, construction and maintenance of tracks (9.8, 9.9);

- comprehensive monitoring of track conditions, recreational impacts, and usage levels and trends in and adjacent to the WHA (9.10);
- an expanded education campaign (9.11);
- the promotion of guidelines for the voluntary restriction of publicity of low-use tracks and areas, particularly in routeguides (9.12); and
- research into a broad range of issues related to the management of walking tracks and walkers in the WHA (9.13).

**Notes:**

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- (i) The database containing the information compiled in the course of the WHA tracks inventory is lodged with the Parks & Wildlife Service wilderness recreation research officer.
- (ii) With minor exceptions the *Walking Track Management Strategy* does not address the issue of the management of huts in the WHA. Policy statements concerning the management of huts are included in the *WHA Management Plan*.

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## 1.1 Background

### 1.1.1 Context: The *WHA Management Plan* and management objectives

The *WHA Walking Track Management Strategy*, henceforth referred to as “the Strategy”, is the outcome of a two-year study and track inventory conducted by the Tasmanian Parks and Wildlife Service (formerly the Department of Parks, Wildlife & Heritage) in accordance with the recommendations of the *1991 World Heritage Area Draft Management Plan* and the *1992 World Heritage Area Management Plan* (Department of Parks, Wildlife & Heritage 1991a & 1992).

The Strategy, which has been prepared in consultation with user groups and other members of the public, elaborates on the *WHA Management Plan* by providing a detailed summary of the issues and information relevant to the management of walking tracks and walkers in and adjacent to the World Heritage Area (WHA), and a detailed management strategy for walking tracks and walkers throughout the region.

As stated in the *WHA Management Plan* the primary management objective for the WHA is to protect, conserve, present and where necessary rehabilitate the natural and cultural heritage of the region. In particular the listed objectives (section 4 of the *Plan*) include:

- Protect the natural diversity of the WHA and maintain and restore its natural ecological processes and systems
- Maintain and enhance the wilderness quality.
- Assist visitor appreciation and enjoyment by developing and promoting an appropriate range of opportunities and facilities for public recreation and tourism both in and adjacent to the WHA.
- Minimise the adverse impacts on values and recreation of management programs, permitted uses, activities, facilities and developments.

The priorities given to these objectives vary throughout the area and are reflected in the zoning scheme detailed in the section 5 of the *WHA Management Plan*. The greater part of the WHA has been designated a Wilderness Zone in which developments of all kinds (including walking tracks) are to be kept to a minimum. Developments such as walking tracks and huts are generally to be confined to localised areas or narrow corridors within the WHA.

Section 7.6.3 of the *Management Plan* lists proposed actions for the management of walking tracks and walkers in the WHA. These include:

- Prepare and implement a walking track management strategy for the entire WHA to include an inventory of the condition of the main walking tracks and routes, an assessment of use levels, trends in use, projected changes in track condition and appropriate management responses.
- Implement the track management strategy according to priorities identified. This will involve an array of measures including an expanded information and education program, a track classification system specifying impact limits for tracks, routes and campsites, further track repair, re-routing, quotas on walker numbers or other controls on use of some areas and a comprehensive monitoring program.
- Review existing track management plans in the light of the track management strategy. Revise as necessary. Expand to cover campsites.

- Prepare track management plans for all remaining popular walking tracks and as identified by the track management strategy.

The implementation of this strategy will fulfil all of these objectives.

### 1.1.2 Key management issues

During the past twenty years there has been a dramatic increase in walker numbers in the area now included in the Tasmanian Wilderness WHA. This increase can be attributed to three main causes:

- (i) the increase in popularity of outdoor recreation both within Australia and internationally;
- (ii) increased publicity of the WHA, wilderness and wilderness recreation, partly as a result of a series of conservation controversies in Tasmania and particularly those concerning Lake Pedder, the Franklin River and the Southern Forests; and
- (iii) the increased ease of access to some areas caused by the construction of roads such as the Gordon River, Scotts Peak, Picton and Mersey Forest Roads.

Access has also been made easier by the development of walking tracks in formerly trackless areas and by the upgrading of existing tracks.

The resulting increase in usage has led to a correspondingly rapid increase in recreational impacts in many parts of the WHA, particularly biophysical impacts. Key biophysical impacts include :

- the formation of unplanned tracks and pads in formerly trackless areas;
- track erosion, often aided and in some cases primarily due to water flow along tracks;
- quagmire formation, frequently associated with track widening and braiding;
- the proliferation, spread and deterioration of campsites;
- broadscale trampling damage, especially to alpine-moorland vegetation;

The severity of these impacts is exacerbated by the inherent fragility of much of the western Tasmanian environment, by high rainfall throughout the region (even in summer months) and by the fact that the majority of tracks in the region are too steep, poorly drained or located in highly sensitive areas.

Other problems include:

- damage to vegetation and soils caused by campfires and the collection of firewood;
- broadscale environmental damage due to escaped fires;
- the risk of walkers spreading *Phytophthora cinnamomi* to uninfected areas;
- the pollution of lakes and streams;
- poor sanitation and the increased incidence of outbreaks of related diseases such as *giardia* in some areas;
- crowding and reduced opportunities for experiencing solitude, particularly at campsites.

### 1.1.3 Conflict between impacts and management objectives

The environmental and social impacts listed in 1.1.2 conflict or have the potential to conflict in several ways with the management objectives listed in 1.1.1:

- Broadscale trampling, unplanned track and campsite formation, pollution, campfire impacts, the spread of introduced species and the biophysical impacts associated with track and campsite deterioration can cause unacceptable damage to ecological and geomorphological systems.

- Unplanned track and campsite formation can degrade wilderness and recreational values.
- Degraded tracks and campsites can be visually intrusive and inimical to user enjoyment.

#### **1.1.4 Management strategies employed to date**

As stated in 1.1.1 the Service's management policy for walking tracks in the WHA is broadly defined by a system of zoning which includes specifications for appropriate levels of recreational activity and track development in each zone.

During the past decade the Parks and Wildlife Service has undertaken an extensive program of works aimed at stabilising, restoring and upgrading degraded tracks in the WHA. The bulk of this work has been directed towards well-known and heavily used tracks in Recreation Zones, in particular the Overland Track and its major sidetracks, the South Coast Track, the Frenchmans Cap Track, the Walls of Jerusalem track (from Trappers Hut to Herods Gate), the Mt Anne Track, and day-tracks in heavily used areas such as Cradle Mountain, Lake St Clair and the Hartz Mountains. Minor trackwork has also been undertaken on less "high profile" tracks such as the Port Davey Track and Mt Sprent Track.

Much of the trackwork undertaken to date has involved the intensive "hardening" of tracks using techniques such as benching and the installation of top-drains, steps, cordwood and raised timber surfaces such as duckboard and parallel planking. The techniques employed have been primarily those described in the Service's *Walking Track Management Manual* (Blamey 1987). Techniques developed since the publication of the *Walking Track Management Manual* have also been trialled in some areas, for example the installation of parallel boards surfaced with tar and gravel, and the use of recycled plastics for cording and steps. In addition, some sections of track have been substantially rerouted.

The primary objective of works undertaken to date has been the repair and prevention of environmental damage, but efforts have also been made to improve user comfort and convenience in some areas, particularly on high-use tracks. In the interests of sanitation and user convenience toilets have been installed at many major campsites in the WHA

Draft track management plans have been prepared for several major tracks, track-systems and areas in the WHA with the aim of providing a detailed assessment of management options including works programs for the tracks in question. The finalisation of these track management plans and the preparation of further plans has been suspended until the completion and publication of the *Track Management Strategy*.

Recognising the value of education as a means of minimising recreational impacts the Service has promoted a "Minimal Impact Bushwalking" campaign since the mid 1980s. Key features of the campaign (which appears to have been highly successful) include discouraging the use of campfires and encouraging sanitary toilet habits. The Service has also introduced bans on campfires in several alpine areas including the entire Cradle Mountain - Lake St Clair National Park.

In mid 1991 an entry fee system was introduced for walkers in the Cradle Mountain - Lake St Clair National Park, but no usage restrictions were imposed. This system was superseded in 1993 by an entry-fee system for all Tasmanian national parks.

#### **1.1.5 Limitations of strategies to date**

There are several reasons why the traditional approach of intensively "hardening" tracks is not in itself a practical strategy for dealing with recreational impacts on a WHA-wide basis. These reasons are as follows:

- (i) **Prohibitive cost**  
The cost of stabilising all the degraded tracks in the WHA would be prohibitive. It would also be difficult to justify spending large amounts of money stabilising tracks which receive relatively low levels of usage.
- (ii) **Impact on wilderness and recreational values**  
Existing techniques for “hardening” tracks generally create a track surface which is relatively easy to walk on. This can detract from the recreational challenge of a walk and reduce the remoteness (and hence the wilderness values) of the areas which the tracks in question provide access to, contrary to the management objectives specified by the area zoning.
- (iii) **“Zonal creep”**  
Improved access may encourage increased usage, which can lead to increased social impacts and greater pressure on unimproved sections of track or on adjacent trackless country. Once the recreational challenge of a track has been thus altered, walkers who are seeking more challenging recreational experiences may move into new areas, a development which may eventually lead to further track formation.
- (iv) **Inadequacy of techniques**  
Traditional techniques are unlikely to provide a practical means for stabilising tracks in precipitous terrain such as sections of the Western Arthurs traverse.
- (v) **Additional problems**  
The traditional approach fails to deal adequately with the problems of unplanned track formation and broadscale trampling damage.

## 1.2 Scope of the Track Management Strategy

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### 1.2.1 Tracks covered by existing (draft) track management plans

The Track Management Strategy is based on an inventory of walking tracks and track conditions throughout the WHA and in several adjacent natural areas.

Tracks within the WHA for which track management plans had been prepared prior to 1991 were not included in the inventory except in cases where little or no additional effort was required to include them. However proposed management actions for these tracks, derived from the recommendations of the draft track management plans and modified where appropriate, are included in appendix A.

### 1.2.2 Tracks and routes outside the WHA

Tracks or routes in areas adjacent to but outside the WHA were generally included in the inventory if they satisfied one or more of the following criteria:

- (a) The tracks or routes in question provide access to the WHA;
- (b) The tracks or routes in question lie in areas adjacent to the existing WHA which were assessed as having potential World Heritage value in the report *Appropriate boundaries of a World Heritage Area in Western Tasmania* (Department of Parks, Wildlife & Heritage 1990d);
- (c) Usage of the tracks or routes in question was considered likely to influence usage patterns within the WHA.

Recommended management actions for tracks and routes outside the WHA are included in appendix A1 and listed in appendix A2.2.

### 1.2.3 Nature trails

The Strategy does not attempt to provide a comprehensive assessment of management options for nature trails and other short, high-grade walks in and around the WHA. However most nature trails and short, high-grade walks within the WHA were

included in the inventory and proposed management actions are listed in appendix A1. Many short trails outside the WHA, including most of the nature trails in adjacent Forestry Commission areas, were not included in the inventory and are not covered by the Strategy.

#### **1.2.4 Vehicular tracks, horseriding trails and rivers**

Vehicular tracks which lie within the WHA and which are used frequently as walking tracks (eg the Lake Fanny track) were generally included in the inventory and are covered by the recommendations in appendix A. With some exceptions, vehicular tracks and roads which are used primarily by vehicles are not covered by the Strategy.

A small number of tracks in the Central Plateau area which are used by horseriders were included in the inventory and have been assigned a track classification, but no recommendations are made regarding the management of horseriders. The overall issue of horseriding management in the Central Plateau is beyond the scope of the *Track Management Strategy*.

The Strategy also proposes management actions relating to the (non-mechanised) recreational use of rivers in the WHA, although portage-tracks and campsites associated with river-based recreation were not included in the track inventory.

#### **1.2.5 Huts**

With minor exceptions the Strategy does not address the issue of hut management in the WHA. The policy of the Parks and Wildlife Service concerning the management of huts in the WHA is stated in sections 5 and 7.9 of the *WHA Management Plan* (Department of Parks, Wildlife & Heritage 1992). All management actions relating to huts are subject to an assessment of the cultural values of the huts concerned and the impact of the proposed management actions on those cultural values.

### **1.3 Limitations of the study**

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The preparation of this Strategy has been subject to a number of limitations which should be borne in mind when considering its findings and proposals. The main limitations were as follows:

**(i) Lack of information on the processes and effects of recreational impacts in the western Tasmanian environment**

Only a handful of recreational-impact studies have been undertaken to date in Tasmania or indeed anywhere in Australia. While substantial research has been undertaken overseas only some of it is relevant to the situation in the WHA (see section 2 and appendix B).

**(ii) Lack of accurate usage data**

Accurate information on usage levels is currently available for only a handful of tracks in the WHA. For the majority of tracks and routes usage levels had to be estimated on the basis of scattered information such as the reports of track rangers and bushwalkers, and for some tracks no information of any kind was available (see section 4 and appendix C.)

**(iii) Limitations of the inventory technique**

The inventory technique used in this study involved estimating the percentage of specified track sections which were subject to various types and degrees of track deterioration (see section 3). The technique enabled track conditions to be assessed over hundreds of kilometres of tracks in a relatively short time, but the accuracy of the resulting data was necessarily limited. An inventory based on more intensive

measurements would have provided more accurate data, but would have been prohibitively time-consuming.

**(iv) Influence of long-term weather patterns**

Estimates of track conditions, especially mud, were probably influenced by the fact that Tasmania experienced a succession of relatively dry years during the late 1980s. If normal rainfalls had occurred during this period track conditions may have been substantially worse in some areas.

**(v) Limited information on the effectiveness and practicality of alternative management techniques**

Where the introduction of untested techniques (eg a fan-out policy) is proposed it is assumed that the results will be carefully monitored to assess the effectiveness of the techniques in question.

**(vi) Conclusions**

In view of the above limitations the following points must be borne in mind:

- The findings of this report and the management specifications must be regarded as preliminary and subject to modification in the light of further research and experience. In particular, specifications for the introduction of untested management techniques such as encouraging users to fan out in some areas should be regarded as tentative until the effectiveness and practicality of these techniques can be adequately trialled.
- There is a need for further monitoring and research (see 9.10 and 9.13).
- Additional groundwork needs to be done before the Strategy can be fully implemented. In particular, further research is needed to ascertain the most appropriate way of establishing a comprehensive permit system, and detailed track management plans should be prepared for all track systems in the WHA (see 9.18 and appendix G).

## 2.1 Biophysical impacts of recreation

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- Little research has been done to date in Australia.
- Most studies have focussed on campsites and vegetation impacts but there has been some research on track erosion.
- Much research is still needed, especially on the long-term ecological effects of recreation.
- The percentage of wilderness areas affected by recreational impacts is generally very small.
- The use/impact curve is nonlinear: low use causes disproportionately high levels of most types of impact.
- The determination of inflection points (appendix B1.3.1) may be necessary in order to determine at what level usage restrictions will be effective in limiting biophysical impacts, especially in areas where vegetation is still intact.
- Research on whether the distribution of usage in time affects the severity of impacts has so far been inconclusive.
- Vegetation and soils vary widely in their susceptibility to impacts.
- Track impacts are a function primarily of track slope, drainage and usage.
- Trampling associated with firewood collection greatly increases the area of impacts around campsites.
- Type of footwear does not appear to influence trampling impacts, but walkers who carry packs tend to have more impact than walkers without packs.
- Rehabilitation is often very slow especially in alpine areas, and attempts to artificially assist rehabilitation have met with only limited success.

## 2.2 Use trends, user attitudes/characteristics and social impacts

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- Internationally, wilderness usage has increased dramatically since the 1960s but appeared to be levelling off in some areas by the late 1980s.
- Perception of (biophysical) impacts is one of the main factors affecting user satisfaction.
- Some wilderness users would be just as happy in nonwilderness areas.
- Use levels, encounter rates, perceptions of crowding and trip satisfaction are only weakly linked.
- The effect of encounters on perceptions of crowding and trip satisfaction depends on the type and location of the encounters and on user expectations. Experienced walkers tend to prefer less social contact in wilderness areas than inexperienced walkers. Encounters are least welcome at campsites and in remote areas.
- Encounters with large parties are unacceptable to most wilderness users.

- Reducing usage will not necessarily solve the problem of crowding, nor may it be necessary. Other management actions such as varying the time of stay at campsites may be more appropriate and/or effective.
- A majority of users tend to report trip satisfaction regardless of levels of social impact. Hence trip satisfaction is not a reliable indicator of social impact levels.
- Increasing social impacts may cause recreational displacement.
- There is a need for more research into user expectations, user satisfaction and use patterns.

## **2.3 Monitoring and inventory techniques**

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- Monitoring is essential for effective management.
- Census methods (see appendix B3.4.3) may provide the best overall picture of track conditions in a wilderness area.
- Mandatory permits provide the best source of data on use levels, although this data is not 100% accurate.

## **2.4 Planning frameworks, management principles and management strategies**

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- Carrying capacity can only be defined in the context of clear management objectives and a clearly defined program of management strategies.
- Many managers favour the LAC approach which involves determining “limits of acceptable change” and maintaining these limits through a combination of management strategies whose results are closely monitored.
- Users prefer nonregulatory management (eg education) to regulations (eg permits), but tend to accept regulations when they understand that these are necessary to protect ecological and recreational values.
- User support for access restrictions is high but most users oppose fixed itineraries.
- Management objectives need to be specific, quantifiable and achievable.
- A wide range of management options exists; usage restrictions may not be necessary, and by themselves may not be sufficient.
- Education is often effective as a strategy for minimising impacts, but research is needed to develop effective education techniques.
- Managers must consider the possible ramifications of management actions, eg zonal creep.
- Because the relationship between impacts and usage is nonlinear, impacts in medium to high use areas are best managed by concentrating usage on defined tracks and campsites. In low-use areas use dispersal may be more appropriate.
- Rotation of tracks and campsites is generally not a viable option.
- (Permanent) relocation of tracks and campsites should be considered as a viable management option.
- Mandatory permits provide an effective channel for the dissemination of information.

- Wilderness managers issuing permits generally employ a combination of methods for issuing them, the “first come first served” and advanced booking systems being the most popular among users.

### 3.1 Previous track inventories

The only inventories compiled of walking tracks in the World Heritage Area prior to 1991 have been those by the Tasmanian Interdepartmental Committee on Recreation Use Of State Resources (1980), Calais (1981) and Hepper et al (1986).

The Tasmanian Interdepartmental Committee report contained only a list of walking tracks which was far from complete. The Calais study contained a detailed inventory of track conditions (as measured by spaced transects) but only for major walking tracks in the Cradle Mountain - Lake St Clair National Park (as delineated by its 1981 boundaries).

The Hepper study contained a reasonably comprehensive list of walking tracks and major routes within the (1986) World Heritage Area, together with basic information such as track length, usage levels (generally estimated by local ranger staff), major facilities, recreational attractions and a rudimentary assessment of track conditions (ie “good”, “fair”, “bad” and “very bad”). The study also classified tracks and routes using a simple four-tiered track classification scheme.

### 3.2 Track inventory program for the WHA

#### 3.2.1 Inventory technique

For the purpose of compiling an inventory of tracks and track conditions in the WHA a census method was developed involving the estimation of track conditions over continuous sections of track. The census approach was adopted because it was considered the best way of gaining a comprehensive picture of track conditions throughout the WHA in a relatively short period of time (see appendix B3.4)

In the course of the track inspection tracks and major routes were divided into sections within which environmental conditions were judged to be relatively homogeneous, and environmental variables and track conditions were recorded for each section. The sections varied in length from a few hundred metres to ten kilometres with an average length of two kilometres.

After each section had been inspected information was recorded on a wide range of environmental variables including geology, soil profiles, vegetation type and average track and terrain gradient.

Estimates were made of the percentage of each section subject to the following types and degrees of track development and impact:

- trampled pad (ie visibly trampled but intact vegetation);
- vegetation removed;
- moss/litter cover;
- mud of depth >10cm and >25cm;
- erosion of depth >10cm and >25cm;
- track braiding.

For each impact type the percentage estimates were recorded as one of six categories, namely 0-9%, 10-24%, 25-49%, 50-74%, 75-89% and 90-100%. For example the percentage of a section consisting of trampled pad might be recorded as “10-25%” and the percentage subject to erosion greater than 10cm deep as “50-75%”.

The difference in the sizes of the percentage categories reflects the relative importance attached to the information conveyed and the relative accuracy with which the impacts

in question could be estimated. For example it was considered to be more important to distinguish between sections subject to <10% vegetation removal and those subject to 10-24% vegetation removal, than to distinguish between sections for which vegetation removal fell in the range 25-50%.

Estimates were also made of average track width, of the rates at which various types of deterioration were occurring, and of projected track conditions in 20 years' time assuming continued usage at current levels and assuming no stabilising works were undertaken in the interim.

Basic information on campsites was also recorded and campsite conditions were ranked using a modified Frissell rating of 1-5 (see B3.5).

### **3.2.2 Data storage**

In the field, all data were recorded on forms printed on two sides of an A4 sheet of paper. Roughly half the forms were printed on water-strength paper for use in the typically wet and windy Western Tasmanian conditions.

Detailed instructions for recording data including definitions of terms were listed in a guide which accompanied the inventory form. The form was designed to allow most of the data to be entered by putting ticks in boxes, thus speeding up the process of filling it out and subsequently transferring the information into a computer database. The form also had room for comments to supplement the statistics where necessary.

With practice the forms could be filled out in fifteen to twenty minutes.

Data were subsequently transferred manually to a *Claris Filemaker™* database on Macintosh computers. The layout of the *Filemaker* datasheets was designed to mirror that of the inventory forms as far as possible to facilitate efficient data transfer.

Where necessary data on environmental conditions such as geology and vegetation type were confirmed by reference to published material such as the *Land Systems of Tasmania* series (eg Pemberton 1989) and the *Geological Atlas of Tasmania 1: 250 000* (Department of Mines 1983).

### **3.2.3 Inventory trial and data accuracy**

In order to test the reliability of the estimates of track impacts a trial was undertaken by three members of Service staff who traversed the Southern Ranges and the eastern half of the South Coast Track and independently recorded data for 39 track sections spanning a wide range of environmental types and track conditions.

For the purposes of comparing the trial data the percentage categories described in 3.2.1 were converted to integral values (0-9% being converted to 1, 10-24% to 2 etc). For each pair of observers and for each impact variable, tables were compiled of the cumulative numbers of sites at which the (converted) impact estimates agreed, differed by at most 1, differed by at most 2 etc. From these cumulative values a 95% confidence interval was derived for the probability that pairwise estimates agreed, differed by at most 1, differed by at most 2 etc, assuming a binomial distribution.

Some impacts were absent throughout much of the trial; hence there were numerous instances where the estimates of all three observers were equal to 1 (indicating the percentage range 0-9%). To avoid the bias introduced by this fact the analysis described above was duplicated excluding all sections where pairs of results were both equal to 1. Some impacts (eg "current erosion >25cm") occurred too infrequently for a meaningful analysis to be made.

Where paired unitary estimates were included in the analysis agreement was generally good, with the probability of estimates differing by no more than 1 exceeding 80% and the probability of estimates differing by no more than 2 exceeding 90%. In the case of

current and projected erosion (both 10cm and 25cm) the corresponding figures were 85% and 90%.

Where paired unitary estimates of current and projected erosion >10cm were excluded from the analysis the probability of estimates of these variables differing by no more than 1 was also found to exceed 80%.

It should be noted that the probability of agreement between estimates may in fact be higher than the percentages quoted above; these percentages are the best that can be deduced from the data with a confidence level of 95%.

No significant (relative) bias was observed between the estimates made by the three staff members. Moreover because the entire track inventory was undertaken by a single field officer, any observer bias was likely to be uniform throughout the study and so unlikely to impair comparisons between track conditions in different parts of the WHA.

#### **3.2.4 Fieldwork itinerary**

Preliminary fieldwork for the track inventory began in March 1990 and several trips including an initial traverse of the Southern Ranges (later selected for the inventory trial) were completed before the end of May. Fieldwork recommenced in September and the inventory trial over the Southern Ranges was completed in October. By this time the format for the inventory form had been substantially revised and finalised.

Fieldwork for the inventory continued until the end of April 1991 and was completed during the period Sep-Dec 1991. The total fieldwork for the inventory amounted to 143 days, the average length of trip being five days. Inventory forms were completed for approximately five hundred sections and a total of approximately 960km of track or route.

#### **3.2.5 Data analysis**

Elementary analysis of the inventory data was undertaken using the “sort” and “edit” commands built into the Filemaker system together with custom-made “Script” programs consisting of mathematical formulas and calculation fields.

For example, the relationship between geological type and track conditions was investigated by selecting records corresponding to sections with specified geological types and using a “Script” command to obtain the total lengths of these sections subject to various types and rates of deterioration. The results were subsequently converted to percentages and compared to the corresponding percentages for other geological types or for the track-system as a whole (as shown in the table in 3.3.2(i)).

A more sophisticated analysis of the inventory data using multivariate statistical techniques could have been undertaken but was not because more accurate data is now (ie at the time of publication) being obtained from an extensive track monitoring program - see 3.4.

#### **3.2.6 Assessment of aerial photographs**

High-altitude (vertical) aerial photographs of several areas in the WHA were inspected to determine what information could be gained from these photographs about track locations, track conditions and track development and deterioration over time.

Extensive sections of some tracks in areas of moorland or low scrub are clearly visible on recent 1:25 000 colour aerial photographs (eg parts of the Western Arthurs traverse, the Eastern Arthurs traverse and the Southwest Cape circuit). However it was not possible to assess changes in the visibility of tracks over time because the most detailed aerial photographs taken in the Western Tasmania region prior to the mid

1980s were recorded at a scale of 1:42 000, and at this scale tracks are much more difficult to discern.

It is recommended that research be undertaken to determine the extent to which track data such as track width and degree of trampling impact (ie intact vegetation, exposed soil or exposed gravels and rock) can be determined from aerial photographs.

It is also recommended that aerial photographs be used henceforth as an indicator of track formation and track deterioration where appropriate (see 9.10 and 9.13).

### **3.3 Summary of findings**

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#### **3.3.1 Limitations of the study**

In considering the findings of the WHA track inventory the following points should be borne in mind:

- (i) Track deterioration is a dynamic process and a track inventory of the sort conducted in this study provides only a “snapshot” of track conditions at a particular point in time. While estimates were made of future track conditions, these estimates must be treated with caution. Similarly information about current usage levels may give only a very broad indication of the total usage a track has received since its initial construction or formation.
- (ii) At the time the inventory was undertaken track conditions throughout the WHA were probably influenced by the fact that Tasmania experienced a succession of relatively dry years during the late 1980s. If normal rainfalls had occurred during this period track conditions (particularly mud) might have been considerably worse in some areas.
- (iii) The track inventory excluded some tracks for which track management plans had already been prepared. The tracks in question were:
  - Parts of the Overland Track and its side-tracks;
  - The South Coast Track west of Prion Beach;
  - The Port Davey Track;
  - The Southwest Cape circuit;
  - The Anne circuit, NE Ridge track and Lake Timk track.All the results listed in sections 3.3.2-3.3.5 exclude the tracks listed above.

#### **3.3.2 Overall findings and trends**

##### **(i) Existing and projected track conditions**

A total of 964 km of tracks, pads and routes were inspected in the course of the inventory. Roughly three-quarters of these were tracks, less than ten percent were pads and the rest were routes without tracks or pads.

Including the tracks not inspected in the inventory the total length of tracks in the WHA is around 1000 km.

The following table gives the approximate lengths of track assessed in the inventory as being subject to specified types of deterioration. The data are expressed both in kilometres and as a percentage of the overall combined length of track and pad (excluding vehicle tracks and sections of “no pad”). The final column gives longterm (20 year) estimates of the lengths of track subject to the types of deterioration in question.

Precise definitions of the terms used are included in the guide to the inventory form, which is available on request from the Parks & Wildlife Service WHA Track Management Officer.

**Table 1:  
Summary of existing and projected track impacts**

Track condition	Length (km)	% of track/pad	Projected length (km)
Mud > 10cm	100	14	125
Mud > 25cm	55	8	70
Erosion > 10cm	235	33	320
Erosion > 25cm	120	17	200
Local braiding	85	12	Not estimated

The projected longterm estimates assume that usage continues at current (estimated) levels and that no further track repair is undertaken. Similar percentages were obtained when sections more than 10% of which had been stabilised were excluded from the calculations.

The total area affected by trampling on tracks and pads in and adjacent to the WHA is approximately 55 hectares - less than 0.004% of the current area of the WHA. This statistic should however be treated with caution because a percentage estimate of this nature gives no indication of the visual and ecological impact of eroded tracks, nor of the impact of unplanned track formation on recreational and wilderness values.

One of the specifications of the proposed track classification scheme (section 10) is that erosion more than 25cm deep should be avoided wherever possible. Clearly this objective is not being met since 120km of tracks are already heavily eroded and the potential exists for this figure to increase to 200km in the long term. Moreover in some areas local erosion is well over 50cm deep, tracks are excessively wide and/or extensive mud-bowls have developed. (For further information on local conditions see 3.3.4 and appendix A1.)

**(ii) Rates of deterioration**

During the course of the inventory the rates of five different types of track deterioration were estimated for each section assuming continued usage at (estimated) current levels, and assuming no stabilisation works were undertaken. The types of deterioration in question were pad formation, loss of vegetation, mud formation, erosion and track widening, and the rate-of-deterioration categories were ranked as follows:

Category	Definition
Stable	Conditions appear likely to remain generally stable over at least 90% of section indefinitely.
Slow	Conditions appear likely to remain generally stable over at least 90% of section for at least another 20 years, but may deteriorate in the longer term.
Moderate	Percentage of section subject to erosional factor in question likely to increase significantly, and/or severity of this type of erosion likely to increase significantly over at least 10% of section, in 10-20 years.
Fast	As for "Moderate", but substitute "5-10 years"
Very fast	As for "Moderate" but substitute "<5 years".

Terms such as “increase significantly” are defined in the guide to the inventory form.

The total lengths of track sections subject to specified rates of the various types of deterioration were as follows:

**Table 2:  
Total lengths (in km) of sections subject to specified types and rates of deterioration**

Type of deterioration	Stable	Slow	Moderate	Fast
Pad formation	73	131	53	4
Loss of vegetation	60	149	64	2
Mud formation	636	130	153	16
Erosion	183	368	310	75
Width increase	295	400	230	11

The rate of pad formation was not recorded if a pad had already formed on more than 90% of a section; similarly the rate of loss of vegetation was not recorded if vegetation had already been lost on more than 90% of a section. No section was rated as being subject to “very fast” deterioration of any kind.

**Overall findings - summary of key points:**

- The total length of tracks in the WHA is around 1000 km.
- 120km of the tracks inspected in the inventory were already eroded to a depth of at least 25cm, and this figure can be expected to increase to 200km in the next 20 years if usage continues at current levels and if no preventive action is taken. Local erosion in some areas is substantially deeper than 25cm.
- 100km of the tracks inspected in the inventory were muddy and 85km were braided.
- 300km of the tracks inspected in the inventory were subject to a moderate rate of erosion and 75km to fast erosion.

**3.3.3 Campsite impacts**

Campsites where bare soil occurred on more than 75% of the site and where some soil erosion was apparent were identified in over fifty locations. Of these, six sites were identified as having substantial soil erosion. (Note that in this context the term “campsite” refers to a site which may have room for several tents.)

Areas where campsite conditions were especially degraded include the Western and Eastern Arthurs, the Southern Ranges and the Walls of Jerusalem.

**3.3.4 Trends by area**

Analysis of the data on an area-by-area basis yielded the following results:

- 60% of tracks and pads in the Western Arthurs are moderately eroded (ie eroded to a depth of more than 10cm) and 32% are heavily eroded (ie eroded to a depth of more than 25cm). These percentages are nearly twice the overall average and are expected to increase to 75% and 52% in the long term. Percentages of eroded track in the Eastern Arthurs were closer to but still above the overall average.
- The percentages of eroded track on heavily used lowland tracks in the Southwest such as the South Coast Track and Arthur Plains Track were far

greater than the overall average and comparable to the figures for the Western Arthurs.

- In many areas the percentages of track/pad subject to mud, erosion and track braiding were close to the overall average. Examples include the Cradle Mountain area, the Frenchmans Cap Track, the Pelion area, the Rasselas-Denisons-Spires region and the Southern Ranges traverse.
- The percentage of braided track was above average in the Cradle Mountain area and on the Frenchmans Cap Track - the latter because of the extensively braided section of track which traverses the Lodden Plains.
- Track conditions in the Central Plateau/Great Western Tiers/Upper Mersey region were substantially better than the overall average. In particular the percentages of track/pad subject to moderate mud and moderate erosion in this region were about half the overall average. This can be attributed to two main factors, namely the relatively low usage of much of this region and the relative stability of the dolerite tills and screes which are prevalent in the region (see 3.3.5).
- Track conditions in the Cradle Mountain - Lake St Clair National Park were close to the overall average.
- Track conditions in the Southwest were generally worse than the overall average. For example when data were combined for the Eastern and Western Arthurs, the South Coast Track, the Southern Ranges, the Frenchmans Cap Track, the Rasselas-Denisons-Spires region, the Arthur Plains Track and the Anne Range, the percentages of track/pad subject to moderate and heavy erosion were 47% and 27% respectively.

#### **Trends by area - summary of key points:**

- Tracks in the Southwest were generally in a worse condition than elsewhere while tracks in the Plateau/Tiers/Upper Mersey region tended to be in better than average condition.
- Track erosion in the Western and Eastern Arthurs is worse than in any other region in the WHA of comparable size.

### **3.3.5 Trends relating to environmental conditions and usage**

Sections were grouped according to environmental conditions and usage and the percentages of track/pad subject to various types and degrees of deterioration were calculated as outlined in 3.2.5. Vehicular tracks and track sections more than 10% of which had been stabilised were excluded from the calculations. The following results were obtained:

#### **Trends relating to usage**

- Track erosion tended to increase with increased usage. For example the percentage of track/pad subject to erosion >10cm deep was 18% on tracks used by less than 100 walkers per year (in either direction), 50% on tracks used by 1000-2500 walkers per year and 66% on tracks used by more than 5000 walkers per year. This trend was also evident within specified categories of track gradient.
- Mud >10cm deep tended to increase with usage for usage levels less than 2500. Braiding tended to increase with usage at moderate to high usage levels (ie above 500).
- Average width increased with increasing usage, especially at moderate to high usage levels (ie above 500).

#### **Trends relating to gradient and drainage**

- Track erosion tended to be greater on steeper track sections. In particular the percentages of moderately and heavily eroded track on sections of average gradient 20-40° were nearly twice the corresponding percentages for sections of average gradient 10-20°. By contrast there was little

difference in the percentage of track erosion between sections of average gradient 10-20° and those of average gradient less than 10°.

- At low and high usage levels track conditions were generally independent of track gradient. However for moderate levels of usage (ie 100-1000 walkers per year) the percentage of heavily eroded track on sections with average gradient >20° was significantly higher than for other sections with that range of usage, and the percentage of moderately eroded track was slightly higher.
- Sections of average gradient <10° were more stable on terrain of average gradient >10° than on terrain of average gradient <10°, presumably because they were better drained on the steeper terrain. Similarly, sections of average gradient 10-20° tended to be more stable on terrain of average gradient >20° - presumably because sections of track located on terrain of similar gradient tend to follow the fall-line and are therefore prone to water erosion.
- Track conditions on flat terrain (ie <10°) were generally close to the overall average although the percentages subject to moderate mud and braiding were above average.
- Track conditions on flat moorland, ie on moorland (including string bogs) of average gradient < 10°, were worse than the overall average. In particular the current and projected percentages of track/pad subject to moderate mud, heavy mud and braiding were around twice the overall average.

#### **Other trends**

- Tracks in vegetation of average height ≥1m were substantially more stable (in terms of both erosion and mud formation) than other tracks, the difference being more pronounced in terrain of slope ≥10°. This finding can be attributed to the fact that the root-systems of taller vegetation tend to stabilise soils and resist trampling impacts.
- No relationship was evident between track conditions and altitude. Track conditions in all altitude categories were close to the overall average although the percentage of braided track at altitudes over 1200m was almost twice the overall average. (The latter finding may have been biased by the fact that a large percentage of the tracks at this altitude occur in the Cradle Mountain area and receive high levels of usage.)
- The extent of current and projected erosion on sections traversing dolerite till was approximately half the overall average, although mud conditions and braiding on dolerite till were close to the overall average. Erosion on sections underlain by dolerite bedrock was also below the overall average while erosion was above average on quartzite.  
It should be noted that the exposed gravels of doleritic moraines tend to be highly stable, but dolerite till can also be covered by boggy peats in flat areas.
- Track conditions were substantially worse than average on sections underlain by phyllites and/or schists. In particular the current and projected percentages of track/pad which were subject to moderate and heavy mud in such areas were twice the corresponding overall averages. Similar comments apply to sections underlain by peat more than 10cm deep; moreover on peat the percentage of braided track/pad was twice the overall average.
- Mud and braiding on sections traversing flat (< 10°) terrain and peat more than 10cm deep were 2-3 times as bad as the overall average. However erosional conditions were close to the overall average on these sections.
- Mineral soil texture does not appear to significantly affect track conditions.

- Track conditions were generally better than average on sections which traversed sclerophyll forest. No significant mud was recorded in any section on which sclerophyll forest was the dominant vegetation type.
- Track conditions in rainforest were close to the overall average although the percentage of muddy track in rainforest was slightly less than average and the percentage of braided track was only half the overall average.

**Trends relating to environmental conditions and usage – summary of key points:**

- Track impacts tend to increase with increasing usage.
- Track erosion on slopes tends to increase with increasing track gradient and to be worse on tracks which follow fall-lines.
- The most stable tracks tend to be those of low to moderate gradient sited obliquely across slopes.
- Factors which contribute to track stability include high vegetation and the presence of exposed dolerite till.
- Factors which contribute to track instability include the presence of phyllites and schists, the presence of deep peats and poor drainage.
- In general, track impacts do not appear to be affected by altitude or mineral soil texture.

### **3.4 Preliminary results of an analysis of track monitoring data**

As at January 1994 an extensive system of monitoring sites has been established in the WHA, each site consisting of a cluster of transects at which a range of track impacts are measured including erosion depth and several categories of track width.

Sites have been statistically classified into types, each type corresponding to a defined range of environmental and siting variables and exhibiting a characteristic range of impact levels. The validity of the classification is checked by means of a canonical variate analysis and logistic regression analyses have been undertaken to identify explanatory variables both within types and for the data-set as a whole.

At present data have only been obtained for current track conditions; the typing scheme cannot be finalised until data are obtained on changes in track conditions over time.

Preliminary analysis of the data obtained to date has yielded the following results:

- Track conditions are strongly influenced by vegetation height, track slope, drainage and usage.
- The variables track depth and “width of track eroded to a depth greater than 10cm” tend to increase with increasing track gradient.
- Width of visibly trampled track is strongly influenced by usage.
- Variables such as altitude, geology, aspect and soil depths do not appear to have a significant influence on track conditions over and above that accounted for by their correlations with vegetation height, track slope, drainage and usage.

**Note:**

The following information is a summary of the information contained in appendix C.

## 4.1 WHA usage: summary of trends

### 4.1.1 Day visitors (non-walkers)

- (a) Usage continues to increase rapidly at Cradle Mountain and in the Western Lakes area of the Central Plateau but has levelled off or decreased slightly at the Hartz Mountains and Lake St Clair and on the Gordon River and Gordon Road.
- (b) Usage is highly seasonal with most visitation occurring during the summer months at all visitor centres for which seasonal data is available.

### 4.1.2 Walkers and rafters

- (a) In recent years usage appears to have levelled off or declined slightly on the Mt Anne Track, Frenchmans Cap Track, Franklin River and in the Walls of Jerusalem area but continues to increase steadily on the Overland Track and has increased dramatically in the Eastern and Western Arthurs, on the Blowhole Valley Track, in the Cradle daywalks area and probably also on the New Harbour-SW Cape section of the Southwest Cape circuit.
- (b) Usage levels are highly seasonal with more than half of all usage on major tracks occurring during the summer months.

## 4.2 Summary of user characteristics and attitudes

### 4.2.1 Day visitors

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

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

### 4.2.2 Bushwalkers - summary of characteristics

- 60% of walkers on major tracks in the WHA come from interstate and 14% come from overseas.
- More than 90% of walkers on major tracks in the WHA have done at least one overnight bushwalk before and more than two-thirds have done at least six.
- More than half of visitors to the WHA are return visitors, but the percentage of first-time visitors is higher on major tracks such as the Overland Track.
- Two-thirds of walkers are aged between 16 and 35 and roughly two-thirds are male.
- Walkers tend to be well educated, three quarters of adult walkers having completed tertiary education.
- More than 90% of walkers travel in groups of 1-6 people.
- More than 50% of walkers on major tracks carry guidebooks.

#### 4.2.3 Bushwalkers - summary of attitudes

- Track degradation draws more criticism from walkers and has the greatest negative impact on walker enjoyment in the Eastern and Western Arthurs than in any other area surveyed in the WHA.
- Experienced walkers tend to be more sensitive to and intolerant of biophysical and social impacts than inexperienced walkers.
- Most walkers are aware of the Department's MIB campaign.
- A relatively small percentage (14%) of walkers on major tracks report that encounters with other walkers on tracks detracted from their enjoyment, but a third of all walkers report that encounters with other walkers at campsites detracted from their enjoyment.
- More than a third of walkers express dissatisfaction about encounters with large parties.
- 50% of walkers support usage restrictions to limit crowding and 70% support usage restrictions to limit environmental damage. 60% support a limit on the number of people in trackless areas to minimise the development of new tracks.
- At least three-quarters of walkers support restrictions on party size. Two-thirds of walkers on the Overland Track and Frenchmans Cap Track support restricting party sizes to less than eight, and more than half the walkers in other areas support restricting party sizes to less than six.
- Two-thirds of walkers support the closure of tracks and campsites for management purposes.
- Two-thirds of walkers on the Anne circuit preferred a policy of usage restrictions combined with minor track repair to a policy of major track upgrading with no usage restrictions.
- Two thirds of walkers support a total ban on campfires in the area where they were surveyed, and fewer than five percent favoured no restrictions on campfires.

### 4.3 Social impacts

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- As stated in 4.2.3 a relatively small percentage (14%) of walkers on major tracks report that encounters with other walkers on tracks detract from their enjoyment, but a third of all walkers report that encounters with other walkers at campsites detract from their enjoyment. More than a third of walkers express dissatisfaction about encounters with large parties.
- Social impacts do not appear to be a major problem on most of the major tracks in the WHA, although campsite crowding is a significant problem in some areas.
- A majority of walkers would support the introduction of usage restrictions to avoid crowding on major tracks in the WHA.
- There is a need for research into social impacts and user attitudes in low-use areas in and adjacent to the WHA.

### 4.4 Tourism trends and market segmentation

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#### 4.4.1 The role of wilderness-based tourism in the Tasmanian economy

Tourism is one of Tasmania's largest industries, employing eight percent of the workforce and hence playing a major role in maintaining the state's economic wellbeing (Tourism Tasmania 1990). It also makes a substantial contribution to the development of Tasmania's social and cultural life, and provides an economically

attractive means for protecting much of the state's scenic and ecological heritage (ibid).

It is now widely acknowledged that Tasmania's unique wilderness and natural heritage are among the primary features which attract holiday makers to the state (ibid). An understanding of tourism trends and tourist expectations is therefore important in order to:

- (a) assess the likely demand for various types of recreational activities in and adjacent to the WHA;
- (b) determine the likely effects of usage trends on recreational impacts in and adjacent to the WHA;
- (c) devise appropriate promotional and educational campaigns to direct visitors to appropriate areas, maximise visitor enjoyment and foster appropriate behaviour and attitudes; and
- (b) assess the desirability and feasibility of developing and promoting new or substantially upgraded walking tracks or alternative recreational activities in and adjacent to the WHA.

#### **4.4.2 Trends in the tourism industry**

The following information has been extracted from reports by Evers (1984), Hepper, Marriott & Associates (1986), IBIS Deloitte (1987), Kinhill (1988), Tourism Tasmania (1990) and other references where indicated:

- The Australian tourism industry is expected to continue to grow due to increasing leisure time, earlier retirement and changing community attitudes towards work, leisure, success, health, fitness and stress (IBIS Deloitte 1987).
- Intrastate travel is a major component of tourism activity in Australia but there are indications that Tasmania's performance in this sector is declining (Kinhill 1988).
- Just under 400 000 people visited Tasmania in 1992, although 20-25% of these visited for business purposes. Visitors tend to come with the aim of visiting specific areas, and few try to "see the whole state" in a single holiday (Patterson 1991).
- Domestic (ie interstate) travel accounted for more than 85% of travel to Tasmania in 1990, although international visitation to Tasmania doubled in the period 1986-88 (Tourism Tasmania 1990). Interstate arrivals and the number of visitor nights spent in Tasmania have fluctuated over the last ten years.
- Less than two percent of international visitors to Australia visit Tasmania (IBIS Deloitte 1987).
- First-time visitors comprise approximately 40% of total visitors to Tasmania, and this percentage seems to be remaining fairly constant (ibid).
- The Tasmanian tourist industry is seasonal, although the shoulder season Oct-Dec has become more popular in recent years (ibid).
- There has been a shift towards younger age-groups, higher repeat levels of visitation and longer average length of stay among visitors to Tasmania (ibid).
- Domestic demand for holidays in Tasmania is increasing (Tourism Tasmania 1990).

#### **4.4.3 Market segments and visitor preferences**

The 1987 IBIS Deloitte study uses a VALA (Values and Lifestyles Australia) analysis to classify domestic tourists according to their socioeconomic background, values,

preferred activities and holiday expectations. Key results of this study and the Tourism Tasmania paper cited in the previous section are as follows:

- Due to national and global economic trends, and in particular to income polarisation, the tourism market is becoming increasingly polarised between the upper and lower expenditure segments (both nationally and internationally). Moreover there is increasing segmentation within these groups.
- The mainstay of the Tasmanian tourist industry are the “conservatives” who comprise 55% of the market. It is important to maintain this segment of the market and there is potential for growth. As the term implies “conservatives” tend to be conservative in their holiday aspirations, seek passive rather than active holiday experiences and have little interest in outdoor activities.
- The market segment showing the greatest potential for growth consists of the “experience seekers”, who currently comprise 19% of the visitor population. The “experience seekers” are described as being “self-confident, well-informed and discerning” (IBIS Deloitte 1987) and as “well-educated, cultured and curious” (Tourism Tasmania 1990). They tend to prefer activities related to the natural environment such as bushwalking, although they generally do not want to “rough it”. They are prepared to spend money on travel, but not on “glamorous” products, preferring middle-market accommodation. They seek value for money but are prepared to pay for unusual experiences, eg excursions into the wilderness.
- The general social trend towards greater environmental consciousness is being reflected in tourism preferences. For example in one survey twice as many people preferred a holiday planned around cultural or nature-based activities as around sporting activities (Tourism Tasmania 1990). There is a global trend away from “passive” and highly commercialised tourism and towards increasing demand for more active, educational, personalised, “authentic” and unusual travel experiences. In other words, there has been a shift in interest from merely sightseeing to experiencing and participating (Hepper, Marriott & Associates 1986, Kinhill 1988).
- According to research by Jacqueline Huie, a leading Australian expert in market segmentation analysis, the percentage of visitors to Tasmania seeking to “get closer to Australia’s unique environment even at the cost of some discomfort” is around 30% and increasingly strongly (Tourism Tasmania 1990). While active tourists are in the minority, the Tourism Tasmania paper concludes that “all segments are attracted to the softer end of the [adventure tourism market] spectrum”.
- Roughly 30% of interstate holidaymakers (including interstate travellers visiting friends and relatives in Tasmania) list bushwalking, orienteering or hiking among their preferred activities while in Tasmania (IBIS Deloitte 1987).
- The desire to visit Tasmania has increased amongst Australians in other states and in a recent survey 40% of those surveyed expressed a general interest in Tasmania as a holiday destination (Tourism Tasmania 1990).
- In terms of the tourism product Tasmania is competing most directly with New Zealand, which is often perceived to be a more glamorous destination (IBIS Deloitte 1987).

Further conclusions can be drawn, at least tentatively, on the basis of feedback from existing and prospective guided-tour operators in Tasmania. These conclusions are:

- Demand for extended guided walks and rafting tours in Tasmania has levelled off in recent years.
- During the past few years there has been a dramatic increase in the demand for guided wilderness-fringe daytrips, especially trips combining four-wheel drive vehicle access and short walks.
- A large percentage of soft-adventure guided-tour clients are visitors who are on their first visit to Tasmania, and the percentage of clients from overseas is increasing.
- There is increasing demand for alternative outdoor recreational activities such as caving, rockclimbing, boating, swimming, short rafting trips, wildlife-spotting and cycling. There is also rapid growth in the demand for holidays which combine a range of these activities together with culturally-oriented activities such as visits to historic sites, and with indulgence in luxuries such as gourmet foods and wines.

#### **4.4.4 Conclusions**

- The demand for wilderness-related recreational tourism in and adjacent to the WHA is likely to continue to increase for the foreseeable future.
- The “soft adventure” market has the potential for the highest growth.
- Relevant government departments should assess options for the development of “soft adventure” tourism opportunities outside and on the fringes of the WHA, both to cater directly to growing demand for such opportunities and to take pressure off the WHA. (Note that some tourists currently visiting the WHA would be just as happy pursuing recreational activities outside the WHA.)
- Current trends do not indicate an increasing demand for extended guided walks in Tasmania. Consequently further development of extended tracks with “Cradle Huts” type development may not be warranted.

#### **Note:**

A report assessing options for the development of new walking tracks and for substantially upgrading existing tracks both within and outside the WHA is currently being prepared by the Parks & Wildlife Service.

In appendix D the tracks, routes and major recreational rivers listed in section 11 have been reordered so as to indicate the recreation opportunity spectrum that will exist for walking and rafting trips in different parts of the WHA assuming the recommendations of this report are implemented. An infinite number of recreational opportunities are possible; the intention is to identify trips which are recognised by wilderness users and wilderness managers as significant recreational options, particularly those which involve the use of existing or proposed walking tracks.

The WHA and adjacent natural areas have been divided into seven regions which identify the main point of access to the tracks and routes in question. Within each region tracks, routes and some rivers have been listed according to the length of walking or rafting trips which (a) can be undertaken from the indicated points of access and (b) would generally involve walking or rafting along that track, route or river.

Tracks, routes and rivers are listed in each trip-length category in order of decreasing track classification as defined in section 10. The primary attraction(s) of nature trails and other short high-grade tracks are also indicated.

Note that extended and medium-length camping trips include “A to B” type traverses (eg from Melaleuca to Scotts Peak), trips to and from particular destinations (eg the return trip to Federation Peak via Moss Ridge) and trips involving a combination of “A to B” type journeys and shorter side-trips (eg 4-day trips to the Pelions area with visits to Mt Ossa, Pelion East etc).

The data and proposed actions can be summarised as follows:

## 5.1 Expeditions ( $\geq 10$ nights)

The most prominent trips of this length in the WHA are:

- The South Coast Track / Port Davey Track walk (T2+T3);
- The Franklin River (Riv 2);
- The full traverse of the Eastern and Western Arthurs (T3);
- The Lake Curly - Spires - upper Gordon traverse (R); and
- Extended trips in the Cradle Mountain - Lake St Clair National Park and Central Plateau areas (various classifications).

Several opportunities exist in each of the listed regions for expeditions with side-trips both on and off tracks. Moreover at least one extended “A to B” type expedition commences in each of the regions south of the Lyell Highway.

The region north of the Lyell Highway provides little scope for “A to B” type expeditions apart from those which include routes in wilderness areas in the (little visited) upper Murchison and Mackintosh catchments.

### **Proposed action:**

No action needed.

## 5.2 Extended camping trips (5-9 nights)

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Opportunities for trips of this length *on tracks* are surprisingly scarce in the WHA south of the Lyell Highway. The main exceptions are:

- Southwest Cape circuit (T3+T4+ (X or R));
- Southern Ranges traverse/South Coast Track (T3+T4+T2); and
- Eastern or Western Arthurs traverse (T3);

Indeed few trips of this length south of the Lyell Highway are recognised as major recreational options whether on or off tracks.

By contrast, numerous opportunities exist for trips of this length north of the Lyell Highway, both on the extensive network of tracks in the Cradle Mountain - Lake St Clair National Park and Upper Mersey areas and on routes in the relatively open country of the western Central Plateau.

### **Proposed action:**

In the medium to long term it may be expedient to construct new tracks to provide additional opportunities for track-based trips of 5-9 nights' duration, particularly in areas south of the Lyell Highway. One example of such development is the proposed Vera Gorge-Lodden Gorge extension to the Frenchmans Cap Track. Alternatively, since the majority of walkers wishing to undertake such trips are likely to be relatively experienced and self-reliant, it may be preferable to encourage a proportion of these walkers to undertake trips in relatively resilient trackless areas - eg the Port Davey-West Coast region.

## 5.3 Short to medium camping trips (1-4 nights)

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Of the regions listed in appendix D only the Lyell Highway is short of opportunities for trips of this length, the return trip to Frenchmans Cap being the main trip of this length starting from the highway. The Huon - Esperance, West Coast and Cradle Mountain areas each offer several opportunities for short to medium camping trips. Such trips are numerous in the Gordon River Road - Scotts Peak Road and Lake St Clair areas, and abundant in the Pelions - Upper Mersey - Walls of Jerusalem area. The Plateau - Tiers area offers several opportunities for short to medium camping trips on tracks (mostly of T3 or T4 standard) and numerous additional opportunities for trips of this length in relatively open trackless country.

It should be noted that the Mt Field National Park offers a number of opportunities for trips of this length, including opportunities for easy, hut-based walking of a type not widely available in the Southwest.

The fact that few such trips start from the Lyell Highway is unlikely to be a problem because the Lyell Highway provides access to both the Lake St Clair and West Coast areas where many walks of this length are available.

### **Proposed action:**

Walkers who wish to undertake relatively easy walks including hut-based walks of this length will be encouraged to go to the Mt Field National Park as a alternative to the Southwest National Park.

## 5.4 0.5-1 day trips

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As with extended camping trips, opportunities for daytrips on tracks are relatively scarce in areas south of the Lyell Highway, especially daytrips on tracks of T3 standard or higher. Of these areas the Huon - Esperance area provides the most opportunities, offering six daytrips on tracks of T3 standard or higher.

By contrast daytrips on higher-grade tracks are plentiful north of the Lyell Highway, particularly at Cradle Mountain where there is a veritable labyrinth of day-length walking tracks.

**Proposed action:**

Depending on demand it may be expedient to develop more tracks of T3 or higher standard suitable for half-day and day walks in areas south of the Lyell Highway and at Lake St Clair. Examples include upgrading the Old Port Davey Track, constructing a track of T1 standard in the Wayatinah-Beech Creek area and constructing a track to the summit of Mt Jukes. A link track creating a new short circuit-walk out of Cynthia Bay (Lake St Clair) has also been proposed (Department of Parks, Wildlife & Heritage 1991e) and is currently being constructed.

## 5.5 Short low-grade walks (1-3 hrs)

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Walks of less than half a day's duration on tracks of T2 standard or lower are scarce throughout the WHA. (Here we are considering only walks which have defined destinations or endpoints; for example a two-hour return walk along the northern end of the Port Davey Track does not qualify for consideration.)

**Proposed action:**

No action needed unless research shows substantial demand for walks of this length.

## 5.6 Nature trails and other short walks

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**Summary of data:**

Six of the nine regions listed in appendix D have at least one nature trail of wheelchair (W1) standard, the exceptions being the Port Davey - Southwest Cape, Gordon Road - Scotts Peak Road and Pelions - Upper Mersey - Walls of Jerusalem areas. A proposal is currently being considered to construct a nature trail of W1 standard in the vicinity of the existing Wedge nature trail on the Gordon River Road. Only the Port Davey - Southwest Cape and Pelions - Upper Mersey - Walls of Jerusalem areas have no nature trails.

A preponderance of emphasis on forest environments is evident: of the 30 tracks of W1 or W2 standard listed in appendix D, 21 have rainforest or mixed forest as their primary focus. Moreover the majority of Forestry Commission nature trails and short walks in areas adjacent to the WHA also have forest environments as their primary theme.

**Comments:**

High-grade nature trails are unlikely to be necessary in the Mersey Forest Road area because of the remoteness of this area from major tourist access-points.

The lack of a nature trail of W1 standard on the Gordon River and Scotts Peak Roads is compensated for by the existence of the Russell Falls Track and Tall Forests Walk at Mt Field National Park. The construction of a nature trail of W1 standard in the Wedge area should therefore not be given high priority, particularly since this track - like most other nature trails in the vicinity of the WHA - would focus primarily on forest environments.

No nature trails are currently planned for Melaleuca because of the relatively low levels of visitation to the area.

**Proposed actions:**

In general, any proposals to construct new nature trails or upgrade existing nature trails in or adjacent to the WHA, apart from those currently proposed and listed in the Strategy, should aim

to increase the number and variety of nature trails which focus on themes other than forest, eg alpine vegetation, moorland and coastal environments.

## **5.7 Round trips**

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A notable feature of the recreation opportunity spectrum in the WHA is the shortage of round trips (ie circular trips which begin and end in the same place), the only exception being in the case of nature trails and other short walks. Round trips have some advantages over through trips (eg greater variety, the ease of organising private transport), and proposals for further track development either inside or outside the WHA should take this factor into account and incorporate circuits if possible.

Examples of possible circuit walks include the proposed tall trees walk at Wayatinah and the proposed Irenabyss/Vera Gorge/Lodden Gorge circuit.

## 6.1 Management objectives and policies

### Overall objectives

Management objectives and policies for the WHA are listed in section 4.1 of the *1992 Tasmanian Wilderness World Heritage Area Management Plan* (Dept of Parks, Wildlife & Heritage 1992), and described in more detail in section 4.2 of the Plan. Of these, the following objectives are of direct relevance to the *Strategy*.

The prefix P indicates the section number in the *Management Plan*.

#### P4.1 [Overall] Management Objectives

The overall objective for management, specified in the World Heritage Convention, is to protect, conserve, present and, where necessary, rehabilitate the natural and cultural heritage.

The order of the objectives listed below does not imply a priority. However, the long-term protection of many natural and cultural values will be assisted by perpetuation of the remote and undisturbed characteristics of the area and, hence, the maintenance and enhancement of wilderness quality will, in general, be the over-riding objective for management of future activities and developments in the area. A number of the objectives are conflicting and the priority for meeting them will vary throughout the area according to local values. A zoning scheme (section [P]5) has been developed to indicate where the objectives for presentation will be emphasised relative to the objectives for protection and conservation.

The primary objectives of protection, conservation and rehabilitation are to :

#### P4.1/1 Protect the natural diversity of the WHA and maintain and restore its natural ecological processes and systems

Protection of natural diversity and maintenance of natural ecological processes may be achieved by directing use into specific areas that either are already disturbed or are most resilient. Up to a certain point, dispersal of use may be effective in minimising disturbance. Good design and sensitive siting of developments may reduce disturbance as can information and education programs for users. However, in general the maintenance of ecological processes is best achieved by minimising human interference with the area.

#### P4.1/2 Maintain and enhance wilderness quality

Acceptance of the need to maintain and enhance wilderness quality as a fundamental concept in WHA management means that developments that enhance wilderness quality will be preferred.

The most effective means of enhancing wilderness quality is to remove redundant structures and close and rehabilitate vehicle tracks that are highly visible and/or penetrate into otherwise remote, natural country.

#### P4.1/4 Maintain and enhance scenic and environmental quality

Maintenance and enhancement of scenic quality within the WHA principally requires that developments are minimised, those that occur are subordinate to and complement the surrounding natural features and existing structures or scars that mar the scenery are removed or muted.

- P4.1/5 Protect and conserve cultural heritage**
- P4.1/6 Develop, through research, a better understanding of natural and cultural values, processes and impacts**
- P4.1/7 Promote community awareness, acceptance, understanding and appreciation of the concept of World Heritage and the values of the Tasmanian WHA**
- P4.1/8 Assist visitor appreciation and enjoyment by developing and promoting an appropriate range of opportunities and facilities for public recreation and tourism both in and adjacent to the WHA**  
Opportunities will be provided to ensure that all visitors are able to experience and appreciate the WHA commensurate with their interests and capabilities.
- P4.1/9 Enrich the experiences of visitors through education and interpretation**
- P4.1/10 Develop public understanding of the principles and value of conservation**
- P4.1/11 Improve the basis for management through a better understanding of visitor use, expectations, satisfaction and community attitudes**
- P4.1/12 Minimise the adverse impacts on values and recreation of management programs, permitted uses, activities, facilities and developments**
- P4.1/13 Minimise, or contain within acceptable levels, hazards to human life and property**
- P4.1/14 Ensure that policies, actions and practices achieve management objectives and are cost-effective**

**Specific objectives and policies**

More specific objectives and policies are listed in later sections of the *Management Plan*. Of these the following are of direct relevance to the *Strategy*. The prefix P indicates the section number in the *Management Plan*.

**P5 Zoning**

With existing levels of knowledge the most effective means of conserving natural values and processes is to maintain the majority of the area free from development and to manage with great care selected areas where developments or activities are appropriate.

**P5.1 Wilderness Zone**

**P5.1.1 Wilderness Zone objectives**

- To allow natural processes to operate with minimal interference.
- To retain a challenging unmodified natural setting that suitably experienced and equipped people can visit for wilderness recreation and scientific purposes.

**P5.1.2 Wilderness Zone policies**

- The area will be open to recreation but no facilities or tracks will be provided.
- Management inputs will be minimal and carried out for resource protection purposes only.

- Existing structures and developments will be progressively assessed and allowed to decay or be removed unless they are of sufficient scientific or management importance to outweigh any impact on wilderness values. Cultural heritage sites will be conserved in accordance with their cultural values. Removal or allowing decay may not be appropriate for culturally significant structures, therefore special measures may be required to conserve some sites. These may be undertaken provided that they do not significantly affect natural ecological process.
- Mechanised access will be limited to management purposes, and then only where there are no feasible alternatives.
- In order to encourage use of the many upgraded or stable tracks in the Recreation Zone and to minimise environmental degradation, the Service will not publicise walking destinations and routes within the Wilderness Zone and will encourage authors and editors to adopt a similar policy.
- To maintain environmental quality, to avoid the unplanned formation of walking routes and tracks, and to preserve the sense of isolation that is sought by most visitors to these areas, access may be controlled or managed in keeping with the walking track management strategy for the WHA and after consultation with users.
- At the discretion of the Director professional guides may be permitted to operate in accordance with appropriate conditions in this zone.

## **P5.2 Self Reliant Recreation Zone**

### **P5.2.1 Self Reliant Recreation Zone objectives**

- To retain a challenging and relatively unmodified natural setting that suitably experienced and equipped people can use for appropriate recreation purposes.

### **P5.2.2 Self Reliant Recreation Zone policies**

- The area will be open to recreation but any facilities provided will be for environmental protection.
- Existing structures and developments will be progressively assessed and allowed to decay or be removed unless they are of sufficient scientific or management importance to outweigh any impact on wilderness values. Accommodation huts on the Central Plateau may be retained if of recreation value and acceptable environmental impact. Cultural heritage sites will be conserved in accordance with their cultural values and special measures may be required to conserve some sites. These may be undertaken provided they do not significantly affect natural ecological processes.
- In order to minimise or repair environmental degradation and/or to retain a sense of solitude, access may be controlled or managed in keeping with the walking track management strategy for the WHA and after consultation with users.
- Track work will aim to prevent erosion while being as unobtrusive as possible and maintaining a challenging walking experience. In general signposts and track markers will be minimised.
- Mechanised access will be limited to management purposes, and then only where there are no feasible alternatives.
- In order to encourage use of the many upgraded or stable tracks in the Recreation Zone, to minimise irreversible environmental damage and maintain recreation opportunities, walking routes in these areas will not be promoted by the Service and authors and editors will be encouraged to adopt a similar policy.

- At the discretion of the Director professional guides may be permitted to operate in accordance with appropriate conditions in this zone (section 8.3).

### **P5.3 Recreation Zone**

#### **P5.3.1 Recreation Zone objectives**

- **To enable relatively high levels of active day and overnight recreation.**
  - To provide a range of recreational experiences for visitors.
  - To improve access for less experienced people and enable them to gain a rewarding experience of the WHA environment.

#### **P5.3.2 Recreation Zone policies**

- **A substantial management effort will be made to repair and upgrade walking tracks and associated toilets, huts and campsites. Tracks will be managed to various standards in terms of track length, surface, grade and level of associated facilities in accordance with the walking track management strategy for the WHA.**
  - Once upgraded, the use of particular tracks and associated facilities in this zone will be promoted. Authors and editors will be encouraged to publish information on particular tracks in this zone where increasing use is not expected to have any major adverse effect.
  - Adventure tours will be principally conducted in this zone.
  - Information and interpretation materials will be produced principally in the form of printed materials with on-site information limited to directional signs along tracks indicating destinations, display boards in huts and information booths or signs at track heads.

### **P5.4 Visitor Services Zone/Site**

#### **P5.4.2 Visitor Services Zone/Site policies**

- Visitor Services Zones and Sites, while catering for a wide range of visitors, will provide principally for the needs, interests and abilities of less experienced and less active visitors.
- Site plans for Visitor Services Zones and major Visitor Services Sites will be prepared prior to commencement of any new development or upgrading of facilities.

#### **P6.1.1 General policies for management of natural and cultural values**

- Public awareness, understanding and appreciation of values and processes will be promoted and assisted by information, interpretation and education programs.
- Editors and map producers will be encouraged to avoid publication of the locations of sensitive features such as wild caves, archaeological sites and locations of rare plants in order to protect the resource from deliberate or unintentional damage. Service publications will exercise care in this regard.

#### **P6.5.1 Objectives for management of landscape**

- To minimise the visual intrusiveness of new structures and developments in the WHA.
- To ensure the visual character of all facilities complements the site setting and recreational opportunity.

#### **P6.6.2 Policies for management of wilderness**

- The majority of the area will be designated a Wilderness Zone and managed as wilderness (even though parts of it may not meet strict

remoteness or viewfield criteria) where there will be no development and where existing contemporary intrusions will be progressively removed or allowed to decay if not of significant scientific or management value. Removal of structures and rehabilitation of disturbance may only be undertaken after assessment of cultural significance demonstrates that such actions are warranted. Rehabilitation may be achieved by allowing areas to return to a natural condition of their own accord, or rehabilitated by earthworks and revegetation. Special measures may be taken to conserve cultural heritage sites.

- Except for basic walking tracks and huts, visitor facilities will be provided on the periphery of the WHA where there is easy access for the majority of visitors.
- Wilderness quality will be enhanced by closure of vehicle tracks where these impact on viewfields from wilderness destinations, significantly reduce the remoteness of areas or where they degrade or pose a risk to natural or cultural values and are not required for management.
- Unplanned development of walking tracks and routes will be controlled.

#### **P6.8.2 Fire management policies**

- In consultation with users, sensitive areas of the WHA will be designated “fuel stove only areas” within five years of plan approval. These areas include alpine and rainforest areas and those with peat soils. Public awareness of the dangers and impacts of open fires will be promoted and compliance with restrictions on fire use encouraged.
- Within the Central Plateau Conservation Area:
  - fire restrictions will be applied when appropriate;
  - campfires are to be lit in existing fire sites only and
  - in consultation with users “fuel stove only area” status will be introduced within 5 years of plan approval.

#### **P6.11.2 Scientific research and monitoring policies**

- Highest priority for data collection will be given to research and monitoring programs aimed at improving management practices for natural and cultural resource conservation and resolving important management problems, followed by monitoring of environmental change, surveys of benchmark areas and then general surveys.

#### **P7.1.1 Objectives for management of recreation opportunities**

- To maintain or provide opportunities for a range of appropriate recreation activities consistent with the primary management objectives of protecting natural and cultural values and in accordance with the zoning scheme.
- To safeguard opportunities for challenging self-reliant recreation.
- To maximise the quality of the recreation experiences of visitors to the area through the provision of suitable facilities and services and, where necessary, the management of visitor numbers and behaviour.
- To promote safe and minimal impact recreation practices.

#### **P7.1.2 Policies for management of recreation opportunities**

- The location of recreational activities will be planned so as to minimise environmental damage and conflict between participants in different activities.
- Visitor numbers and behaviour may be regulated and/or site protection measures taken where natural or cultural values are threatened or in order to retain a range of recreation opportunities.
- Recreational use may be redirected, if desirable, through appropriate marketing and management.

- Realistic visitor expectations will be fostered by informing potential visitors of the recreation opportunities and experiences available in the area.

**P7.4.2 Policies for management of vehicle tracks and recreational driving**

- Retain vehicle tracks which do not unduly compromise wilderness recreation values, promote the spread of Phytophthora, cause unacceptable environmental damage, or which are required for management purposes. Close and rehabilitate other tracks.

**P7.6 Walking tracks and walking**

Walking tracks can be classified according to the degree of challenge a track presents to an average user’s physical ability and skill. The Service has adopted three general track classes:

**WALK - easy**

Relatively short and well formed. A path requiring limited skill and experience. Constructed to ‘shoe’ standard and suitable for people of all ages and fitness levels in all but the worst weather conditions.

**TRACK - moderate**

A path requiring some skill and experience. Constructed to ‘boot’ standard where users can expect to encounter sections of ankle deep mud. For people of average fitness. Dependent on weather conditions.

**ROUTE - difficult**

A lightly marked track or unmarked route requiring a high degree of skill and experience. The only constructions are for environmental protection purposes. Often very dependent on weather conditions.

**P7.6.1 Objectives for management of walking tracks and walking**

- To improve walking opportunities for less active visitors.
- To endeavour to prevent the unplanned evolution of new routes and growth of tracks from existing routes.

**P7.6.2 Policies for management of walking tracks and walking**

- The following track standards are considered appropriate to each management zone:
  - Visitor Services Zone Walk, Track, Route
  - Visitor Services Site Walk, Track, Route
  - Recreation Zone Track, Route
  - Self-Reliant Recreation Zone Track, Route
  - Wilderness Zone Route (unmarked)
- Minimal impact, safe walking practices will be promoted.
- Promote maximum party sizes for overnight parties of 13 in the Recreation Zone and, depending on the track classification, between 4-8 in the Self-Reliant and Wilderness Zones.
- Sections of track may be re-routed as necessary. Resulting sections of track no longer in use will be closed, assessed for their cultural value and rehabilitated as necessary, in accordance with a conservation plan (if appropriate) and use discouraged.
- Additional day-use ‘walk’ or ‘track’ standard tracks may be constructed in the Visitor Services or Recreation Zones and possibly short strategic lengths of track’ standard tracks outside day use areas in the Recreation Zone. Additional walking tracks will be limited to those constructed or approved by the Service.

- The Central Plateau Conservation Area will be managed as an essentially trackless area, walkers being encouraged to spread out and find their own path over the gentle terrain. Special walking aids such as cairns and small bridges may be provided if warranted for environmental protection.
- The cutting or marking of new tracks without approval is illegal and in the future any such tracks will be closed.
- Walking track plans are to be prepared for all major tracks and routes detailing methods to be used, based on the Service's manual of techniques for track construction. New construction techniques are to be evaluated with field trials and user surveys prior to inclusion in the manual.
- As a general principle, preference is to be given to methods of track construction which best protect and blend with the natural environment.
- In order to maintain environmental quality, to prevent the formation of inappropriate tracks and routes and to preserve a sense of solitude, access may be controlled or managed on particular walking tracks, routes and in some areas of the Wilderness and Self-Reliant Recreation Zones. If necessary for environmental protection or rehabilitation and after consultation with users, some areas may be temporarily closed.
- In the event of number limits and a permit system being introduced, professional guides will be restricted to a proportion of the quota to ensure fair access for private parties.

**P7.8.1 Policies for management of camping**

- Toilets will be provided at all major campsites along popular walking tracks.

**P7.9.2 Policies for management of accommodation**

- Consistent with conservation of cultural resources and environmental protection, huts and shelters required for recreational purposes along the Overland and Frenchmans Cap Tracks, in the Central Plateau and Macquarie Harbour areas and in Visitor Services Zones and Sites will be retained for public accommodation.
- Culturally significant huts will be managed to conserve their cultural values and may be used for public accommodation if in accordance with the provisions of a conservation plan.
- Walkers' huts on the Overland and Frenchmans Cap Tracks will be upgraded and, as necessary, replaced.
- Those huts or shelters to be retained may be replaced should they be accidentally destroyed.
- The existing number of public huts is considered adequate for the five year period following plan approval and therefore additional walker huts or shelters are not proposed.
- The Southwest National Park will continue to be managed for its natural camping opportunities and will remain free of further huts.

**P7.10.2 Policies for information, interpretation and education**

- The publication of information (eg in books, magazines and maps) which is likely to create unacceptable environmental or social impacts will be discouraged. In order that visitors' expectations may be met and irreversible damage to sensitive areas avoided, authors and editors will be encouraged to publish information on areas that are readily accessible and more able to withstand pressures of visitor use.
- Educational material will be produced for participants in a range of recreational activities aimed at encouraging safe and minimal impact practices.

### P7.21.2 Signs policies

- The use of signs in remote areas will be minimised.
- The appropriateness of various sign types in each management zone is generally as follows:

	Management	Interpretative	Directional
WZ	Yes*	No	No
SRRZ	Yes**	No	No
RZ	Yes	Yes†	Yes
VSZ	Yes	Yes	Yes

\* Strictly for vital management and environmental purposes only. Unobtrusive.

\*\* Signs to be kept to a minimum. Generally for important management and environmental protection purposes only. Unobtrusive.

† Only in highly serviced areas eg Overland Track and only where other facilities are provided (eg interpretative boards in huts). Not in relatively natural areas eg South Coast Track. Monochrome only.

[Note: The *Departmental Signs Manual* (Department of Parks, Wildlife & Heritage 1991d) includes the additional specification that signs in Self Reliant Recreation Zones are to be of unpainted routed timber only, while signs in Recreation Zones are to be of routed timber but may be painted with standard “cream” lettering against an “ironbark” background.]

### P7.22.1 Recreation research and monitoring objectives

- To detect, evaluate and, as necessary, respond to changes in recreation demand.
- To determine the environmental and social impacts of recreational activities and facilities.

### P7.22.2 Recreation research and monitoring policies

- Visitor numbers from each reserve centre and visitor information collected from walker registration booths, permits and other sources will be collected, analysed and stored in a central databank for use in recreation planning and monitoring.
- Visitor surveys will be encouraged and conducted as necessary to gain information on visitor activities, attitudes, expectations and satisfaction and to monitor the changing requirements of current and emerging visitor groups in order to improve management for recreation.
- Research and monitoring of recreation activities and facilities will be initiated and undertaken as required and the results taken into account in management programs.

### P8.1.1 Response to State Tourism Strategy recommendations

- The Service will evaluate the recommendations of the *Tasmanian Walkways Feasibility Study* undertaken by the Tasmanian Conservation Trust in the context of the WHA track management strategy and policies for walking tracks.

### P8.3.2 Policies for management of guided tour operators

- Professional guides may conduct tours throughout all zones in the WHA. Applications from professional guides for approval to conduct tours in the Wilderness Zone will only be considered on a once-off trip basis. Approval to operate in Self-Reliant Recreation or Wilderness Zones would be dependent on the demonstrated ability of the operator and would be

subject to appropriate conditions. Controlled tour operations in these zones will provide additional recreational opportunities consistent with environmental protection.

- For environmental protection and safety reasons the maximum party size for overnight guided tours in the Recreation Zone will be 13, with a maximum of 10 clients and at least one guide per five clients. Elsewhere the maximum party size permitted would be consistent with the track classification, with a minimum of two guides per party.
- The existing commercial huts on the Overland Track may continue to be operated.
- The need for further concessionaire operated walkers huts in suitable Visitor Services Zones and Sites will be kept under review. These will only be considered following adequate public review and if in keeping with the WHA management plan and the site plan for the area. There are many possibilities elsewhere in the State, as well as nearby and partially within the WHA. These will all be considered jointly with other government agencies in the context of visitor expectations and opportunities to complement rather than duplicate the existing Overland Track huts operation and to extend the season of operation. Because it is proposed that the Southwest National Park is to be retained as an area providing natural camping opportunities, commercial huts would not be appropriate in the Park and therefore would not be considered.

#### **P14.9.1 Objectives for use of natural materials for reserve management**

- To provide facilities for visitors that match or complement the environment.
- To use materials whose production can be sustained and is in keeping with good land management practice.

#### **P14.9.2 Policies for use of natural materials for reserve management**

- Subject to prior assessment of the significance of features, small scale use of botanical and geomorphological resources from within the WHA may occur for approved management purposes. Species from within the WHA defined by Kirkpatrick and Gilfedder (1988)\* as endangered, vulnerable or rare may not be used. Dead King Billy pine, pencil pine or Huon pine may be used if the roots are left in situ for site stabilisation.

\*Kirkpatrick, J.B.P. and Gilfedder, L. 1987. *The Botanical Status of the Lemnathyme and Southern Forests*. Unpublished report to Lemnathyme and Southern Forests Commission of Inquiry.

- The use of rare timber species (obtained from outside the WHA) for reserve management will be restricted to situations where there are no suitable alternatives (eg use of King Billy shakes in restoration of an historic hut).

##### **Management of adjacent areas**

The following general principles will be adopted by the Service in relation to areas peripheral to the WHA.

- The Service will liaise with relevant agencies in the planning, upgrading and maintenance of walking tracks in adjacent areas that provide access to the WHA.

## 6.2 Management actions

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The following management actions proposed in the *WHA Management Plan* (Department of Parks, Wildlife & Heritage 1992) are relevant to the *Strategy*.

As in section 6.1, section numbers in the *Management Plan* are indicated using the prefix P.

### **P6.6.3 Actions for management of wilderness**

- Rehabilitate disturbed areas and allow closed vehicular tracks to revegetate.
- Remove from Wilderness or Self-Reliant Recreation Zones all structures except for those of special cultural significance or demonstrated scientific or management value where removal can be achieved without further disturbing wilderness qualities.
- Monitor the impacts on wilderness quality of recreational uses and regulate as necessary to maintain wilderness quality and the experience of users.

### **P6.7.6 Actions for management of historic heritage**

- Prepare and implement conservation plans for Pillinger and the Kelly Basin Track, Du Cane, Old Pelion, Dixons Kingdom and Lake Nameless huts, Dunks Camp, Sarah Island, Adamsfield, Gordonvale, Davey River pinning sites at Port Davey, Oakleigh Creek and other sites as necessary.

### **P6.11.3 Scientific research and monitoring actions**

- Undertake research into the environmental impacts of human activities including walking, camping, horse-riding, caving, fishing, hunting, four-wheel driving and climbing and of developments such as walking tracks, huts, toilets, campsites, roads etc.

### **P7.2.3 Actions for management of visitor facilities**

- Prepare and implement site plans for the Visitor Services Zones.

### **P7.4.3 Actions for management of vehicle tracks and recreational driving**

- Close the Raglan Range track and rehabilitate as necessary.
- Retain the existing vehicle track to Pillans and Julian Lakes on the Central Plateau to four wheel drive high clearance vehicle standard to enable vehicle access for anglers to Lake Field and Pillans Lake. Introduce an access permit system. Undertake works to minimise environmental damage. Close the track when necessary to avoid environmental damage.
- Keep under review the condition and need for the vehicle track to Christies Creek from Ada Lagoon, taking into account the environmental sensitivity of the area and the need to disperse angling pressure. Allow use only in the driest months.
- Retain, but gate, the track to the lower slopes of Mt King William I, for management only (access to the fire tower).

### **P7.6.3 Actions for management of walking tracks and walking**

- Prepare and implement a walking track management strategy for the entire WHA to include an inventory of the condition of the main walking tracks and routes, an assessment of use levels, trends in use, projected changes in track condition and appropriate management responses.
- Implement the track management strategy according to priorities identified. This will involve an array of measures including an expanded information and education program, a track classification system specifying impact limits for tracks, routes and campsites, further track repair, re-routing, quotas on walker numbers or other controls on use of some areas and a comprehensive monitoring program.

- Review existing track management plans in the light of the track management strategy. Revise as necessary and expand to cover campsites.
- Prepare track management plans for all remaining popular walking tracks and as identified by the track management strategy.
- Maintain walking tracks to appropriate standards in accordance with management zoning, the track classification system, the Service's track manual, track management plans and a conservation plan in the case of historic routes.
- Continue to develop and distribute Minimal Impact Bushwalking educational material and provide the track ranger program on popular tracks.
- Encourage authors and magazine editors to limit publication of descriptions of walking tracks and routes in the WHA to those that have been or are being repaired or those that are considered stable enough to withstand increasing numbers of walkers. This will direct walkers, in particular those new to the state, to appropriate tracks and routes and will assist in avoiding the rapid, potentially irreversible, degradation (and costly repair) of sensitive areas. Publication of the following tracks only is recommended:
  - Cradle Mtn and Cynthia Bay daywalks
  - Overland Track and sidetracks: Lake Will, Barn Bluff, Mt Pelion West, Mt Ossa, Mt Pelion East, Pine Valley, Mersey Falls, Lake Marion, Gould Plateau, Cuvier Valley Track
  - Forth Valley route
  - Pelion access routes
  - Plateau/Tiers: daywalks in the 3 Forest Reserves, Higgs Track, Parsons Track
  - Walls of Jerusalem - main route via Trappers Hut
  - Frenchmans Cap - main track
  - South Coast Track
  - Port Davey Track
  - Mt Anne summit
  - Huon and Arthur Plains Tracks
  - Franklin River (rafting, canoeing)
  - Adamsfield
  - Hartz Peak, Hartz Mtns daywalks
  - Adamsons Peak.
- Investigate the desirability and feasibility of a special Service guide to publicise the most appropriate tracks.
- In the Cradle Mountain—Lake St Clair National Park, repair the Overland Track and side tracks and at Lake St Clair and Cradle Valley-Pencil Pine rationalise and provide a range of day walk tracks in accordance with track management and site plans .
- In the Walls of Jerusalem National Park construct a track from Lake Salome to Dixons Kingdom.
- In the Franklin-Gordon Wild Rivers National Park:
  - review and implement the track management plan for the Frenchmans Cap Track;
  - in keeping with a conservation plan for Pillinger and in consultation with the local community, undertake minor repairs to the Kelly Basin railway formation as a 'track' standard walking track from the Bird River bridge to East Pillinger;

- construct a new nature trail on the south side of the highway at the Franklin River bridge;
- construct a short 'walk' standard track in the tall forest west of Wayatinah. Formalise the track to the Trident Tree. Investigate routes for longer 'track' standard walks to the Derwent River and Beech Creek.
- Investigate and, if appropriate, construct a new high standard 'track' to view surface karst features around Marakooopa Cave.
- Construct a short 'walk' standard track to view pencil pines and the block stream near Pine Lake on the Lake Highway.
- Liaise with the Forestry Commission regarding :
  - minor re-routing, upgrading and promotion of the Mt Wedge track as a relatively easy half day walk which provides magnificent views into the central parts of the WHA and
  - management of tracks in the Liffey and Meander Forest Reserves.
- In the Southwest National Park :
  - relocate the beginning of the Port Davey Track from Red Knoll Lookout to the Huon River camping area;
  - investigate options for short 'walk' standard tracks at Humboldt Divide to give views into the South West;
  - implement track plans for repair of the South Coast, Port Davey, Mt Anne and Lake Judd tracks.
- In the Hartz Mountains National Park :
  - complete upgrading of the Hartz Peak Track;
  - upgrade the short tracks to Waratah Lookout, Keoghs Pimple and Arve Falls to 'walk' standard. The Keoghs Pimple walk and lookout has much potential as a very short and easy walk giving views to the east over Esperance, over the Hartz Plateau and Mountains and beyond to some of the major WHA peaks such as Frenchmans Cap.
  - rationalise existing tracks to Lakes Perry and Osborne and upgrade to provide a 'walk' standard loop, possibly incorporating a new 'walk' standard track to a vantage point on the Devils Backbone to provide a WHA 'grandstand' with views to Precipitous Bluff and Federation Peak.
- Design and establish a system to monitor track and campsite conditions and use levels.
- Investigate the impact of track construction material on the environment.

#### **P7.8.2 Actions for management of camping**

- Construct toilets at all major campsites along the Overland, Frenchmans Cap, South Coast and Port Davey Tracks and to serve the Walls of Jerusalem area.
- Investigate and as necessary implement appropriate methods for hardening popular campsites in the Recreation Zone.
- Establish an inventory of campsite conditions along popular walking tracks, at popular fishing and horse-riding destinations and along the Franklin River. Regularly monitor the condition of campsites.
- Establish limits of acceptable environmental and social change for remote area campsites based on management zoning and track classification.
- Identify areas for camping outside the main chamber at the Walls of Jerusalem and subsequently prohibit camping in the main chamber. This action is necessary to prevent further degradation of this sensitive area and to assist natural rehabilitation of already disturbed areas.

### **P7.9.3 Actions for management of accommodation**

- Assess all existing huts and shelters with regard to:
  - the cultural significance of the structures and their immediate surrounds;
  - recreational significance;
  - environmental impact; and
  - retain, maintain or remove huts and shelters depending on the assessment and following public consultation.

### **P7.10.3 Actions for information, interpretation and education**

- Develop or upgrade nature walks at:
  - Pine Lake
  - Franklin River bridge.
  - Marakoopa Cave (karst interpretation).
- Interpret the tall forest values of the WHA by :
  - developing interpretative walks in the forests west of the Derwent River near Wayatinah.

### **7.21.3 Signs actions**

- Construct or replace signs so as to conform with the Service Signs Manual, the appropriate zoning criteria and/or the track classification.

### **P7.22.3 Recreation research and monitoring actions**

- Collect, process and store monthly visitor data (including daily figures) for each WHA reserve centre including information relating to participation in particular recreation activities and at specific localities.
- Design, conduct and analyse regular visitor surveys in Visitor Services Zones and Sites, along major walking tracks and routes and, as necessary, associated with other forms of recreation.
- Expand the walker registration system to all major tracks and caves.

## **Management of adjacent areas**

### **P2 Melaleuca - Cox Bight**

Subject to the availability of resources the Service will:

- retain Melaleuca airstrip at the present standard;
- upgrade the South Coast Track between Melaleuca and Cox Bight according to the track management plan.

## 7.1 Overview

An overview of the track-management strategies employed in the WHA to date is included in section 1.1.4.

## 7.2 Track stabilisation techniques

As stated in 1.1.4 the track hardening techniques employed in the WHA to date have been primarily those described in the Service's *Walking Track Management Manual* (Blamey 1987). Techniques developed since the publication of the *Manual* have also been trialled in some areas - for example the installation of parallel boards surfaced with tar and gravel, and the use of recycled plastic for cording and steps.

### 7.2.1 Types of technique and costings

The principle track stabilisation techniques used in the WHA to date, together with approximate 1991 costings, are listed in the following table. The costings include materials and labour but exclude the cost of transport:

Type of stabilisation	Rate	Cost (\$)
Cordwood	Per metre	25
Duckboard	Per metre	40
Boardwalk (parallel boards)	Per metre	25
"Licorice stick" boardwalk	Per metre	30
Gravel/geotextile	Per metre	10-15*
Benching	Per metre	15-30†
Turnpiking/top drains	Per metre	15
Steps / crossboards	Each	12
Water bars	Each	15
Cross-drains (incl facing)	Each	17-22§
Wooden stairs (prefab)	Per metre	25

\* Depending on track width

† Depending on terrain, geology etc.

§ \$17 for treated pine facing, \$22 for cordwood.

#### Notes

- Costs of benching and turnpiking assume that the work is done by manual labour. If machinery is used these costs could be substantially reduced.
- Costs for duckboard, boardwalk and other constructions currently made of treated pine do not include the cost of removing the timber at the end of its useful life.
- Transport costs vary widely depending on location but typically add an additional 50% to the combined costs of materials and labour for construction techniques requiring the use of imported materials.

### **7.2.2 Durability**

In general, exposed sawn untreated hardwood (eg used as duckboard decking) lasts about 10-12 years in the Western Tasmanian environment and CCA treated pine lasts 25-30 years.

Under suitable conditions, particularly if it is laid in permanently wet acidic soils (which are common in Western Tasmanian moorland environments), hardwood cordwood can last more than 30 years. There are indications that CCA pine may last up to forty years if correctly constructed and maintained.

Benched and gravelled tracks can last indefinitely if properly maintained. However gravel surfacing must be at least 700mm wide and capped with fine gravel if it is to be stable.

### **7.2.3 Maintenance**

In order to maximise durability all trackwork surfaces must be regularly maintained, particularly during the first few years after their construction.

Steps and gravel surfaces must be recapped each year for three years after construction to counter the effects of settling which may result in poor surface drainage. Boardwalk must be checked annually for the first two years to ensure that posts and bolts are not wearing loose. Duckboard must be thoroughly checked every five years.

Recent experience suggests that annual maintenance costs average about \$1 per metre per year on major tracks in the WHA, although this figure must be regarded as tentative.

### **7.2.4 Campsite stabilisation techniques**

No campsite stabilisation has yet been attempted in wilderness areas within the WHA, but the Service is currently developing treated-pine tent platforms for trial in some areas.

Campsites on the Kepler Track in New Zealand have been stabilised with finely crushed rock, a technique which may be effective in some parts of the WHA.

### **7.2.5 Use of machinery**

Small machinery has been used for track construction and maintenance in the following situations:

- Portable machines such as chainsaws, scrub cutters and “turfing” winches are used routinely by Service trackworkers.
- Powered rock drills have been used in some locations to provide a foundation for steel rods as a support for bridges, crossboards and other constructions.
- Motorised wheelbarrows and gelignite have been used in the construction and maintenance of some high-grade walks, eg the Ski-field Bypass Track in the Mt Field National Park.
- Larger machines such as mini-excavators have also been used in some relatively accessible locations, for example on the Lake Judd Track and on the Scotts Peak end of the Port Davey Track. However no data is yet available on the economic benefits of using such machinery in the Western Tasmanian environment.

For information on the use of machinery for track construction in Fiordland National Park see 7.7.

## 7.3 Rerouting

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As stated in 1.1.4 some sections of major tracks in the WHA have been rerouted during the past few years as part of the Service's ongoing track stabilisation program. Tracks have usually been rerouted primarily for environmental and economic reasons, but user enjoyment has also been a factor in the decision to relocate some sections - eg the Prion Beach to Turua Beach (via Menzies Bluff) section of the South Coast Track.

Recent examples of major track relocation in the WHA, plus relevant comments, are as follows:

### 7.3.1 Menzies Bluff (South Coast Track)

- Rerouted primarily for environmental and economic reasons but with recreational values in mind - the old track traversed an extended section of tea-tree swamp.
- Track length slightly increased.
- New track follows a more scenic route.
- User comfort substantially improved.

### 7.3.2 Spica Hills (South Coast Track)

- Rerouted primarily for environmental reasons but with recreational values in mind - the old track traversed an extensive swamp.
- New track benched onto the slopes of Spica Hills and follows relatively dry ground at the western end of the Louisa Plains traverse.
- Some of the benched section had to be corded due to the presence of deep peats.
- User comfort substantially improved.

### 7.3.3 New Harbour Range (South Coast Track)

- Rerouted primarily for environmental and economic reasons but with recreational values in mind - old track traversed marshy plains, track relocated onto hillside bordering valley.
- New track follows a more scenic route.
- Much of new section benched in quartzite gravels.
- User comfort substantially improved.
- Additional work needed (as at October 1993) to improve stability and drainage of new track.

### 7.3.4 Blowhole Valley (South Coast Track)

- Rerouted primarily for environmental and economic reasons but with recreational values in mind - old track traversed poorly drained country including one very wet swamp.
- New track relocated onto relatively dry ground in forest section. Much of plains section stabilised using boardwalk or duckboard.
- User comfort and views substantially improved.
- New track has substantially increased ease of access to South Cape Bay, and has led to a rapid (and expected) increase in usage by day-walkers.

### 7.3.5 Eastern access to Federation Peak

- Track realigned outside the boundaries of Wargata Mina (formerly Judds Cavern) Aboriginal Protected Site at the request of the management committee for the site. As well as avoiding the protected area the realignment has substantially reduced ease of access (and consequently visitation) to the cavern.
- All route options outside the protected area boundaries involved extensive traverses of poorly drained terrain and highly erodible soils.
- For political reasons a new route had to be surveyed and cut in relatively short time.

- No attempt was made to upgrade the track, only to relocate it at approximately the same standard. The option of hardening the new section was ruled out, at least until management plans for the Eastern Arthurs traverse had been finalised.
- Much of the new section will be subject to mud formation, and some sections adjacent to the Cracroft River are subject to flooding (as were parts of the original track). However the new track has been sited so as to minimise gradients and avoid the fall-line as far as possible, thereby minimising erosion.

### 7.3.6 Lake Judd Track (Anne Range)

- Section rerouted on side of lower northwestern slopes of Schnells Ridge.
- Rerouted primarily for environmental and economic reasons - old track poorly drained.
- Much of rerouted section benched on quartzite gravels using a mini-excavator.

### 7.3.7 Pine Forest Moor (Overland Track)

- Track rerouted through section of forest to avoid longer circuit via moorland.
- Track stability substantially improved but new track follows fall-line in places and further rerouting may be desirable in the medium to long term.

For a discussion of some of the traditional objections to rerouting see 8.3.2.

All of the major reroutes listed above were the outcome of intensive surveys using both aerial photographs and ground studies, and all of them have so far proven largely successful in terms of both durability and user response. The only exception is the Wargata Mina reroute, which has been criticised by some users for being prone to quagmire formation and flooding. However as stated above the track relocation undertaken in this case was not intended to improve user comfort or ease of access.

Examples of track sections which are poorly sited but which the Service has chosen to stabilise in preference to rerouting include the Ironbound Range traverse on the South Coast Track and the Mt Eliza track. In such cases rerouting has usually been judged to be impractical.

## 7.4 MIB campaign

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Since early 1986 the Parks & Wildlife Service has conducted a “Minimal Impact Bushwalking” campaign to encourage wilderness users to modify certain aspects of their behaviour while pursuing recreational activities in the WHA.

Key messages of the campaign have included:

- Carry and use fuel stoves in preference to lighting campfires;
- Walk in small parties;
- Use a toilet if available, otherwise bury faecal wastes a suitable distance from campsites and water supplies;
- Carry out all rubbish;
- Wash away from creeks and lakes and don’t use soap;
- Don’t cut standing vegetation, build cairns or blaze trees.

The campaign has been propagated through numerous media including:

- Cartoon poster (in walkers’ huts, registration booths etc);

- Pamphlet;
- School kit;
- Articles in walkers' magazines;
- Photographic poster.

Recent walker surveys indicate that more than 90% of walkers on major tracks in the WHA are aware of the Service's MIB campaign. Some publications have been much more effective than others - for example in the 1990/91 wilderness walker survey 42% of walkers said they had seen the MIB pamphlet whereas only 5% had encountered the photographic poster.

Walker surveys and the observations of ranger staff suggest that the MIB campaign has generally been highly successful in terms of its impact on user behaviour. In particular, walker attitudes towards the use of campfires have changed dramatically during the last few years: for example in 1991/92 96% of walkers surveyed in the WHA carried fuel stoves and fewer than 5% favoured no restrictions on campfires. However more than half the walkers surveyed in lowland Southwest areas where campfires are still permitted reported lighting at least one campfire during their trip.

For further information on user behaviour and attitudes see appendix C3.2.

## 7.5 Regulations

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Under the *National Parks and Wildlife Act 1970* the Director of the Parks and Wildlife Service is required to prepare management plans for reserved lands. Staff of the Service are required to enforce the regulations of the Act and the provisions of management plans once these plans have been approved by the Minister. The Service has powers under the act to restrict access to national parks (or parts thereof) as it deems necessary, and to restrict the use or possession in designated areas of items such as firearms or axes and saws. Existing regulations include a ban on firearms and pets in national parks, the prohibition of hunting in most parts of the WHA and the prohibition of campfires in designated alpine areas.

Regulations can be effective even in situations where they are difficult to police. For example vehicular access has been progressively restricted throughout much of the Western Lakes region of the Central Plateau during the past ten years; the knowledge that vehicular access is prohibited combined with the chance of prosecution is sufficient to ensure the compliance of most visitors.

Note: Special legislation may be required to facilitate the introduction of a permit system which can be used to restrict access where necessary.

## 7.6 Monitoring

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### 7.6.1 Track conditions

Prior to 1992 no systematic and broadscale program of track monitoring had been conducted in the WHA. Calais (1981) measured track impacts at spaced transects on major tracks in the Cradle Mountain - Lake St Clair National Park, but because Calais's measurements were once-off they did not indicate trends in track conditions. Trends could be recorded if measurements were repeated at exactly the same sites, but this is unlikely to be possible because measurement points were not permanently marked.

Sawyer carried out repeat measurements at several transect sites on the Mt Anne Track and recorded a rapid increase in depth of 4cm at sites on the Eliza Plateau. He also used aerial photographs to detect new track developments such as track duplications (see B3.4.4).

In the period 1990-92 transect-type monitoring sites were established in several locations in the WHA including the Southern Ranges traverse, the Southwest Cape

area and on the Mt Rufus Track, and some of these sites have subsequently been re-measured.

On the basis of the recommendations of the *Draft Walking Track Management Strategy* and the *WHA Management Plan (P7.22.2)* a comprehensive monitoring program is now being undertaken to provide data on track conditions throughout the WHA. This monitoring program is briefly described in 3.4; more detailed information is available on request from the Parks & Wildlife Service.

### **7.6.2 Social impacts**

For information on the monitoring of usage levels in the WHA see C1.

No systematic monitoring of social impacts has yet been undertaken in the WHA, although recent surveys by the Parks & Wildlife Service have canvassed the responses of walkers on major tracks to the levels of social impact which they have encountered in the WHA (see C3.2 and 4.2).

### **7.6.3 Campsites**

During the past five years the Service has developed a monitoring database for campsites on major tracks throughout the WHA. The information compiled includes basic environmental data plus information on campsite area, number of tent-sites, social tracks, fire sites, litter and various other impacts.

A large number of sites have been mapped to date, although with varying accuracy, and photo-sweeps have been taken at the majority of sites.

The relevant information is generally recorded and updated by ranger staff, and the data stored in a centralised *Filemaker™* database on Macintosh computers.

### **7.6.4 Photo monitoring of tracks**

Photographic monitoring of track conditions has been undertaken by some field centres, but no systematic program of photographic monitoring has been attempted to date.

Photographic monitoring is of limited value in providing information about track erosion (see appendix B3.4.4) but can be a useful means of recording qualitative changes in track conditions including loss of vegetation, track widening, braiding, rehabilitation and changes in track visibility.

## **7.7 Use of machinery on the Kepler Track (New Zealand)**

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The New Zealand Department of Conservation trialled the use of tracked motorised wheelbarrows and mini-excavators for the construction of the Kepler Track in Fiordland National Park during the period 1986-89. Parts of the track were also constructed without the use of such machinery, thus enabling a direct comparison to be made between the two methods of construction.

The wheelbarrows and excavators in question had a wheelbase of less than one metre and could be dismantled and transported by Squirrel helicopters. Portable rock drills and gelignite were also used extensively in the construction of the track.

The track was constructed to a standard corresponding to a high-grade T1 track, as defined in the track classification system described in section 10. Moreover much of the track was constructed on formerly trackless territory. Prior to construction the track was surveyed and track gradients were kept below 16° throughout. The terrain traversed varied from lowland forests to alpine moorland, scree-slopes and in one area, a huge recent landslip.

The track was surfaced mainly with rock or local gravel, gravel being obtained either from borrow-pits or as spoil from benching or drainage excavations. Motorised wheelbarrows were used to transport gravel where necessary. In some poorly drained areas duckboard was installed.

Trackwork teams using machinery usually consisted of two or three people with one person operating the mini-excavator and another tidying up behind it.

The following key findings were reported by Ross Kerr, who supervised the construction project:

- (i) Track construction costs were substantially lower when machinery was used. Costs using the mini-excavator averaged around \$(NZ) 12-14 per metre, and seldom exceeded \$20. This figure includes the cost of installing drainage, replanting displaced vegetation and tidying up, but excludes the cost of installed timber such as duckboard. By contrast the average cost for the same work using manual labour was around \$30 per metre and was up to \$60 per metre in places.
- (ii) Machinery tended to have less environmental impact than manual labour.
- (iii) Vegetation displaced and later replanted using machinery had a substantially higher survival rate than vegetation moved by manual labour. This was probably due to the fact that it was possible to move larger pieces of soil using machinery.
- (iv) Worker morale was higher in teams in which machinery was used, probably because the use of machinery avoided the need for back-breaking labour and enabled more ground to be covered in a day's work.

## **7.8 Access permits and usage restrictions in Australian national parks**

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Permits are required for access to many national parks in Australia including the Kosciusko National Park (where permits are required for vehicular access) and all national parks in Queensland.

An access permit system and usage restrictions have been in place in Victoria's Wilsons Promontory National Park for approximately six years. 50% of the permits are issued on a first-come-first-served basis and the rest by pre-booking. The system has generally been successful and user compliance has been high. The main problem has been that many walkers fail to hand in their permits on completion of their walk, making it difficult for management officers to know when parties are overdue.

A similar system is in place in Queensland national parks, where visitors are sometimes obliged to book six months in advance to gain access to popular areas.

A permit system was recently introduced for the Cradle Mountain - Lake St Clair National Park in the Tasmanian Wilderness WHA, initially without restrictions on usage levels.

## **7.9 Permit systems and fees**

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In 1992 fees were introduced for walkers on the Overland Track, initially costing \$10 per adult. Fees were introduced at the same time for rafters on the Franklin River.

In mid 1992 the Overland Track fee was extended to include a \$4 per night fee (up to a maximum of \$20) for all overnight walkers in the Cradle Mountain - Lake St Clair National Park. Walkers were required to apply for an entry pass and to register their intended itineraries, but no restrictions were imposed on usage levels.

In May 1993 an entry-fee system was introduced for all Tasmanian national parks. The fee for overnight walkers in the Cradle Mountain - Lake St Clair National Park has since been dropped, although walkers are still required to register their intended itineraries

## 8.1 Management issues

In view of the findings of the literature review (section 2 and appendix B), the WHA track inventory (section 3) and research into use trends and user attitudes in the WHA (section 4 and appendix C), the key management issues relating to walking tracks and recreational walking in the WHA can be identified as follows:

### 8.1.1 Deterioration of existing walking tracks and campsites

#### (i) Types of problems

Several types of track deterioration are occurring on a broad scale throughout the WHA, and in some cases can occur simultaneously on the same section of track. The main types of deterioration are:

- damage to and loss of vegetation on and adjacent to track surfaces;
- depletion of litter cover;
- the erosion of soils, subsoils and in some cases of bedrock;
- quagmire formation, frequently associated with track widening and braiding; and
- track widening and braiding on non-boggy tracks.

Common forms of campsite deterioration include:

- damage to and loss of vegetation on tent sites, “social tracks” (ie tracks used by campers in the immediate vicinity of campsites) and in areas subject to firewood collection;
- depletion of litter cover;
- the broadscale erosion of soils and subsoils;
- quagmire formation;
- campsite spread (ie enlargement of impacted area); and
- vegetation damage caused by firewood collection.

#### (ii) Causes of track and campsite deterioration

The extent and severity of track and campsite deterioration in the WHA can be attributed to a number of major factors:

- a dramatic increase in walker numbers in the area during the past two decades;
- poor siting - in particular a large proportion of tracks in the region are too steep, poorly drained or located in highly sensitive areas;
- the inherent fragility of the vegetation and soils of much of the Western Tasmanian environment;
- erosional damage caused by water flow, particularly on tracks; and
- high rainfall throughout the region, even during summer months.

#### (iii) Why track and campsite deterioration is a problem

The deterioration of tracks and campsites constitutes a problem because it contravenes several of the management objectives stated in the *WHA Management Plan* (P4.1). In particular:

- (a) It contravenes the aim of maintaining and enhancing wilderness quality because biophysical impacts degrade the naturalness of wild areas and naturalness is by definition an essential component of wilderness.

- (b) It contravenes the aim of maintaining and enhancing the scenic and environmental quality of the WHA because degraded tracks and campsites can be visually intrusive and recreational impacts may adversely affect natural systems.
- (c) It contravenes the aim of providing opportunities for visitor appreciation and enjoyment, because degraded tracks and campsites can be unpleasant to use and can detract from visitor enjoyment of natural and wilderness values.
- (d) The development and deterioration of tracks and campsites may be incompatible with zoning specifications (P5), particularly in self-reliant recreation zones and wilderness zones. For example the development of a visually intrusive track in a wilderness zone is incompatible with the aim of managing wilderness zones so as to “retain a challenging unmodified natural setting”.

It is important to emphasise that the damage caused by track and campsite deterioration is usually longterm, particularly in alpine areas, and may be irreversible and irreparable. Alpine areas subject to vegetation loss may take centuries to rehabilitate and once a track has become deeply eroded the resulting scar may last for thousands of years.

Generally speaking, once vegetation has been lost quagmire formation may be regarded as a less serious problem than erosion because the prospects for rehabilitation are better on sites where soils remain in situ, particularly at low altitudes. However quagmire formation may lead to track widening and hence to more extensive vegetation loss.

In addition, all the forms of track and campsite deterioration listed above may lead to recreational displacement which in turn may spread recreational impacts into previously trackless areas.

**(iv) Rate and extent of track and campsite deterioration**

As stated in 3.3.2 the problem of track deterioration is widespread in the WHA. Approximately 120km of tracks are already eroded to a depth of more than 25cm, and this figure is likely to increase to 200km within the next twenty years if no preventive action is taken. Seventy-five kilometres of track were identified as being subject to “fast” erosion, that is to a substantial increase in the severity and/or extent of erosion within the next ten years.

Tracks in the Southwest National Park are in a more degraded condition overall than those in the rest of the WHA, and the Arthur Ranges stand out as being the most severely degraded and erosion-prone area in the entire WHA. However localised cases of severe and rapid erosion occur throughout the WHA track system.

Moderately impacted campsites were recorded in over fifty locations and campsite conditions were especially poor in the Western and Eastern Arthurs, the Southern Ranges and the Walls of Jerusalem.

**8.1.2 Unplanned formation of new walking tracks and campsites**

**(i) Causes of unplanned track and campsite formation**

The extent of the problem can be attributed to several major factors:

- the overall increase in walker numbers in the WHA during the past two decades;
- recreational displacement from formerly trackless areas where tracks have formed, track conditions have changed and usage has increased;

- the inherent fragility of the vegetation and soils of much of the Western Tasmanian environment, which renders them highly susceptible to pad and campsite formation;
- geographical factors such as narrow ridgelines and dense vegetation, which tend to channel usage in many areas.

In some areas unplanned tracks are forming in the vicinity of existing tracks and campsites, for example as a result of users branching off existing tracks in order to reach nearby vantage points.

**(ii) Why unplanned track and campsite formation is a problem**

The unplanned formation of tracks and campsites contravenes the following management objectives stated in the *WHA Management Plan* (P4.1):

- (a) It contravenes the aim of maintaining and enhancing wilderness quality in several ways:
  - biophysical impacts such as vegetation loss and the formation of trampled pads degrade the naturalness of wild areas;
  - tracks tend to improve access and thereby decrease the effective remoteness of an area;
  - the formation of pads and campsites reduces the opportunity for challenging recreation in an unmodified natural setting.
- (b) It contravenes the aim of maintaining and enhancing the scenic and environmental quality of the WHA because tracks and campsites can be visually intrusive and may adversely affect natural systems.
- (c) The formation of tracks and campsites is inconsistent with the management objectives for wilderness zones.

The unplanned formation of tracks and campsites is also associated with the following problems:

- (d) The formation of tracks and campsites in formerly trackless areas may displace users to other trackless areas;
- (e) Unplanned tracks and campsites are frequently poorly sited from the point of view of environmental impacts and are consequently impractical and expensive to maintain.

Again it is important to emphasise that owing to the inherent fragility of much of the Western Tasmanian environment and to slow rehabilitation times especially in alpine areas, the adverse effects of unplanned track and campsite formation are often longterm and may be irreversible.

**(iii) Rate and extent of unplanned track and campsite formation**

On the routes inspected in the course of the WHA track inventory, pad formation was found to be occurring at a moderate or fast rate on sections with a total length of 57km and at a slow rate on sections with a total length of 130km. (See 3.3.2 for definitions of “Slow” and “moderate”.) It must be emphasised that tracks, trampled pads and campsites are also likely to be forming in many areas not included in the inventory.

**8.1.3 Broadscale trampling damage**

Broadscale trampling damage is occurring mainly in two situations: (a) in the vicinity of campsites and (b) in areas where extensive low vegetation occurs, particularly alpine moorland.

Trampling impacts of this nature contravene the stated management objective of protecting natural values and wilderness, and are of particular concern in areas where rare and fragile vegetation communities, geomorphological features or cultural sites occur and may suffer extensive and longterm or irreversible damage.

Areas where broadscale trampling damage is of particular concern include the central chamber of the Walls of Jerusalem, the Northeast Ridge and Lake Shelf of the Anne Range and the vicinity of campsites in the Western and eastern Arthurs.

#### **8.1.4 Crowding and social impacts**

Campsite crowding, in the sense of the use of campsites beyond their capacity (regardless of user attitudes to such use), is becoming an increasing problem in several areas in the WHA, particularly in the Western and Eastern Arthurs, the Walls of Jerusalem and Pine Valley, and particularly at times of peak visitation (eg the Easter holiday).

Crowding may result in excessive biophysical impacts, the displacement of users to sensitive or previously unused sites, pollution, sanitation problems and safety problems (for example a party may be forced to push on to another campsite in adverse weather conditions).

Information about social impacts in the WHA is summarised in sections 4.2.3 and 4.3. In particular, a third of all walkers report that encounters with other walkers at campsites detract from their enjoyment.

Social impacts such as encounters with large numbers of other users in self-reliant recreation zones and wilderness zones contravene the management policy stated in section (P)7.6.2 of the *WHA Management Plan* of preserving opportunities for solitude in these zones.

#### **8.1.5 Impacts associated with campfires**

The use of campfires is associated with several types of biophysical impacts in wilderness areas:

- (a) Damage to and loss of vegetation due to fuel collection.
- (b) Trampling impacts due to fuel collection.
- (c) Direct damage to vegetation and soils due to burning and scorching.
- (d) Visual pollution of campsites and other areas.
- (e) Risk of escaped fires which may cause extensive and irrevocable ecological damage (see 9.14).
- (f) Campfires tend to attract litter because walkers attempt to burn noncombustible items.

As stated in appendix B1.8.3, research in the United States indicates that impacts at campsites in areas where campfires are permitted affect up to nine times the area of fire-free sites, mainly because of the impact of trampling by walkers in search of firewood.

Trampling impacts and vegetation damage caused by firewood collection are particular evident in the vicinity of campsites in areas like the South Coast Track and parts of the Central Plateau where the use of campfires is still relatively common.

#### **8.1.6 Other management issues**

Other key management issues related to walking tracks and walking in the WHA include (a) the risk of walkers spreading *Phytophthora cinnamomi* to uninfected areas and (b) pollution, poor sanitation and health risks including the increasing incidence of gastroenteritis in some areas.

The spread of *Phytophthora cinnamomi* is of particular concern because it poses a serious longterm threat to the ecological integrity of the WHA (see B1.9.3).

## **8.2 Limitations and disadvantages of management strategies employed to date**

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As stated in 1.1.3 and section 7, during the past decade the Parks and Wildlife Service has undertaken an extensive program of works aimed at stabilising, restoring and upgrading several of the most well-known and heavily used tracks in Recreation Zones within the WHA.

Recognising the value of user education as a tool for minimising recreational impacts, the Service has promoted a “Minimal Impact Bushwalking” campaign which among other things discourages the use of campfires and encourages users to carry out their litter. The Service has also introduced bans on campfires in several alpine areas including the entire Cradle Mountain - Lake St Clair National Park.

Park entry fees and permits for certain activities have recently been introduced for access to National Parks, but no other restrictions on access have been imposed.

Much of the trackwork undertaken to date has involved the use of intensive stabilisation and “hardening” techniques such as benching, installing drains and surfacing tracks with cordwood, duckboard, parallel planking and gravel.

Besides containing environmental impacts these sorts of improvements usually result in improved ease of access and reduced access times, thereby changing the recreational opportunity of the tracks in question and of the areas they provide access to. These factors in turn can lead to higher use of upgraded tracks, higher use of adjacent areas (as a result of improved access) and the displacement to other areas of walkers who are seeking more challenging recreational experiences in wilder, less heavily used areas.

Intensive track stabilisation and hardening is incompatible with the management requirements of self-reliant recreation zones and wilderness zones because the purpose of these zones is to retain areas in a largely natural and unimproved condition.

Another major disadvantage of the “track hardening” approach is that intensive track hardening generally costs upwards of \$20 000 per kilometre and as much as \$100 000 per kilometre in remote rugged areas. Thus track hardening is unlikely to be an economically practical solution to the problem of track deterioration throughout most of the WHA.

In addition, techniques such as the installation of duckboard have the disadvantage of being relatively short-term since all treated pine constructions have to be pulled out and replaced within forty years.

Similar comments apply to the campsite “hardening” techniques currently being developed for the WHA.

While the MIB campaign encourages users to “walk softly”, to stay on marked tracks on routes where tracks already exist and to fan out in open, trackless country, neither the MIB campaign nor the other management strategies implemented to date have adequately addressed the problem of unplanned track and campsite formation as described in 8.1.2.

Similarly, while the MIB campaign urges users to be considerate of the needs of other walkers it has not adequately addressed the problems of crowding and social impacts which are occurring in several areas.

## **8.3 Primary management options**

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### **8.3.1 Usage restrictions and redistribution**

Usage restrictions may be imposed in several ways, for example in the form of annual, seasonal or daily limits on user numbers, limits on party size and limits on length of stay in particular areas or at particular campsites. Usage patterns may also be influenced by publicity and by education campaigns.

The rationale for and potential benefits of restricting or redistributing usage are listed in the rationale to 9.7.

Note that the imposition of use restrictions may not be an effective strategy for slowing down the rate of track deterioration on sections of track where track deterioration is primarily a function of siting variables and water flow rather than usage. Similarly usage restrictions can only effectively prevent the unplanned formation of tracks and campsites in areas where usage levels on any one route or site are less than the thresholds at which vegetation and soil damage will start to occur.

Note also that use restrictions can only be effectively imposed if there is a high degree of user compliance, because park entry and user behaviour will be difficult to police in many areas. In this context it is worth noting the success achieved in enforcing access restrictions and modifying user behaviour among off-road vehicle recreationalists in the Liawenee area, success that can be attributed mainly to a concerted campaign to raise user awareness of the existence of and need for the relevant restrictions.

However a voluntary system by itself is unlikely to be effective as a means of enforcing limits on daily, seasonal or annual usage levels; hence the need for mandatory permits.

### **8.3.2 Track and campsite relocation**

As stated in 1.1.2 a large percentage of the tracks in the WHA are poorly sited, being either too steep, poorly drained or sited in sensitive areas. This is primarily due to the fact that most of these tracks were never planned but have merely developed from walkers' pads and marked routes, which tend to follow "lines of least resistance" such as routes across (poorly drained) moorland or directly up steep spurs.

There has traditionally been some resistance to track rerouting within the Service on the grounds that (a) once a track has formed it is better to make use of it rather than damage another area, especially if rehabilitation of the old track is likely to take a long time, and (b) if the alternative route is not substantially better than the original one rerouting may only end up duplicating the problem.

These concerns are valid and can be illustrated by examples of unsuccessful attempts at rerouting in the past. A prime example is the section of the Rodway Track ascending to Cradle Cirque, which was rerouted in the early 1980s and which by 1991 was in a far worse condition than the original track had been. However blunders such as this are generally the result of inadequate research and planning rather than proof of any intrinsic flaw in the concept of rerouting.

As stated in 7.3, one can point to several recent examples of rerouting which appear to have been highly successful both in terms of reducing environmental impacts and ongoing maintenance costs, and in terms of improving the recreational experience offered by the sections of track in question.

Similar comments apply to the strategy of relocating campsites, although campsite relocation is unlikely to be a desirable or practical option in the WHA except in isolated cases.

A detailed rationale for relocating tracks and campsites is given in 9.8.

### **8.3.3 Priority erosion control**

The term “priority erosion control” is used in this report to refer to works whose primary aim is to avoid or substantially retard track degradation, at minimum expenditure of time and resources, on tracks where failure to undertake such works would result in a substantial and unacceptable increase in degradation in the short to medium term (ie within ten years).

In practical terms priority erosion control will generally involve the installation of side-drains and/or water deflection bars to slow down the rate of erosion caused by water flow along a track. Other forms of priority erosion control may be appropriate in some circumstances, for example the installation of widely spaced crossboards to slow down the rate at which loose materials are shifted down a track by trampling impacts.

Given the extent and rate of track deterioration in the WHA and the limited funding available for track stabilisation, it is proposed that the bulk of trackwork funding in the short term be directed towards priority erosion control on tracks which are most susceptible to deterioration. If this is not done irreparable deterioration will occur on many tracks and the longterm costs of stabilising them will be substantially increased.

An additional advantage of this approach, particularly on low-grade tracks, is that it does not substantially alter the recreational opportunity of a track and so is unlikely to lead to increased usage or recreational displacement. Moreover on some tracks it may be found that once priority erosion control has been undertaken no further works (other than routine maintenance) are necessary.

It must be emphasised that works undertaken as part of a program of “priority erosion control” must be reasonably durable, ie designed to last at least ten years and preferably much longer. For example if side spillage drains are installed they should be dug deep enough to last for several years without silting up, and if necessary they should be faced with rock or timber to prevent their premature collapse.

### **8.3.4 Track “hardening”**

Intensive track stabilisation techniques such as benching and the installation of duckboard are most appropriate on major tracks in recreation zones, ie on tracks whose primary function is to provide opportunities for relatively large numbers of people to experience a relatively easy level of wilderness recreation.

As stated in 8.2 such techniques are generally not suitable for use in self-reliant recreation zones and wilderness zones, and the use of these techniques can have undesirable consequences such as causing increased usage and recreational displacement. Nevertheless some track hardening will be necessary on tracks in self-reliant recreation zones and wilderness zones, even if alternative strategies such as rerouting and restricting usage are implemented as far as possible.

There is scope for the development of alternative track hardening techniques, for example the use of recycled plastic matting and narrow gauge steel-mesh walkway.

### **8.3.5 Low-key track stabilisation**

The longterm stabilisation of a track surface does not necessarily require intensive “hardening” of the sort described in 8.3.4 and 7.2. Particularly on low-use tracks of low track classification it may be possible - and will generally be preferable - to use “low-key” techniques such as light benching, rudimentary turnpiking or the installation of minimal drainage to improve track stability.

Further research and experimentation is urgently required in this area (see 9.13(i)).

### 8.3.6 Education

Education must continue to play a major role in the management of recreational impacts in the WHA, for the following reasons:

- (a) Users tend to prefer nonregulatory measures to regulations (see appendix B4.3).
- (b) Users tend to comply with regulations such as access permits when they understand that these are necessary to protect natural, cultural and recreational values (B4.3).
- (c) Many of the management objectives for the WHA will be impossible to achieve without user education, if only because of the impracticality of policing regulations.

Areas where the existing education campaign and MIB code can be expanded are listed in 9.11.

Regarding the “fan out” policy it must be emphasised that as a strategy for avoiding the unplanned formation of pads and tracks, fanning out can only be successful in areas where the resulting use levels on any designated routes are below the thresholds at which pads and tracks will form. Examples of such areas include the Curly-Spires region and parts of the Central Plateau, providing use levels in these areas remain relatively low. An assessment of the practicality of employing a fan-out policy must also take into account the fact that in some areas walkers will tend to be attracted to trampled pads as a means of navigation when visibility is poor.

### 8.3.7 Publicity

Guidebooks, routeguides and other forms of publicity about the WHA can play a useful role in promoting safe, enjoyable and environmentally responsible wilderness recreation and in enhancing user appreciation of the natural, cultural and recreational values of the region.

Conversely, inappropriate publicity and the publication of inappropriate information can degrade wilderness values in several ways:

- (a) The mere fact that information has been published about a particular area can subtly detract from the wilderness qualities of that area, because the element of “unchartedness” is an important component of wilderness quality and the opportunity for exploration and discovery is an important component of the recreational challenge of wilderness areas (Lucas 1981).
- (b) Publicity such as the publication of routeguides or photographs may stimulate increased usage by (1) drawing attention to and promoting particular areas, routes and destinations and (2) making it easier to follow the routes described. This in turn can lead to increased social and biophysical impacts, to unplanned track formation and ultimately to recreational displacement to other areas.  
(Note that in the Sawyer walker survey [Sawyer 1988b], 55% of visitors to the Anne listed guidebooks as their main source of information about the area, while a survey of wilderness walkers conducted by the Service in the summer of 1986/87 indicated that more than 50% of walkers on major tracks in the WHA carry guidebooks.)
- (c) The publication of some types of information may encourage undesirable or dangerous user behaviour. For example, inexperienced walkers may be encouraged to head south from Pindars Peak on the basis of information contained in the Ken Collins book *South-West Tasmania* (Collins 1990).

There is a need to better educate wilderness users, particularly novices, as to the sort of recreational experiences they can expect on various tracks and to direct these users to tracks best suited to their levels of experience and fitness. For example, novice

walkers should be encouraged to undertake walks like the Overland Track and strongly discouraged from attempting walks like the Western Arthurs traverse.

A strategy for encouraging appropriate publicity and restricting undesirable publicity of wilderness areas is outlined in 9.12.

### **8.3.8 Installation of facilities**

The installation of facilities such as signposts, toilets and bridges is already standard procedure on high-grade and heavily used tracks in the WHA.

An additional strategy which has been used only sporadically to date and which can be useful in reducing trampling impacts at campsites is to provide running water by means of a syphon and a length of pipe, thus obviating the need for repeated trips to water sources.

## 9A ADDITIONAL MANAGEMENT OBJECTIVES

Management objectives for the WHA are set out in the *WHA Management Plan* (Dept of Parks, Wildlife & Heritage 1992), and objectives which are of direct relevant to the management of walking tracks and recreational usage in the WHA are reproduced in section 6.1.

These objectives are to be supplemented by the following three objectives to provide a more clearly defined framework for future track management in the WHA:

### 9.1 Limit recreational impacts and track proliferation

*Recreational impacts and track development to be limited throughout the WHA in the long term.*

Track management in the WHA to have the following long-term objectives:

**(i) Non-expanding track network**

To achieve and maintain a steady-state (ie non expanding) network of tracks and campsites in the WHA.

**(ii) Maintain and enhance wilderness quality and recreational opportunities throughout the WHA**

Assessments of wilderness quality and recreational opportunities will take into account the impacts of tracks, campsites, track/campsite conditions and biophysical and social impacts on the primitiveness and remoteness of adjacent areas and on the opportunities which these areas offer for recreation and solitude.

The state of repair, degree of development and levels of social impact on particular tracks, routes and campsites may vary over time, but the spectrum of wilderness values and recreational opportunities available in the WHA is to remain essentially unchanged in the long term. Thus, in the long term, if new tracks develop or are constructed or if the status of an existing track increases (eg if a track is reclassified from T4 to T3 - see 9.4), such developments will be offset by track closures or by a downgrading of the classification of other tracks in the WHA.

Assessments of proposals to upgrade existing tracks or construct new tracks will take into account the expected impacts of such developments on ecological, cultural and wilderness values and on the overall recreation opportunity spectrum of the WHA.

**(iii) Limiting impacts**

The objective will be to maintain track and campsite conditions and biophysical and social impacts within specified limits.

Track formation in previously trackless areas, track and campsite deterioration and increasing social impacts are to be tolerated in the short to medium term only if such developments are expected to stabilise or be arrested at acceptable levels (as defined by the track classification scheme - see 9.4) in the long term.

Tracks, routes or campsites on which conditions have deteriorated beyond acceptable levels are to be repaired if possible or allowed to regenerate until the required standards are met.

### **Rationale for objective:**

This objective is to some extent a corollary of the management objectives and zoning specifications listed in the WHA Management Plan, in particular:

#### **P4.1/2 Maintain and enhance wilderness quality**

##### **P5.1.2 Wilderness Zone policies**

- The area will be open to recreation but no facilities or tracks will be provided.

##### **P6.6.2 Policies for management of wilderness**

- The majority of the [WHA] will be designated a Wilderness Zone and managed as wilderness (even though parts of it may not meet strict remoteness or viewfield criteria).
- Unplanned development of walking tracks and routes will be controlled.

##### **P7.1.1 Objectives for management of recreation opportunities**

- To maintain or provide opportunities for a range of appropriate recreation activities consistent with the primary management objectives of protecting natural and cultural values and in accordance with the zoning scheme.
- To safeguard opportunities for challenging self-reliant recreation.

##### **P7.6.1 Objectives for management of walking tracks and walking**

- To endeavour to prevent the unplanned evolution of new routes and growth of tracks from existing routes.

The *WHA Management Plan* does not spell out the need to restrict the development of tracks (whether planned or unplanned) in Recreation Zones and Self-Reliant Recreation Zones, nor does it specifically state the objective of setting limits to track deterioration in these zones. The setting of such limits is desirable in order to:

- (a) Limit the biophysical and social impacts of recreation in the WHA;
- (b) Limit the impact of the track system on wilderness values (ie on naturalness and remoteness) and recreational values, in particular the opportunity for challenging recreational experiences in remote areas;
- (c) Limit access to sensitive areas;
- (d) Limit the walking track system to a size that is practical to maintain in the long term.

## **9.2 Tracks for recreation**

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*Walking tracks to be designed and maintained to optimise recreational opportunities.*

Where new tracks are to be constructed or existing tracks maintained, upgraded or rerouted, this will be done not only with the aim of minimising longterm maintenance costs and biophysical and cultural impacts but also with the aim of optimising recreational experiences consistent with the relevant zoning and track classification (see 9.4).

For example, tracks will generally be designed to “blend in” as far as possible with the natural environment, traverse a variety of environment types and provide opportunities for views.

Some of the implications of this objective with regard to track construction and maintenance techniques are discussed in 9.9.

### **Rationale for objective:**

This objective is implicit in the following sections of the WHA Management Plan:

#### **P4.1/8 Assist visitor appreciation and enjoyment by developing and**

**promoting an appropriate range of opportunities and facilities for public recreation and tourism both in and adjacent to the WHA**

**P6.5.1 Objectives for management of landscape**

- To ensure the visual character of all facilities complements the site setting and recreational opportunity.

**P7.1.1 Objectives for management of recreation opportunities**

- To maximise the quality of the recreation experiences of visitors to the area through the provision of suitable facilities .

**P7.6.2 Policies for management of walking tracks and walking**

- As a general principle, preference is to be given to methods of track construction which best protect and blend with the natural environment.

**P14.9.1 Objectives for use of natural materials for reserve management**

- To provide facilities for visitors that match or complement the environment.

The objective implies that walking tracks are to be regarded not merely as means of access but as facilities which provide opportunities for enriching experiences in their own right. With this in mind the Service will encourage users to appreciate the benefits of bushwalking as an end in itself, in addition to the benefits of achieving predetermined goals such as reaching the summit of Frenchmans Cap. (See 9.11 (i): (g)).

### **9.3 Tracks for posterity**

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*When tracks or campsites are to be constructed, upgraded, stabilised, maintained or relocated, the longterm environmental impacts and longterm maintenance costs must be taken into account.*

For example, a decision about whether to “harden” a track using treated pine duckboard or whether to relocate the track and bench it should take into account the longterm maintenance costs of both options including the cost of removing and replacing the duckboard at the end of its useful life. The decision should also take into account the fact that duckboard can be removed whereas benching may leave a permanent scar.

In essence, trackwork will be regarded as a longterm investment.

**Rationale:**

This objective is partially implied by the following objective in the WHA Management Plan.

**P4.1/14 Ensure that policies, actions and practices...are cost-effective**

The objective is also justified by the following arguments:

- (a) Correctly sited tracks are more economical to maintain than poorly sited tracks in the long term.
- (b) It is more economical in the long term to invest money in the construction and maintenance of correctly sited and correctly designed tracks than in the maintenance of tracks which will eventually have to be rerouted.
- (c) Once tracks form or are constructed rehabilitation of the resulting impacts may be extremely slow and may never occur.

It is worth bearing in mind that some of the best tracks in the WHA - best from the point of view of both stability and user enjoyment - are tracks which were surveyed and constructed more than half a century ago, eg the Port Davey Track between the upper and lower Spring River and the Forth Valley (Lemonthyme) walking track.

The benefits of minimising longterm maintenance costs (for example by benching a track into gravel instead of using duckboard) must be weighed against the potential

disadvantages of creating permanent alterations to the natural landscape and foreclosing the option of removing tracks in the long term should usage patterns and/or user attitudes change dramatically. (Eg, in 25 years' time the use of ultralight aircraft may become more popular and be regarded as more environmentally acceptable than bushwalking.)

## **9B MANAGEMENT ACTIONS**

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### **9.4 Track classification scheme and track impact limits**

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*Management of all tracks, routes and trackless areas in the WHA to be undertaken within the framework of a track classification scheme specifying appropriate and acceptable levels of track development and recreational impacts.*

All tracks and routes in the WHA to be classified by a 7-tiered classification scheme defining acceptable levels of usage, social impacts, track development and track deterioration for each category of track. The scheme is detailed in section 10 and classifications for specific tracks and routes in the WHA are listed in section 11. (More detailed recommendations for managing these tracks and routes are listed in Volume II [Appendix A] and in the WHA track database.)

Note that the track classification scheme includes guidelines which apply to more than one classification of track - eg limits for erosion depths.

The requirement of maintaining stable track conditions (9.1) implies that usage, social impacts and the degree of development on tracks will be kept within the limits specified by the relevant classification and not allowed to increase to levels corresponding to higher classifications. Similarly the formation of pads and tracks on designated "routes" (R) will be prevented as far as possible.

Some tracks have been awarded two classifications, a standard classification which is to apply for the foreseeable future and an "ideal" classification to which the track in question will eventually be upgraded (or downgraded) if possible, eg if sufficient funds become available.

In order to ensure that impacts and levels of track development remain within the limits specified by the track classification scheme, tracks and trampling impacts must be adequately monitored throughout the WHA (see 9.10 (i)).

Additional notation in relation to track classifications is defined in 10.5.

#### **Rationale for track classification scheme:**

The track classification scheme will provide a simple yet comprehensive framework for managing walking tracks and walkers throughout the WHA.

The scheme has been broadly based on previous track classification schemes (see appendix B4.10), including the "Walk/Track/Route" scheme described in the *WHA Management Plan* (see P7.6 in 6.1), and is designed to suit the particular management needs of walking tracks and walkers in the WHA.

The scheme has been designed so as to include sufficient detail to define clear management objectives while at the same time allowing sufficient flexibility to take into account the fact that the enforcement of precise and stringent conditions on all tracks in the WHA is neither possible nor desirable.

## 9.5 Campsite classification scheme

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*The Service to devise a campsite classification scheme specifying appropriate and acceptable levels of campsite development and impacts as a guide for future management of campsites throughout the WHA.*

The campsite classification scheme will complement the track classification scheme and include specifications for campsite size, impacts, facilities, user comfort, usage levels, social impacts and acceptable levels of publicity (eg whether campsites should be included on maps or mentioned in route guides).

Broad specifications for campsite size are included in the track classification scheme (9.4 & 10).

As with walking tracks, in order to ensure that campsite impacts and levels of campsite development remain within the limits specified by the campsite classification scheme, campsites must be adequately monitored throughout the WHA (see 9.10 (i)).

### **Rationale:**

The proposed classification scheme would provide a simple yet comprehensive framework for managing campsites throughout the WHA.

The track classification scheme includes specifications which broadly define limits for campsite development for each category of track. However a separate campsite classification scheme is required, partly to define campsite specifications in more detail and partly to take account of the fact that different grades of campsite will occur on tracks of any given classification.

## 9.6 Access permits

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*A comprehensive permit system to be introduced to the WHA.*

*Further investigation to be undertaken to determine the most appropriate type of permit system and method of permit issue.*

While the exact nature of the permit system will be a matter of further investigation, the system will be based on the following broad principles:

### **(i) Need to be “user friendly”**

The system to be as “user friendly” as possible. Ideally it should be possible for prospective visitors to make bookings through interstate travel agents via a centralised permit-allocation system linked to all park centres so that information can be obtained on the availability of permits to alternative destinations. A percentage of permits to major tracks such as the Overland Track should be available through agents such as bus companies.

In addition, permit conditions will be flexible where possible to allow for plan alterations caused by weather conditions etc.

### **(ii) Dissemination of information**

Permits to be issued together with appropriate information including MIB information (see 9.11 (iii)) and user notes published by the Service containing information and advice relevant to the areas and tracks for which the permits have been issued (see 9.11(ii)).

### **(iii) Exemptions**

Entry to some areas of the WHA will not require a permit - eg road access on the Lyell and Lake Highways.

**(iv) Integration with entry fees**

The permit system will be integrated with the collection of user fees as far as possible. Note that users who buy extended entry passes will still have to apply for entry permits each time they enter the WHA and may be refused entry to areas where usage quotas have been filled.

**(v) Special permits**

Provision will be made for the issue of special permits, eg for scientific studies. Such permits will be issued with clearly specified conditions to protect wilderness values and the recreational experience of other walkers. (For example a scientific expedition may be required to camp some distance away from established campsites).

**(vi) Need for user education**

It is recognised that a permit system can only be successful if there is a high degree of user compliance because park entry and user behaviour will be difficult to police in many areas. In addition, research indicates that users are more likely to comply - and most users do comply - with regulations when they understand why the regulations are necessary (see appendix B4.3).

For these reasons the introduction of permits will be backed up by an intensive user-education campaign (see 9.11 (i)).

Peer-group pressure has the potential to play a significant role in ensuring user compliance with permit regulations, particularly in high-use areas. To this end permits may be issued in the form of distinctive tags which users attach to their packs.

**(vii) Penalties**

Penalties such as on-the-spot fines will be imposed for breaches of regulations such as entering an area without a permit or failure to comply with the conditions of a permit.

The effectiveness of penalties as a deterrent may require increased ranger presence in some areas although the system will rely heavily on voluntary user compliance (see (vi) above and 9.24).

Minimal penalties will be imposed during the first 12-24 months after the introduction of a permit system except in the case of flagrant or repeated violations of regulations.

**Rationale for permits:**

A mandatory permit system appears to be the only means by which usage can be effectively restricted as recommended in 9.7. While a purely voluntary system might be desirable, a percentage of users would be likely to ignore voluntary restrictions and this would undermine efforts to control impacts and discriminate against walkers who accepted the voluntary restrictions.

A permit system would provide an effective means of monitoring usage levels and of disseminating information to users including user notes (see 9.11 (ii)).

A permit system covering the entire WHA would enable usage restrictions to be introduced in an integrated manner (see 9.7 (v)), thereby minimising the risk of further problems arising due to recreational displacement. It would also avoid the administrative problems that might arise if permits were to be required for disjointed parts of the WHA.

Note: Special legislation may be required to facilitate the introduction of a permit system which can be used to restrict access where necessary.

## 9.7 Usage restrictions and redistribution

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*Usage to be restricted and/or redistributed where appropriate.*

As with the proposed permit system, the exact nature and levels of usage restrictions will be determined on the basis of further investigation and ongoing monitoring of impacts, usage trends, user attitudes and recreational demand throughout the WHA. However the following broad principles will apply:

**(i) Management context**

Usage restrictions will be imposed where necessary in order to achieve and maintain track and campsite conditions and social impacts within the limits specified by the track classification scheme. However other measures such as track relocation and user education will be employed as far as possible in order to minimise the need for usage restrictions.

**(ii) Level and type of restrictions**

Guidelines for usage limits are included in the track classification scheme (section 10). However usage limits for any particular track or area will be determined on a case-by-case basis and will take into account factors such as environmental and social impacts, user demand and the possible effects of recreational displacement to other tracks and areas.

Experimentation with different types of restrictions may be necessary before an optimum system can be found for a particular track or area. On some T1 and T2 tracks it may be desirable to limit average daily encounter levels by encouraging or requiring users to walk the track in question in one direction only, at least at times of peak use.

Where seasonal or annual limits are imposed, weekly or monthly quotas will also be imposed in most cases to spread out usage and reserve opportunities for off-season walking. The imposition of daily quotas or limits on length of stay at particular campsites may be required in some areas.

Party sizes will be restricted in accordance with the guidelines of the track classification scheme; ie permits will not be issued for parties whose size exceeds the specified limits.

**(iii) Restrictions on length of stay**

Restrictions on overall length of stay will be avoided wherever possible in all but the most heavily used areas. Such restrictions have little effect on overall usage and discriminate against a minority who wish to undertake extended wilderness trips.

**(iv) Restrictions on itineraries**

Restrictions on itineraries will be kept to a minimum since such restrictions detract from user enjoyment and the sense of freedom which is an integral part of the wilderness experience. As far as possible restrictions will be flexible to allow for the vagaries of the weather, party fitness etc.

**(v) Need for co-ordinated approach to usage restrictions**

Access restrictions will be introduced in a co-ordinated way throughout the WHA to avoid problems which might be caused by recreational displacement.

**(vi) Use redistribution within WHA**

In some circumstances it may be appropriate to employ usage restrictions or other means such as user education to redistribute use either spatially or temporally. For

example it may be appropriate to redistribute some of the usage in the December-January period to the shoulder seasons.

**(vii) Use redistribution to areas outside WHA**

The Service will investigate the feasibility of developing new walking tracks and of upgrading and promoting existing walking tracks outside the WHA to alleviate recreational pressures in the WHA.

This investigation will be undertaken in conjunction with research into user preferences and usage trends among recreationalists throughout Tasmania (see 9.13(iii)) and 9.23.

**Rationale for usage restrictions and redistribution:**

The restriction or redistribution of usage may be necessary for one or more of the following reasons:

- (a) To maintain usage below threshold levels where appropriate, the key thresholds being those at which:
  - walkers' pads and campsites begin to form in trackless areas or in areas adjacent to existing tracks;
  - loss of vegetation or litter cover occurs on existing tracks, pads or campsites, thereby exposing soils to ongoing or increased erosion.Note that restricting usage and altering user behaviour (eg by encouraging users to fan out) are the only two strategies which can be employed to prevent the unplanned formation of pads, tracks and campsites.
- (b) To prevent or minimise broadscale trampling damage and other forms of biophysical damage.
- (c) To slow the rate of deterioration on and in the vicinity of existing tracks and campsites, especially in areas where the primary agent of deterioration is trampling (as opposed to natural factors such as water flow).
- (d) To limit social impacts which may otherwise degrade the recreational opportunity of particular tracks or areas and lead to recreational displacement.
- (e) To limit physical crowding which may lead to campsite spread, pollution and other problems.

**Rationale for party size restrictions:**

Restrictions on party size are necessary for the following reasons:

- (f) To avoid the formation of unplanned tracks and campsites in trackless areas. (Large parties are more likely to cause the formation of trampled pads than small parties which fan out).
- (g) To limit crowding and social impacts, particularly the social impacts associated with encounters with large parties.
- (h) To minimise campsite spread.

**9.8 Track and campsite relocation**

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*Relocation of tracks and campsites to be regarded as a legitimate management option.*

Rerouting and relocation will be considered as legitimate management options for tracks and campsites throughout the WHA, and the prospects for relocation will be thoroughly investigated before funds are committed for stabilising existing tracks or campsites.

The following factors will be taken into account when assessing any proposal for relocation:

**(i) The new site should be better**

The new location should be substantially better than the old from the point of view of environmental impacts, long-term maintenance costs and/or user comfort and enjoyment.

**(ii) Need to stabilise and rehabilitate old site**

Redundant track sections and campsites must be actively stabilised if necessary (eg with waterbars) so as not to be subject to active erosion or other forms of environmental deterioration. There should also be good prospects for rehabilitating redundant track sections and campsites in the long term. In this context “rehabilitation” does not necessarily imply removal without trace. For example it will generally suffice to allow a deeply eroded track in forest or scrub to become heavily overgrown providing there is no active erosion.

**(iii) Relocation should be permanent**

Any decision to relocate a track or campsite should be made with a view to establishing a *permanent* location for that track or site (see 9.3). This is particularly true with regard to alpine areas where track or campsite development may leave permanent scars. Hence new routes and locations should be carefully surveyed and the choice of route should take into account site stability, drainage, availability of local track-construction materials etc.

**(iv) *Phytophthora cinnamomi***

Assessments of proposals to relocate tracks or campsites should take into account the recommendations of the *Phytophthora cinnamomi* report (Parks & Wildlife Service 1993a).

**(v) User education**

The relocation of tracks and campsites must be accompanied by an education campaign which explains the reasons for relocation and discourages the use of closed tracks and campsites (see 9.11).

**(vi) User convenience not always improved**

Some tracks may be rerouted primarily for environmental or economic reasons, and rerouted sections may be longer and/or more difficult to walk on than the tracks they replace. For example switchbacks will generally be longer than direct ascents. Similarly it may be necessary to relocate some campsites to less attractive locations (eg further away from lake shores) in order to reduce environmental damage.

**Rationale for track and campsite relocation:**

Many existing tracks and campsites are poorly sited from the point of view of environmental impacts, maintenance costs and/or the provision of rewarding recreational experiences. In particular the stability of many tracks could be substantially improved by relocating them to sites with better drainage and/or lower gradients.

The strategy of rerouting a section of track instead of stabilising or “hardening” the existing track has a number of potential advantages:

- (a) It can minimise environmental damage, particularly if rerouting is undertaken before the original track has started to erode.
- (b) It can reduce ongoing maintenance costs, for example by obviating the need to harden a track surface.

- (c) It can improve the recreational opportunity and user comfort, for example by providing better views or more gentle track gradients.
- (d) It can direct walkers away from sensitive sites or areas (as in the case of the Wargata Mina reroute).
- (e) Relocation may be the only practical means of managing tracks and campsites in some areas.

For a discussion of some of the traditional objections to rerouting see 8.3.2.

## 9.9 Guidelines for track siting, construction, stabilisation and maintenance

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### General principles and objectives

Tracks to be sited, constructed, stabilised and maintained in such a way as to ensure as far as possible that:

- (a) track conditions conform to the relevant track classifications (see 9.4, 10);
- (b) environmental impacts, including the spread of *Phytophthora cinnamomi*, are minimised;
- (c) tracks provide the opportunity for enjoyable and enriching experiences for the people who use them, eg by “blending in” with the natural environment and by providing opportunities for a variety of recreational experiences consistent with the track classification and zoning (see 9.2).
- (d) track surfaces are durable and have low long-term maintenance costs (see 9.3);
- (e) initial construction costs are minimised;
- (f) provision is made for future maintenance where appropriate.

### Specific policies

#### (i) Priority erosion control

In the short-term the emphasis of the Service’s trackwork program will shift towards undertaking priority erosion control on tracks which are most susceptible to deterioration. As stated in 8.3.3, priority erosion control involves undertaking the minimum works necessary to slow down the rate at which track surfaces are deteriorating, at least as a holding measure until more intensive stabilisation works can be undertaken.

Works undertaken as part of a program of “priority erosion control” must themselves be reasonably durable, ie designed to last at least ten years and preferably much longer. For example if side spillage drains are installed they should be dug deep enough to last for several years without silting up, and if necessary faced with rock or timber to prevent their premature collapse.

It must be noted however that the priorities of the Service’s trackwork program will not be determined solely by environmental factors; other factors such as the need to complete the upgrading of major wilderness trails (eg the Overland Track) will also be taken into account.

#### Rationale for short-term emphasis on priority erosion control:

Unless priority erosion control is undertaken irreparable deterioration will occur on many tracks and the longterm costs of stabilising them will be substantially increased.

An additional advantage of priority erosion control, particularly on low-grade tracks, is that it does not substantially alter the recreational opportunity of a track and so is unlikely to lead to increased usage or recreational displacement. On some tracks it may be found that once priority stabilisation has been undertaken no further works (other than routine maintenance) are necessary.

**(ii) Longterm stabilisation and repair**

As a lower priority, and generally subsequent to undertaking priority erosion control, the Service will undertake the longterm stabilisation and repair of tracks and campsites throughout the WHA, consistent with the guidelines of the track and campsite classification schemes and the recommendations of the *Walking Track Management Manual* (Blamey 1987) as updated by the Service from time to time.

As stated in note (vii) (b) of appendix A1, the term “longterm stabilisation and repair” refers to works undertaken with a view to preventing, halting or at least substantially reducing track deterioration for upwards of 20 years.

The nature of such works will vary widely according to the relevant track classification, the nature and extent of the problems to be addressed and local factors such as terrain gradient and the remoteness of the site. Thus on some tracks “longterm stabilisation and repair” will involve intensive track “hardening” with duckboard, cording etc, whereas in other areas it may involve the installation of widely spaced waterbars and sporadic light benching.

The priorities awarded to longterm stabilisation works in appendix A1 have been determined on the basis of an assessment of environmental factors, track classification and usage levels. Where similar environmental factors apply priority is generally given to high-use, high-grade tracks.

As stated in 10.2.1 (iii), the prevention or repair of muddy sections of track will generally be given a lower priority than the prevention or repair of erosion or track widening except where mud churning is associated with track widening or erosion, or where mud conditions substantially exceed the requirements of user comfort implicit in the track classification for high-grade tracks.

**(iii) Upgrading of high-grade tracks**

The Service will continue to upgrade tracks with high classification (ie W1, W2, T1 and T2 tracks), and associated campsites, to standards consistent with the guidelines of the track and campsite classification schemes.

**(iv) Use of track manual**

Track siting, construction, stabilisation and maintenance to be undertaken in accordance with the techniques described in the Service’s *Walking Track Management Manual* (Blamey 1987) as updated by the Service from time to time.

**(v) Switchbacks**

Where switchbacks are installed to reduce gradients the sections between bends should be made as long as possible, especially in open country where the visual impact of switchbacks should be minimised.

**(vi) Use of local materials**

Options for track construction, stabilisation and maintenance may include the use of local materials but the environmental impacts of such use should be thoroughly assessed and weighed against the advantages. Local materials such as rock and gravel have the advantage of providing a track surface that is durable and relatively “natural”

in appearance, and the use of such materials may be the most economical option for stabilising tracks in some areas.

Digging out peats to expose gravels may be a viable option in some areas. Where gravel surfaces are used larger stones should be removed or crushed as these may deflect walkers to the side of the track.

**(vii) Gravel pits**

Permanent gravel-pits may be established in the vicinity of tracks of T2 standard or higher. Where permanent gravel-pits are established they should not be visible from tracks and impacts on access-pads should be kept to a minimum. All temporary gravel-pits should be rehabilitated.

**(viii) Tracks and facilities should “blend in”**

Construction materials (such as elevated walkways) which tend to alienate the user from the environment should be avoided where practical alternatives exist. The use of visually intrusive materials will also be avoided. The Service will investigate the practicality of using stained treated pine and of staining or painting existing treated pine track surfaces.

Where toilets and similar facilities are installed care should be taken to minimise the visual impact of such facilities.

**(ix) Use of machinery**

The Service will use (or in the case of contract trackwork, permit the use of) machinery such as mini-excavators and motorised wheelbarrows where appropriate, especially in the construction and maintenance of tracks of W1, W2, T1 and T2 standard. However the advantages of using machinery, especially on lower grades of tracks, must be weighed against the impact of machinery noise etc on wilderness values.

**(x) Provision for ongoing maintenance**

The policy of making provision for future maintenance where appropriate (see (f) above) implies for example that tracks of W1 and W2 standard should be constructed without steps where possible to facilitate the use of motorised wheelbarrows, and that gravel-pits should be located and designed for ongoing use where appropriate.

**(xi) Washdown points**

In accordance with the recommendations of the Service's *Management Plan for Phytophthora cinnamomi in the Tasmanian Wilderness World Heritage Area* (Parks and Wildlife Service 1993a) washdown points will be installed on tracks where appropriate.

**(xii) Attachments to living vegetation**

The practice of nailing yellow plastic triangles and similar track markers to living trees will be abolished unless the markers in question are biodegradable. Nonbiodegradable track markers on higher grade tracks (ie T1-T3) will be fixed either to dead timber or to stakes or poles. On lower grade tracks (ie T4 and to some extent T3) the use of coloured plastic tape may be appropriate, because plastic tape is durable but tends to break as branches grow out radially.

The practice of fixing steel cables (eg of bridges, flying foxes and handwires) to living trees will be discontinued and existing cables will be progressively removed from living trees. Cables will in future be fixed to steel or treated pine supports.

**Rationale:**

The practice of fixing nonbiodegradable markers etc to trees causes unsightly scars as the trees grow out radially, and cables and large bolts may eventually kill trees.

**(xiii) Steps**

A decision to install steps on high-grade tracks should take into account the fact that inexperienced walkers often tend to avoid steps, if necessary by walking on the side of a track.

## 9.10 Monitoring

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*The Service to undertake the comprehensive monitoring of track and campsite conditions, use levels and social impacts throughout the WHA.*

This work would be accomplished most effectively by the appointment of a monitoring officer (see 9.19). Monitoring will be undertaken in low-use as well as high-use areas within the WHA. Specific monitoring requirements are as follows:

**(i) Track and campsite conditions**

In order to maintain levels of track and campsite development and recreational impacts within the limits specified by the track and campsite classification schemes (9.4 and 9.5), tracks, campsites and recreational impacts must be adequately monitored throughout the WHA.

To this end the Service will develop and implement track and campsite monitoring schemes for the entire WHA in accordance with the priorities listed in appendix B3.3.

Aerial photographs will be used where appropriate as an indicator of track formation and track deterioration (see 9.13 (vii)).

**(ii) Usage levels and trends**

User numbers and usage trends throughout the WHA will be monitored by permit data backed up where necessary by data obtained from concealed pedestrian counters and user surveys.

**(iii) User characteristics/attitudes and social impacts**

The Service will continue to monitor user characteristics and attitudes (eg user response to usage restrictions) and social impacts such as crowding by means of user surveys. An effort will be made to survey a wide range of users in a wide range of recreational settings including remote, low-use areas, and to survey walkers at all times of the year.

**(iv) Campsite monitoring**

The WHA campsite monitoring program will be continued and the database modified to incorporate data on track and campsite classifications once the campsite classification scheme has been developed (see 9.5).

**(v) Photographic monitoring**

District ranger staff will be encouraged to undertake and continue the photographic monitoring of track conditions with a view to obtaining a qualitative record of changes including loss of vegetation, track widening, track braiding, rehabilitation and changes in track visibility.

**(vi) Other impacts**

Other environmental impacts resulting from recreational use, such as water pollution and siltation, will also be monitored where appropriate.

**Rationale for monitoring:**

Monitoring is essential in order to:

- (a) assess existing track and campsite conditions and biophysical and social impacts;
- (b) assess the rate of change of track and campsite conditions and impacts;
- (c) provide a basis for predicting future track and campsite conditions and levels of impacts;
- (d) assess trends in usage levels, user demand and user characteristics and attitudes;
- (d) determine the effectiveness of past management policies;
- (e) provide an objective basis for future management policies.

## 9.11 User education

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*Expand the Department's educational campaign.*

**(i) Education topics**

The Department's education campaign will be expanded to:

- (a) Publicise and explain the management objectives of the WHA and how these objectives relate to recreational usage.
- (b) Publicise and explain the track classification scheme.
- (c) Publicise and explain the need for management measures such as access permits, usage restrictions, track relocation and the installation of switchbacks.
- (d) Encourage user compliance with management restrictions and recommendations.
- (e) Encourage appropriate MIB practices (see (iii) below).
- (f) Promote a broader understanding of the concept and values of wilderness and the special requirements of wilderness management - eg the desirability of not publicising some tracks, routes, areas and natural features.
- (g) Promote user appreciation and enjoyment of the values and opportunities of wilderness recreation, over and above the achievement of preconceived goals such as "doing" the Overland Track or "conquering" Federation Peak (see 9.2).
- (h) Publicise the Service's policy on publicity and routeguides (see 9.12) and encourage voluntary compliance with this policy.
- (j) Foster user understanding of the sorts of experiences they can expect and the sorts of preparation, fitness and equipment that are required for walking in various parts of the WHA; encourage users to take adequate equipment and supplies; and encourage users to undertake trips that are within the range of their fitness and experience.

The Service will also encourage guidebook authors to include advice of this nature and to promote appropriate areas.

Notes:

- In order to inform users of the sort of recreational experiences they can expect and to direct users to appropriate areas and destinations the Service will publish "trip selection guides"

- containing information about major walks both within and outside the WHA.
  - To some extent trip difficulty can be linked to the track classification scheme - see 10.2.4.
- (k) promote the values of self-reliance and encourage users to undertake trips suited to their personal level of competence rather than relying on more experienced party members to “carry” them to remoter areas.

**(ii) User notes**

The Service will publish user notes for tracks, networks of tracks and areas (as appropriate) throughout the WHA. User notes will generally take the form of A4 or folded A3 sheets.

User notes will be updated as often as necessary and will contain:

- (a) Information relevant to user safety and (consistent with track classification) user enjoyment and convenience. (For example, user notes issued in winter for alpine tracks of T1 or T2 standard may include information on snow and ice conditions.)
- (b) MIB guidelines specific to the tracks/areas concerned, eg recommendations to fan out in certain areas, use specified campsites, avoid specified fragile areas.
- (c) Information about management measures in force in the area concerned, especially recently introduced measures such as track reroutes or closures. The notes should explain the need for these measures in order to encourage voluntary user compliance.
- (d) Consistent with track classifications user notes may contain basic route information but it will be made clear that user notes are not intended as routeguides.
- (e) Consistent with track classifications user notes may contain information about outstanding natural or cultural features which may be encountered (eg information about rare vegetation communities).
- (f) Information in user notes for T4 tracks, routes and “R” grade rivers will be minimal and relate primarily to issues of environmental protection and user safety.

The means of distribution of user notes will vary according to the track classification(s) that apply in the areas covered by the notes. User notes for high-use tracks of T1 or T2 standard will be widely available through travel agents, camping stores etc; user notes for medium-use, medium classification areas (eg the Denison Range) may be available only from ranger stations and registration booths at the start of tracks which provide access to the areas in question; and some user notes (eg for the Eldons traverse) may be available only on application for a permit.

**(iii) MIB code**

The MIB code will be expanded to emphasise the following rules:

- (a) No unauthorised cutting or marking of new or existing tracks, including officially recognised tracks. Discovery of suspected unauthorised tracks should be reported to ranger staff.
- (b) “Fan out” where possible in trackless areas, particularly in broad tracts of relatively open country, or as directed by signs or in the user notes. The concept of fanning out must be clearly defined to imply the following:
  - Walkers in trackless areas should attempt to avoid following existing pads.
  - Walkers in parties should avoid following in each other’s footsteps.

- Walkers undertaking repeat visits to trackless areas should attempt to choose a different route each time and to camp at different sites.
- (c) Rocks should not be moved to secure tent guys unless absolutely necessary. If rocks have to be moved loose rocks should be selected so as to minimise disturbance to soil etc, and should be replaced after use. Rocks should not be left sitting on vegetation, especially alpine moorland vegetation - the vegetation dies off leaving long-term scars.
- (d) No construction of campsite structures such as fireplaces, shelter walls and seats.
- (e) The ban on axes, machetes and saws will be publicised once introduced - see 9.16.

**(iv) Educational media**

Educational material will be disseminated through user notes (see 9.11 (ii)) and “trip selection guides” (9.11 (i): (j)) as well as the traditional channels, ie posters, pamphlets, magazine articles, audiovisuals etc.

Greater emphasis needs to be placed on direct contact with and education of user groups, for example by providing slideshows, talks and the opportunity for discussion at club meetings.

In addition, further research and experimentation is required to determine the most effective way of reaching various user groups (see 9.13 (iv)).

Increased ranger presence is needed in some areas, particularly areas frequented by user groups not yet familiar with the MIB code and areas where ranger presence has been minimal to date.

**Rationale for education:**

Education is one of the most effective ways of modifying the behaviour of wilderness users and of ensuring user compliance with management directives (see B4.5).

## 9.12 Publicity and routeguides

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*The Service will establish guidelines for the publication of routeguides and other forms of publicity related to the WHA. The Service will comply with these guidelines and strongly encourage other government departments and members of the public including routeguide authors, walking clubs, tourist organisations, guided tour operators and magazine editors to do likewise.*

Guidelines for publicity and routeguides are included in the track classification scheme (section 10). Note in particular that the publication of detailed information about T4 tracks, routes and features in trackless areas will be strongly discouraged.

The Service will publicise its guidelines on publicity and routeguides, explain the rationale for those guidelines and encourage wilderness users and other members of the public to comply voluntarily with those guidelines, by means of an ongoing education campaign (see 9.11 (i): (h)).

The following specific actions will be undertaken by the Service:

**(i) Publicity of policy**

The Service will publicise its guidelines on publicity through the following channels:

- liaison with other government departments;
- liaison with user groups such as walking clubs;
- liaison with major tourist organisations, tourist bureaus and guided tour operators;

- articles in “rucksack sport” magazines;
- user notes (see 9.11(ii));
- registration booths;
- MIB media.

**(ii) Liaison with authors and publishers of guidebooks**

The Service will contact all known established or prospective authors and publishers of guidebooks which include Tasmanian tracks and routes, informing them of the existence of and rationale for the publicity guidelines and requesting voluntary compliance with these guidelines.

**(iii) Detailed guidelines for T3s**

The guidelines for the publicity of T3 tracks will be spelt out in more detail to give routeguide authors and publishers a clear idea of the level of detail appropriate in routeguides for these tracks. To this end a set of sample routeguides for T3 tracks will be circulated with accompanying notes and made available to prospective authors and publishers on request.

**(iv) Service endorsement of guidebooks**

Authors and publishers of guidebooks will be encouraged to consult the Service to ensure that the contents of proposed publications are compatible with the publicity guidelines and management requirements for the tracks and areas in question.

Authors and publishers of guidebooks which conform to Service guidelines will be encouraged to advertise this fact, for example by including the words: “This guidebook conforms to guidelines recommended by the Parks and Wildlife Service” on the dust-jacket of the publication.

Wilderness users will be encouraged to patronise publications which conform to Service guidelines.

**(v) Minimal publicity for T4s and Routes**

The track classification scheme recommends minimal publicity for T4 tracks, routes and grade 3 rivers. T4 tracks and routes will be excluded from maps published by the Service except for internal management purposes, and the inclusion of T4 tracks and routes in other maps will be strongly discouraged.

**(vii) Publicity of appropriate areas and destinations**

As stated in 9.11 (i): (j) the Service will publicise and promote suitable recreational opportunities both within and outside the WHA, partly through the medium of “trip selection guides”.

**(viii) Service routeguides**

The Service does not intend to undertake the publication of guidebooks in the foreseeable future, because by doing so it would put itself in direct competition with established authors who have shown a willingness to comply with Service guidelines.

The Service will however continue to include basic routeguide information in the text accompanying its regional maps (eg the *South Coast Walks* map - Tasmap 1992) and where appropriate in its user notes (see 9.11 (ii)).

## **Rationale for policy on publicity:**

Appropriate publicity can play a useful role in promoting safe, enjoyable and environmentally responsible wilderness recreation, in directing users to appropriate areas and in enhancing user appreciation of the natural, cultural and recreational values of the WHA.

Conversely inappropriate publicity can degrade wilderness and recreational values, encourage users to undertake walks unsuitable for their needs, fitness and experience and encourage undesirably high usage levels and inappropriate user behaviour. See also 8.3.7.

## **9.13 Research**

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*The Service to undertake, encourage and monitor research on track construction techniques, recreational impacts, usage trends and other areas of wilderness-recreation management*

The Service will undertake, encourage and/or monitor research in the following areas. Priorities are indicated where appropriate.

### **(i) Track stabilisation techniques**

Ongoing research into track stabilisation techniques, with emphasis on:

- (a) Use of local materials and the environmental impacts of such use, eg
  - use of locally quarried gravels and locally obtained rock;
  - digging out peat to expose gravels;
  - mulching of scrub for use as temporary track surfacing on T3 tracks where scrub is frequently cut.
- (b) “Minimalist” techniques for use on T3 and T4 tracks and routes, eg single-width planking, turnpiking of litter in forests.
- (c) Minimising costs of installation and maintenance.
- (d) Maximising durability of track constructions.
- (e) The development of specialised techniques and new technologies, eg lightweight plastic matting, metal walkways for use on alpine moorland.
- (f) Use of machinery such as mini-excavators and tracked wheelbarrows.
- (g) Campsite stabilisation techniques and materials.
- (h) Use of voluntary labour, eg a “Friends of the Parks” system.
- (i) Research into the environmental effects of track-construction materials and techniques.

### **(ii) Recreational impacts**

Ongoing research into the processes and effects of biophysical impacts caused by recreation in the WHA. Examples of specific topics include:

#### **High priority areas**

- (a) Test effectiveness of a “fan out” policy as a means of minimising vegetation and soil impacts in appropriate areas.
- (b) Determine usage thresholds for pad formation and vegetation loss in different environments;
- (c) Study relationships between siting variables, usage and impacts on tracks and campsites.

#### **Lower priority areas**

- (d) Identify indications of the onset of long-term or irreversible damage, eg thresholds of vegetation damage or soil compaction.
- (e) Investigate the effect of timing on trampling impacts, eg does trampling have more impact if concentrated or spread out in time? Is severity of impact dependent on seasonality of trampling?

- (f) Investigate effects of track construction or track formation on fauna, eg animal movements along tracks.
- (g) Investigate effects of siltation and deposition caused by track erosion.
- (h) Assess trampling impacts caused by different types of footwear.

**(iii) Social impacts, usage trends and user characteristics, expectations, goals and attitudes**

- (a) Assess usage trends and user demand throughout the WHA and in relevant areas outside the WHA.
- (b) Determine which walkers in the WHA (classified by place of origin, where they are going etc) would be just as happy pursuing recreational activities outside it.
- (c) Assess user response to management measures, eg permits, usage restrictions, various types of track surfaces and construction techniques.
- (d) Determine whether recreational displacement is occurring, and if so where, why, likely ramifications and what can be done to prevent it.
- (e) Assess social impacts, user characteristics and user attitudes in medium to low use areas in the WHA and outside the peak-use period (9.10 (iii)).
- (f) Assess user attitudes to biophysical and social impacts.

**Other research areas:**

**(iv) Educational media**

Assess effectiveness of various educational messages and media, eg do users comply with recommendations to fan out in certain areas? (High priority.)

**(v) Rehabilitation**

Ongoing research into rehabilitation methods, eg how to rehabilitate redundant sections of track and edges of excessively wide tracks - see 9.15. Rehabilitation trials to be undertaken as a matter of high priority.

**(vi) Toilets**

Development of small, cheap composting toilets or other types of toilets for installation at sensitive sites where larger toilets would be unnecessary or inappropriate. (High priority.)

**(vii) Use of aerial photography**

Determine the extent to which track data such as track width and track surface type (ie vegetation, soil or bedrock) can be determined from aerial photographs. (Lower priority).

## 9.14 Fire bans

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*The Service to designate the Bobs-Boomerang area as a Fuel Stove Only Area as a matter of very high priority. Further expansion of FSOAs to be considered as per the recommendations of the WHA Management Plan (high priority).*

**Rationale:**

- (a) The risk of escaped campfires poses a serious threat to native ecological communities, especially communities which are highly fire-susceptible (Kirkpatrick 1990). Vegetation in the Bobs-Boomerang alpine complex is unusual for its low incidence of fire and a major fire in the area could result in severe and longterm ecological damage (Kirkpatrick & Harwood 1980).

- (b) Escaped fires can cause widespread destruction of peat soils leading to sheet erosion, siltation and flash flooding (Pemberton 1988).
- (c) Escaped fires can destroy the habitats of rare and endangered species such as the orange-bellied parrot (Brown & Wilson 1984).
- (d) Escaped fires are expensive to fight, may threaten property and human life and can cause widespread damage to scenic and recreational values and track infrastructure.
- (e) Fuel collection greatly increases the impacted area around campsites (Cole & Dalle-Molle 1982).
- (f) Many walkers are unaware of the presence of peat or the danger of (illegally) lighting fires on peat, which can burn underground and break out later causing widespread damage. (The lack of walker awareness of the danger of lighting fires on peat is evident from the number of fireplaces established on peat in some areas, eg on the Port Davey Track - Department of Parks, Wildlife & Heritage 1990b.)

## 9.15 Rehabilitation

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*Disused and redundant tracks and campsites to be rehabilitated or allowed to rehabilitate naturally. Biophysical impacts exceeding the levels specified by the track and campsite classification schemes to be rehabilitated or allowed to rehabilitate to levels specified by those schemes.*

In particular the Service will take steps to assist or allow the rehabilitation of the edges of excessively wide tracks in the medium to long term. Possible techniques include laying down a mulch of shredded scrub covered with jute strips to assist initial vegetation growth, and the use of markers to define the correct track corridor.

The Service's Land Rehabilitation Officer will play an active role in the development and implementation of rehabilitation techniques for tracks, campsites and other forms of recreational impact

## 9.16 Ban on axes, machetes and saws

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*Unauthorised carrying of axes, machetes and saws to be banned in the WHA.*

### **Rationale:**

Widespread damage is still being caused in some parts of the WHA by illegal track cutting, the blazing of trees and the cutting of vegetation and timber for campfires, camp constructions (eg seats) and other facilities such as log bridges.

Axes and saws are unnecessary for minimal-impact bushwalking, even in emergencies. The carrying of axes and saws in the WHA should therefore be regarded as an offence comparable to taking a pet into a national park or riding a trail-bike in an area prohibited to mechanised vehicles.

## 9C IMPLEMENTATION

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### 9.17 Track management officer

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*The Service to appoint a track management officer to:*

- (i) Oversee and co-ordinate the implementation of the WHA Track Management Strategy.
- (ii) Co-ordinate the preparation and implementation of management plans for tracks, routes and campsites throughout the WHA (see 9.18) and ensure that the methods and recommendations of these plans are consistent with the overall WHA Track Management Strategy.
- (iii) Co-ordinate the review and restructuring of existing draft management plans in the light of the WHA Track Management Strategy.
- (iv) Co-ordinate and monitor research and development in the following areas:
  - techniques for locating, constructing, upgrading, repairing and maintaining tracks and campsites (see 9.13 (i));
  - the processes and effects of biophysical impacts caused by recreation in the WHA (9.13 (ii)); and
  - rehabilitation techniques (9.13 (v)).
- (v) Keep district managers and other Service staff informed of new techniques and research findings, and assist information transfer between staff.
- (vi) Determine whether the use of voluntary labour for trackwork is feasible and appropriate, and if so, establish and oversee a system to employ voluntary trackworkers on an ongoing basis.
- (vii) Compile a database of existing track improvements and of trackwork and track maintenance undertaken (as from 1993) throughout the WHA, and co-ordinate the ongoing use and updating of the database by district ranger staff.

### 9.18 Track management plans

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*Track management plans to be prepared for specific tracks, track-systems or regions (as appropriate).*

**(i) Purpose of track management plans**

The purpose of the track management plans is to “flesh out” the information and recommendations contained in the *WHA Track Management Strategy* and to revise and update the recommendations of the Strategy where necessary if new information or alternative management options come to light.

**(ii) Format and contents**

The plans will be produced in two sections, namely an EIS/resource document and a field document for use by staff involved in planning and implementing survey, maintenance and construction work.

The field document will generally be in the form of a project proposal form (PPF).

**EIS/resource document**

The EIS/resource document will comprise:

- A summary of environmental conditions in the area concerned including information on geology, soils, vegetation, fauna etc;

- A summary of the natural and cultural values of the area concerned including an assessment of wilderness values where appropriate;
- An inventory of existing tracks, routes and campsites in the area or track-system concerned;
- An assessment of the current and projected condition and rate of deterioration of existing tracks, routes and campsites;
- Information on use levels, user characteristics and usage trends in the area concerned;
- An assessment of existing and potential environmental impacts due to recreational use, eg the potential for new track formation or spread of *Phytophthora cinnamomi*.
- An assessment of short, medium and long-term management options including track and campsite relocation, stabilisation works, use restrictions and specific aspects of user education (eg recommendations to fan out in particular areas);
- Proposed management actions other than field-oriented works, eg overall usage restrictions and items to be included in education campaigns.

#### **Field document/PPF**

The field document should include:

- Proposed management actions and priorities involving the siting, construction, upgrading and repair of existing tracks and campsites;
- An assessment of ongoing maintenance requirements;
- Other proposed field-related works and priorities, eg track closures, installation of facilities;
- Assessments of resources required including cost estimates.

#### **Note**

A track management plan encompassing a particular area (as distinct from a plan for a specific track like the Overland Track) should contain a resource assessment and management recommendations for the entire area, not just for existing tracks within that area. For example a track management plan for the Southern Ranges should assess and make management recommendations for minor side-routes such as the route to Mt Victoria Cross.

### **(iii) Maintaining consistency in management policies**

Management plans should:

- assess management options and recommend management strategies consistent with the track classification scheme and the track classifications listed in section 11; and
- incorporate the recommendations listed in appendix A and the WHA tracks database.

However the management actions recommended in the Strategy may be modified in the light of further information on local environmental conditions, usage patterns and new track construction and maintenance techniques.

### **(iv) Revision of existing track management plans**

Track management plans which have already been prepared in draft form will be reviewed and restructured in the light of the recommendations of the *WHA Track Management Strategy* - see appendix G1 for details. Where discrepancies exist between the recommendations of the Strategy and the recommendations in existing (draft) track management plans, the Strategy will supersede existing plans.

- (v) **Preparation of new track management plans**  
Track management plans will be prepared for tracks and areas not currently covered by plans. See appendix G2 for details.

#### **Additional notes**

- (vi) **The management of areas not yet covered by track management plans should conform to the recommendations of the *WHA Track Management Strategy* until local track management plans are prepared.**
- (vii) **Plans covering areas and tracks outside the jurisdiction of the Parks & Wildlife Service will be prepared in collaboration with the Forestry Commission and other relevant departments.**
- (viii) **Track management plans are to be reviewed every five years.**
- (ix) **The Service will formalise the process of planning and implementing track maintenance programs, a process which will include the preparation of detailed costings for ongoing track maintenance.**

### **9.19 Monitoring officer**

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*The Service to appoint a monitoring officer to undertake and co-ordinate the monitoring of track and campsite conditions, use levels and social impacts throughout the WHA, the compilation of data and the publication and dissemination of relevant information to ranger staff and planning officers within the Service (see 9.10).*

Specific tasks would include:

- Develop and establish a monitoring system to ascertain track and campsite conditions throughout the WHA.
- Assess usage levels using data from registration booths, permits (when introduced) and pedestrian counters where appropriate.
- Co-ordinate ongoing monitoring (by field staff) at established sites or in designated areas, and analyse and publish data.
- Monitor/instigate research into social impacts, usage trends and user characteristics, expectations and attitudes throughout the WHA (and elsewhere if relevant).

### **9.20 Permit officer**

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*The Service to appoint a member of staff to investigate appropriate means of, and appropriate timing for, introducing, publicising and managing an entry-permit system throughout the WHA.*

### **9.21 Education/publicity officer**

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*The Service to appoint a member of staff to co-ordinate the implementation of the policies outlined in sections 9.11 and 9.12.*

Specific tasks will include:

- co-ordinating the publication of user notes and MIB materials (see 9.11(ii) and (iii));
- liaising with user groups, guidebook authors, magazine editors, tourist organisations, tourist bureaus, guided tour operators and other government departments;

- writing articles for magazines;
- ensuring that Service publications conform to the publicity guidelines specified by the track classification scheme.

## **9.22 Liaison with other management bodies**

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*The Service to liaise with the Forestry Commission and other management bodies where appropriate to negotiate policies for the management of tracks and routes outside and adjacent to the WHA and to ensure as far as possible that these tracks and routes are managed in accordance with the recommendations of the Strategy.*

## **9.23 Extension of the Walking Track Management Strategy to Tasmania as a whole**

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*The Walking Track Management Strategy, including the track classification scheme, to be extended to encompass walking tracks and walking opportunities throughout Tasmania.*

In order to minimise the resources necessary for this undertaking the Tasmania-wide strategy should focus on walking opportunities of half-day length and longer, particularly walks which may serve as alternatives to tracks or in areas in the WHA where over-use is a problem or is likely to become a problem in the foreseeable future.

### **Rationale:**

The management of recreational demand and use trends in the WHA needs to be undertaken in a statewide context, particular insofar as it may involve redirecting some walkers to areas outside the WHA.

A statewide strategy would also provide a framework for the systematic management of recreational impacts in non-WHA areas.

## **9.24 Policing of regulations**

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The adequate policing of regulations such as “fuel-stove only” areas and permits will require increased ranger presence in some areas, particularly high-use areas where ranger presence has been minimal to date.

Optimum compliance with regulations is likely to be achieved by a combination of effective user education (9.11), substantial deterrents (eg a maximum \$1000 fine for entering an area without a permit) and the knowledge that people who violate regulations run a real risk of being prosecuted.

# 10 Track classification scheme and impact limits for tracks, campsites and rivers

## 10.1 General comments

**(i) Classification scheme is prescriptive**

This classification scheme is *prescriptive*, ie it specifies track standards as guidelines for management. It should not be confused with the *descriptive* classification scheme (“no pad”, “pad” or “track”) used in appendix A1 to categorise the degree of track development that has occurred on a given route or track. (See note (v) (b) of A1.)

**(ii) Specifications are flexible**

Specifications for limits to biophysical and social impacts in wilderness settings must have a degree of flexibility, for two main reasons:

First, the aesthetic and ecological significance of recreational impacts may vary widely in different environmental settings. For example track widening is a more serious problem in alpine areas where the resulting vegetation loss is likely to be irreversible.

Second, exact specifications would be impractical to implement - for example it would be impractical to ensure that every metre of every T3 track is less than 0.75 metres wide.

The specifications in this document are therefore to be regarded as guidelines, not as rigid prescriptions.

**(iii) Significance of acceptable limits**

As stated in Sec 9.1 track formation in previously trackless areas, track and campsite deterioration and increasing social impacts are to be tolerated in the short to medium term only if such developments are expected to stabilise or be arrested at acceptable levels in the medium to long term. Acceptable levels are defined in 10.2, 10.3 and 10.4.

For example it is acceptable for a section of T2 track to be eroded to a depth of 25cm on stable bedrock, but active erosion at any depth is not acceptable if the depth is likely to exceed 25cm in the long term.

Tracks, routes or campsites on which conditions have deteriorated beyond acceptable levels will be repaired or allowed to regenerate until the required standards are met.

**(iv) “Ideal” classifications**

Some tracks have been awarded two classifications, a standard classification which is to apply for the foreseeable future and an “ideal” classification to which the track in question could eventually be upgraded if sufficient funds become available, or downgraded if politically feasible. “Ideal” classifications are indicated in italics in section 11 and appendix A1.

**(v) Notation**

Additional notation relating to track classifications is defined in 10.5.

## 10.2 Guidelines applying to more than one classification

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### (i) Width

No part of any track other than designated “walks” (W1 & W2) should exceed 2m in width in the long term. Priority for containing and reducing track widths should be given to tracks in alpine areas and those on highly visible slopes and spurs.

### (ii) Depth of erosion

The depth of erosion on a track traversing a cross-slope is defined here as the depth relative to the original (estimated) ground level. Erosion depths on benched tracks are measured relative to the original benched surface.

Erosion depths exceeding 25cm should be avoided wherever possible. For tracks of T3 standard or higher, active soil erosion is acceptable providing it is expected to stabilise (eg on bedrock) or be arrested by future trackwork before the depth exceeds 25cm. However erosion to depths less than 25cm will also be prevented as far as practical.

Management should attempt to ensure that no more than 20% of any continuous 1km section of T4 track becomes eroded to a depth of more than 10cm.

The depth and extent of erosion considered acceptable for any track, and the priority assigned to work aimed at preventing or halting erosion, must take into account the visual and ecological impact of such erosion in the environment in question.

### (iii) Mud

The prevention or repair of muddy sections of track will generally be given a lower priority than the prevention or repair of erosion or track widening except in the following cases:

- (a) Where mud churning is causing or is associated with track widening (especially in alpine areas) or erosion; and
- (b) Where mud conditions substantially exceed the requirements of user comfort implicit in the track classification for W1, W2, T1 tracks and in some cases for T2 tracks.

The repair or rerouting of sections of excessively deep (ie >20cm) mudbowls, other than those referred to in (a) above, may be undertaken on tracks of T2, T3 and T4 standard, and even on localised sections of designated routes, as a low priority in the long term. Such repair should be undertaken using techniques compatible with the track classification, eg using rock infill or single-width planking.

### (iv) Campsites

Measures will be taken to prevent the unplanned formation and spread of campsites throughout the WHA regardless of track classification, and to ensure that established campsites are stable in the long term. If necessary campsites will be artificially stabilised, as will the associated trampled areas and “social tracks”.

Priority for stabilising campsites will be given to:

- (a) alpine sites and other environmentally sensitive sites;
- (b) rapidly deteriorating sites, especially sites where poor conditions are likely to lead to an increase in campsite area or to the formation of new sites.

Approximate sizes for campsites, expressed in terms of numbers of tent-sites, are specified in the track classification scheme. Owing to wide variations in environmental conditions these specifications should be regarded as a rough guide only.

The number of campsites on any track should generally be kept to the minimum necessary to cater for peak usage. However in areas where campsite impacts are low (eg in lowland forest areas) a surplus of campsites may be acceptable.

Campsite structures such as fireplaces, seats, shelter walls and fixed washing lines (but excluding tent platforms and other facilities installed for environmental purposes) are inappropriate and will be progressively removed from all sites outside Visitor Service Zones and Sites.

### 10.2.2 Social impacts

#### (i) Maximum usage

The maximum usage levels specified by the track classification scheme are included as a guide only. It should be noted that the usage levels appropriate for a track in a daywalk area will generally be higher than those appropriate for a track with the same classification in a remote area because higher levels of social impact are acceptable in daywalk areas. For any given track, route or area usage will be maintained at levels at which the track and campsite conditions specified in the track classification scheme can be achieved and maintained in the long term, and at levels compatible with the maintenance of the natural, cultural and recreational values of the area in question. In general usage ceilings will be based on the results of ongoing monitoring of track and campsite conditions and other forms of impact.

Usage in trackless areas will be restricted to levels at which the specifications of the “Route” classification are met throughout the areas in question. In particular, usage ceilings will be set below the levels at which pads and tracks are likely to form.

#### (ii) Campsite crowding

The specified limits for campsite area (expressed in terms of numbers of tent sites) automatically specify limits for the number of people likely to be encountered at such sites. For example usage of T2 tracks should be managed so as to restrict the number of people encountered at any one time at campsites on these tracks to a maximum of 24, preferably dispersed in groups of up to eight.

#### (iii) Maximum party size

Upper limits for party size are included in the specifications for all walking tracks except W1 and W2 tracks for which there is no upper limit. These limits will apply to all parties including guided parties (for which the specified party size includes guides).

Party size limits will be publicised as part of the Service’s expanded MIB campaign (see Sec 9.11 (iii)).

Walkers will be required to restrict their party size according to the specifications recommended for the least developed track or route they intend to use during their trip. For example, walkers traversing the Southern Ranges (T3+T4) and returning via the South Coast Track (T2) will be required to restrict their party size to six.

The limits specified for party size have been determined in part by existing arrangements with professionally guided groups, and may be modified when more information becomes available about the relationships between party size and biophysical and social impacts.

### 10.2.3 Guided tours

Licences are required for the operation of professionally guided tours anywhere in the WHA. Where usage restrictions apply, guided tour usage is to be restricted to a

maximum proportion of total usage. As stated in 10.2.2 (iii) guided parties will be required to conform to the party size limits specified in the track classification scheme.

Guided tour operators will be required to follow the guidelines for publicity specified in the track classification scheme, ie to restrict their publicity for T3 tracks and not to publicise T4 tracks and routes. Operators guiding trips on T4 tracks and routes may publicise the fact that they are doing so but will not be permitted to publicise exact destinations and routes.

#### **10.2.4 Walk difficulty**

The track classification scheme does not include specifications defining the difficulty of walking along various grades of track or route, because difficulty of walking is hard to define and the classification scheme would become unwieldy if it included too many specifications.

Difficulty of access is however to some extent implicit in the track classification scheme; for example walkers on T3 tracks can expect to encounter steeper gradients, rougher track surfaces and fewer people than on T1 tracks. Hence the track classification scheme can be used as an indicator of the level of difficulty which can be encountered by walkers in the WHA - see 9.11 (i): (j).

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### 10.3 Walking track specifications

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<b>W1</b>	<b>Wheelchair standard nature trail</b>
<b>Length</b>	Usually less than 1.5 km for a loop track or 750m if users have to double back.
<b>Width</b>	Min 1.2m, preferably at least 1.5m or with sections more than 1.5m wide every 30m and at bends to allow wheelchairs to pass.  Max 2.5m, preferably less than 2m over most of track. (Tracks more than 2m wide may be disorientating for users with impaired vision.)  Ramped sections should be exactly 1.02m wide with handrails on both sides.
<b>Max gradient</b>	5°; mostly less than 2°.
<b>Surfacing</b>	Firm even surface, eg concrete, asphalt, fine gravel, sawn wood planking. Edges clearly defined.
<b>Drainage</b>	Well drained, “shoe” standard.
<b>Steps</b>	No steps; ramps < 5°.
<b>Scrub clearance</b>	Min 0.3m on either side at ground level, 0.5m at shoulder level, 2.2m height clearance. No obstacles.
<b>Facilities</b>	Bridges to full width of track, signposts, interpretation facilities, viewing platforms. Shelters and benches are acceptable but not picnic tables. Track markers are unnecessary.
<b>Max usage</b>	No restrictions.
<b>Max party size</b>	No restrictions.
<b>Publicity</b>	No restrictions.
<b>Routeguides</b>	No restrictions.
<b>Guided tours</b>	Licences are required.
<b>Example</b>	Cradle Mt visitor centre rainforest walk, Russell Falls Track.

<b>W2</b>	<b>(Standard) nature trail</b>
<b>Length</b>	Usually less than 3km for a loop track or 1.5 km if users have to double back.
<b>Width</b>	Min 0.6m, generally at least 1m. Max 2.5m, preferably less than 2m over most of track. (Tracks more than 2m wide may be disorientating for users with impaired vision.)
<b>Max gradient</b>	Mostly less than 8°, max 15° over short (30m) sections.
<b>Surfacing</b>	Reasonably firm, eg stabilised soil, gravel, pine chips, stone. Note: Evenly laid cordwood may be suitable for some W2 tracks but cordwood is generally unsuitable for tracks likely to be used by aged or disabled people.
<b>Drainage</b>	Well drained, “shoe” standard.
<b>Steps</b>	Steps and stairs may be included, with handrails where necessary for user safety.
<b>Scrub clearance</b>	Min 0.3m on either side at ground level, 0.5m at shoulder level, 2.2m height clearance. No obstacles.
<b>Facilities</b>	Bridges to full width of track, signposts, interpretation facilities, viewing platforms. Shelters and benches are acceptable, but not picnic tables. Track markers are unnecessary.
<b>Max usage</b>	No restrictions.
<b>Max party size</b>	No restrictions.
<b>Publicity</b>	No restrictions.
<b>Routeguides</b>	No restrictions.
<b>Guided tours</b>	Licences are required.
<b>Example</b>	Donaghys Hill Nature Trail, Ballroom Forest Track.

<b>T1</b>	<b>Track grade 1</b>
<b>Length</b>	No limit for any tracks of T1 standard or lower.
<b>Width</b>	Min generally 0.5m, generally at least 0.75m. Max 1.2m.
<b>Max gradient</b>	Mostly < 15° but may be steeper in places.
<b>Surfacing/Drainage</b>	“Boot” standard. May be rocky and uneven in places. Some mud and water to 10cm is acceptable.
<b>Scrub clearance</b>	Mostly clear of scrub across width of track. Some fallen debris and other obstacles may be encountered.
<b>Facilities</b>	<p>Track markers where necessary to ensure that route is obvious except under extreme conditions (eg blizzards, heavy snow).</p> <p>Snow poles may be installed on the Overland Track, the Kitchen Hut/Horse Track, the Walls of Jerusalem Track between Trappers Hut and the Pool of Bethesda, and the Hartz Peak track between the carpark and Ladies Tarn, but will not be installed on other T1 tracks.</p> <p>Bridges (with flat walking surface at least 0.5m wide) to be installed over all major creeks and rivers. Bridges with a walking surface less than 0.5m wide should incorporate a handrail or wire. Stepping stones acceptable; fords acceptable where water is generally less than 10cm deep.</p> <p>Monochrome (directional) signposts at start of track and at junctions with tracks of grade T3 or higher. Junctions with T4 tracks may be unsignposted; otherwise signposts should refer to the main (T1) track only.</p> <p>Duotone signposts (“cream” lettering on “ironbark” background) acceptable at trailheads.</p> <p>Interpretative signs are acceptable in existing structures such as huts. Signs may also be installed for management and safety purposes.</p> <p>Note: Users should be warned that routefinding and progress on T1 tracks may be difficult under extreme conditions such as blizzards, flooding or heavy snow.</p>
<b>Campsites</b>	Visibly impacted sites for up to 20 tents, preferably dispersed in groups of up to four tents. Enclosed toilets to be provided at sites of more than 10 tents, or where necessary for environmental purposes.
<b>Max usage</b>	5000 per annum.
<b>Max party size</b>	<p>13. (Note: this figure allows for commercially guided tours with ten clients and three guides.)</p> <p>Party sizes of less than 6 will be encouraged.</p>
<b>Publicity</b>	No restrictions - may be included in maps, tourist brochures etc.
<b>Routeguides</b>	May be included in routeguides but routeguide authors will be encouraged to consult with the Service to ensure that published information and advice is compatible with management objectives.
<b>Guided tours</b>	Permitted but licences are required and numbers of trips may be restricted.
<b>Example</b>	Overland Track, Shadow Lake Track.

<b>T2</b>	<b>Track grade 2</b>
<b>Width</b>	Min 0.5m but short sections <0.5m acceptable. Max 1m.
<b>Max gradient</b>	Mostly < 20° but may be steeper in places.
<b>Surfacing/Drainage</b>	“Wet boot” standard. Stabilisation/hardening mainly for environmental purposes but some concessions to user comfort. Surface may be rough and/or muddy over extended sections. Mud up to 20cm deep acceptable in places.
<b>Scrub clearance</b>	Mostly clear of scrub across width of track. Some fallen debris and other obstacles may be encountered.
<b>Facilities</b>	<p>Track markers where necessary to ensure that route is obvious except under extreme conditions (eg blizzards, heavy snow in nonalpine areas).</p> <p>Snow poles may be installed on the Rufus Circuit, Cradle Mt summit track, Face Track, Twisted Lakes Track (assuming this retains T2 classification), Rodway Track (between Ranger Hut and Scott Kilvert Hut) and the Walls of Jerusalem Track between the Pool of Bethesda and the Dixons Kingdom area, but will not be installed on other T2 tracks.</p> <p>Bridges to be installed over all major creeks and rivers which are not normally safely fordable at a depth of less than 0.5m. Bridges may also be installed to minimise erosion at creek crossings. Log crossings and cable bridges acceptable; flying foxes or swing bridges acceptable over larger rivers. Some fords may be flood-prone.</p> <p>Monochrome (directional) signposts at start of track and at junctions with tracks of grade T3 or higher. Junctions with T4 tracks may be unsignposted; otherwise signposts should refer to the main (T2) track only. Signs may also be installed for management and safety purposes.</p> <p>Note: Users should be warned that routefinding and progress on T2 tracks may be difficult under extreme conditions such as blizzards, flooding or heavy snow.</p>
<b>Campsites</b>	Visibly impacted sites for up to 12 tents, preferably dispersed in groups of up to four tents. Toilets to be provided at sites of more than 10 tents, or where necessary for environmental purposes.
<b>Max usage</b>	2500 per annum
<b>Max party size</b>	13. (Note: this figure allows for commercially guided tours with ten clients and three guides.)
	Party sizes of less than 6 will be encouraged.
<b>Publicity</b>	Generally no restrictions, but some types of publicity may be discouraged if overall usage restrictions are necessary.
<b>Routeguides</b>	May be included in routeguides but routeguide authors will be encouraged to consult with the Service to ensure that published information and advice is compatible with management objectives.
<b>Guided tours</b>	Permitted but licences are required and numbers of trips may be restricted.
<b>Example</b>	South Coast Track, Frenchmans Cap Track.

<b>T3</b>	<b>Track grade 3</b>
<b>Width</b>	No minimum width. Maximum 0.75m. May include sections of marked route with or without visible pad, eg staked route across moorland.
<b>Max gradient</b>	Limited by environmental considerations only.
<b>Surfacing/Drainage</b>	Minimal - for environmental purposes only.
<b>Scrub clearance</b>	Sufficient to facilitate fairly easy navigation under normal conditions. Fallen debris and other obstacles may be encountered.
<b>Facilities</b>	Track markers where necessary to ensure that route is obvious along most of track, although route may not be obvious in snow. No snow poles.  Rough log bridges acceptable but not necessary. Flying foxes acceptable over rivers which cannot normally be forded, but some fords may be flood-prone.  Monochrome (directional) signposts at start of track and at junctions with tracks of grade T3 or higher. Junctions with T4 tracks may be unsignposted; otherwise signposts should refer to the main (T3) track only. Signs may also be installed for management and safety purposes.
<b>Campsites</b>	Visibly impacted sites for up to 8 tents, preferably dispersed in groups of two or three tents. Toilets of minimal design to be provided where necessary for environmental purposes.
<b>Max usage</b>	1000 per annum.
<b>Max party size</b>	8  Party sizes of less than 6 will be encouraged.
<b>Publicity</b>	Potential publicists (eg magazine editors) will be encouraged to keep publicity low-key. T3 tracks may be included on maps.
<b>Routeguides</b>	Routeguides are acceptable but should be sparsely written - routeguide authors will be encouraged to follow Service guidelines.
<b>Guided tours</b>	Permitted but licences are required and numbers of trips may be restricted. Advertising and publicity should conform to T3 guidelines - see 10.2.3.
<b>Example</b>	Anne Circuit, Rasselas Track.

<b>T4</b>	<b>Track grade 4</b>
<b>Width</b>	No minimum width. Maximum 0.5m.
<b>Max gradient</b>	Limited by environmental considerations only.
<b>Surfacing/Drainage</b>	Minimal - for environmental purposes only.
<b>Scrub clearance</b>	Minimal. As a general rule living woody vegetation will not be cut. Track clearing will generally not be undertaken by the Service but may be undertaken occasionally by volunteer groups with Service authorisation and under Service supervision. Clearance of vegetation will be prohibited on tracks classified (T4, R) and T4*.
<b>Facilities</b>	T4 tracks may be marked but markers should be low-key and tracks may be difficult to follow in places. No snow poles.  Track marking will not be permitted on tracks classified (T4, R).  No other facilities except where necessary for environmental purposes - eg “fan out” signs.
<b>Campsites</b>	Visibly impacted sites for up to 4 tents. Toilets of minimal design to be provided only where necessary for environmental purposes.
<b>Max usage</b>	250 per annum.
<b>Max party size</b>	6.  Party sizes of less than four will be encouraged.  Parties of up to 8 acceptable on some T4 tracks in the Central Plateau SRRZ, subject to environmental conditions.
<b>Publicity</b>	All publicity to be discouraged. Not to be included on maps except for internal management purposes. Authors will be encouraged to keep route descriptions vague (eg in accounts of past expeditions). Photographers and publishers will be encouraged not to identify the precise location of photographs taken in areas accessible only by T4 tracks.
<b>Routeguides</b>	Inclusion of T4 tracks in routeguides will be strongly discouraged.
<b>Guided tours</b>	Licences may be issued on condition that guided parties conform to the recommended party-size limit and to the guidelines relating to the publicity of tracks and destinations (see 10.2.3).
<b>Example</b>	Nevada Pk track (to scrubline), Mt Weld track.

<b>R</b>	<b>Route</b>
<b>Note:</b>	Applies to all trackless areas regardless of zoning.
<b>Pad formation</b>	Pads or tracks to be kept to an absolute minimum.
<b>Width</b>	Pads or tracks to be < 0.5m.
<b>Max gradient</b>	No restrictions.
<b>Surfacing/Drainage</b>	Minimal - for environmental purposes only.
<b>Scrub clearance</b>	None.
<b>Facilities</b>	None except where necessary for environmental purposes - eg track markers to concentrate usage in bottlenecks on alpine traverses. Signs may be installed for essential management purposes .
<b>Campsites</b>	Formation of campsites to be avoided where possible, but visibly impacted sites for up to four tents, preferably at least partially vegetated, to be sanctioned where unavoidable or desirable for environmental purposes. No toilets provided unless essential for environmental purposes.
<b>Max usage</b>	100 per annum for identified major routes. For trackless areas usage limits to be set according to the predicted or measured environmental and social impacts on identified routes in those areas.
<b>Max party size</b>	4.  Parties of up to 8 acceptable in some parts of the Central Plateau SRRZ, subject to environmental conditions including pad and track formation.
<b>Publicity</b>	All publicity to be discouraged. Routes not to be identified on maps except for internal (ie Service) management purposes. Authors will be encouraged to keep route descriptions vague (eg in accounts of past expeditions). Photographers and publishers will be encouraged not to identify the precise location of photographs taken in trackless areas.
<b>Routeguides</b>	Publication of routeguides (including mention of “Routes” in routeguides) to be strongly discouraged. Service user notes will promote a “fan out” policy except where concentration of usage is desirable for environmental purposes.
<b>Guided tours</b>	Licences may be issued on the following conditions: <ul style="list-style-type: none"> <li>• guided parties must conform to the recommended party-size limit;</li> <li>• guided tour operators must observe the guidelines in relation to the publicity of routes and destinations (see 10.2.3);</li> <li>• guided tours must be conducted in such a way as to avoid contributing to unplanned track and campsite formation. In particular, operators will be required to avoid frequent use of any trackless route.</li> </ul>
<b>Example</b>	Franklands traverse, routes in upper Murchison catchment.

## 10.4 Classifications for Rivers

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<b>Riv 1:</b>	<b>River grade 1</b>
<b>Portage tracks:</b>	
<b>Width</b>	No minimum width. Max preferably < 1m. May include sections of marked route with or without visible pad.
<b>Max gradient</b>	Limited by environmental considerations. May involve minor scrambling.
<b>Surfacing/Drainage</b>	Minimal - for environmental purposes only.
<b>Scrub clearance</b>	Minimal - sufficient to facilitate fairly easy navigation under normal conditions. Vegetation and fallen timber to be cut occasionally.
<b>Facilities</b>	Monochrome signposts may be installed where necessary to identify the start of portage tracks or access to campsites. Signs may also be installed for management and safety purposes.  Track markers acceptable where track routes are not obvious.  Safety aids such as bolted-in ladders or bridges may be installed where necessary.
<b>General:</b>	
<b>Campsites</b>	Visibly impacted sites for up to 20 tents, preferably dispersed in groups of up to four tents. Toilets may be provided if necessary for environmental purposes but users will be encouraged to carry out faecal waste.
<b>Max usage</b>	5000 per annum.
<b>Max party size</b>	No limit but parties of more than 20 people will not be encouraged.
<b>Publicity</b>	No restrictions - may be included in maps, tourist brochures etc.
<b>Routeguides</b>	May be included in routeguides but routeguide authors will be encouraged to consult with the Service to ensure that published information and advice is compatible with management objectives.
<b>Guided tours</b>	Permitted but licences are required and numbers of trips may be restricted.
<b>Example</b>	Forth River, Picton River below Farmhouse Ck.

<b>Riv 2:</b>	<b>River grade 2</b>
<b>Portage tracks:</b>	
<b>Width</b>	No minimum width. Maximum preferably <0.75m. May include sections of marked route with or without visible pad.
<b>Max gradient</b>	Limited by environmental considerations only.
<b>Surfacing/Drainage</b>	Minimal - for environmental purposes only.
<b>Scrub clearance</b>	Minimal - sufficient to facilitate fairly easy navigation under normal conditions. Vegetation and fallen timber to be cut occasionally, eg every five years.
<b>Facilities</b>	<p>Monochrome signposts may be installed where necessary to identify the start of portage tracks or access to campsites. Signs may also be installed for management and safety purposes.</p> <p>Track markers acceptable but tracks may be unmarked in places.</p> <p>Safety aids such as bolted-in ladders or bridges may be installed where necessary.</p>
<b>General:</b>	
<b>Campsites</b>	Visibly impacted sites for up to 8 tents, preferably dispersed in groups of up to four tents. Toilets may be provided where necessary for environmental purposes but users will be encouraged to carry out faecal waste.
<b>Max usage</b>	1000 per annum.
<b>Max party size</b>	13
<b>Publicity</b>	Some types of publicity may be discouraged if overall usage restrictions are necessary.
<b>Routeguides</b>	May be included in routeguides but routeguide authors will be encouraged to consult with the Service to ensure that published information and advice is compatible with management objectives.
<b>Guided tours</b>	Permitted but numbers of trips restricted and licences required.
<b>Example</b>	Franklin River below Collingwood junction.

<b>Riv R:</b>	<b>River “route”</b>
<b>Portages</b>	Pads or tracks may develop on some portage routes. These pads or tracks to be kept to a minimum and managed as per T4 classification.
<b>Scrub clearance</b>	None.
<b>Facilities</b>	None except where necessary for environmental purposes - eg track markers to concentrate usage on portages.
<b>Campsites</b>	Formation of campsites to be avoided where possible, but visibly impacted sites for up to four tents, preferably at least partially vegetated, to be sanctioned where unavoidable or desirable for environmental purposes. No toilets provided unless essential for environmental purposes; users to be encouraged to remove faecal waste to a location well away from rivers and creeks.
<b>Max usage</b>	100 per annum.
<b>Max party size</b>	4.
<b>Publicity</b>	All publicity to be discouraged.
<b>Routeguides</b>	Publication of routeguides (including mention of these rivers as potential recreational destinations in routeguides) to be strongly discouraged.
<b>Guided tours</b>	Permits may be issued on the condition that guided parties conform to the recommended party-size limit and to restrictions on the publicity of routes and destinations (see 10.2.3). Guided tour operators will be discouraged from undertaking repeat trips which are likely to result in the formation of pads or impacted campsites.
<b>Example</b>	Denison River, Anne River.

## 10.5 Additional notation

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Additional notation is defined as follows:

- X** Track to be closed; use discouraged or if necessary prohibited.  
Example: Northern cross-track to Pine Valley.
- X, R** Track to be closed and allowed to rehabilitate; use of route to continue subject to conditions of “Route” classification. While signs of the track remain users will be encouraged to avoid walking on it. Usage of the route may be temporarily prohibited to allow track to revegetate.  
Example: Weld Arch route.
- X, T3** Existing track to be closed; alternative/relocated track to be opened simultaneously or in the near future with the indicated classification.  
Example: Sentinel Range.
- T4\*** Marked route: users will be encouraged to fan out within sight of track markers. Route may be unmarked in places, eg on extended stretches of open country between fanout/fan-in signs. Other specifications as for T4.  
Example: Nevada Peak traverse.
- T4, R** Use of track to continue as per T4 classification in short to medium term but track to be allowed to become overgrown and revert to “route” classification in the medium to long term.  
Track marking and the clearance of vegetation will not be permitted.  
Example: Jane River Track.
- A+B** The track in question comprises sections with different classifications A and B. Usage, party size etc on each section to be governed by the corresponding track classification unless otherwise stated.  
Example: Irenabyss to Raglan Range route (T4+R)
- A** Italicised classification indicates classification of proposed new track.  
Example: Proposed 900m contour track in the Meander Forest Reserve (*T3*).
- A, B** The first classification defines management criteria for the foreseeable future; the second, in italics, specifies the classification to which the track in question will eventually be upgraded if sufficient funds become available. The upgrading thus specified will in general be a low priority, as defined in appendix A1, unless otherwise stated.  
Example: Old Port Davey Track (T4, *T2*).
- X, A** A special case of the above, the track in question to be closed until sufficient funding becomes available to reroute, stabilise and/or upgrade the track to the standards specified by the italicised classification. Such upgrading will in general be a low priority, as defined in appendix A1.  
Example: Adamsons Falls to Duck Hole Lake via Creekton Falls (X, *T2*)
- T3?** Tentative or possible track classification pending further investigation or monitoring of track conditions.  
Examples: Sentinel Rock Track (T4?); North Col - Irenabyss (T3; X?)

**VT** Vehicular track currently open to vehicles. (Note that former vehicle tracks now closed to vehicles are not classified as VT.)

Example: Mt King William 1 dozer track.

## Notes

### (i) **Grouping and ordering of areas, tracks and sections**

For the purpose of this list the World Heritage Area (together with some areas immediately adjacent to it) has been somewhat arbitrarily subdivided into regions and areas. Within each region areas are listed in a sequence which corresponds broadly to their geographical location within that region; similarly tracks are listed according to their geographical location within each area.

### (ii) **Lengths**

All lengths refer to horizontal (map) lengths only. Actual lengths may be greater for predominantly steep tracks and tracks which follow locally complex routes. The lengths of some routes have not been listed because the length would vary depending on the exact route chosen. Similarly the lengths of some vehicular tracks have not been listed because the starting-point of these tracks is arbitrary.

### (iii) **Track classification**

Track classifications are defined in section 10. Note that this classification scheme is *prescriptive*, ie it specifies track standards as guidelines for management and may not reflect existing conditions.

Notations such as T3+T4 and (X, T2) are defined in 10.5.

Track classifications for tracks and areas outside the WHA are recommended classifications only.

### (iv) **Unlisted areas and routes**

All unlisted areas, routes, pads and unofficial tracks may be assumed to be classified as “Routes” (R). Similarly all unlisted rivers may be assumed to have a “Riv R” classification.

### (v) **Additional information**

For details of track conditions and proposed management actions see appendix A1.

Area	Length (km)	Classification
<b>Southwest</b>		
<b>Bathurst Harbour</b>		
Mt Rugby - southern route	2.75	X
Mt Rugby - western route (direct ascent)	2.5	X
Mt Rugby - western route (proposed track)	3-4	T4
Balmoral Hill (from Horseshoe Inlet)	0.3	T4
<b>Southwest Cape</b>		
South Coast Track - Wilson Bight	12.5	T3
New Harbour - New Falls	1.25	T4
Wilson Bight - SW Cape	6	T4
Mt Karamu - SW Cape Range	3.5	R
Traverse of (southern) SW Cape Range	6	T4
SW Cape Range - Windowpane Bay	2	T4
Windowpane Bay - Noyhener Beach	7	T4
Noyhener Beach - Stephens Bay	1	R
Stephens Bay - Spain Bay	1.75	T4
Other routes	-	X, R
<b>Old River</b>		
Old River route	-	R
<b>Southwest Coast</b>		
Low Rocky Point - Port Davey	-	R
<b>Port Davey Track</b>		
Port Davey Track	54	T3
White Monoliths	-	R
<b>South Coast</b>		
South Coast Track	66	T2
Louisa Bay	3	T4
Summit of Ironbound Range	1	T4
Rocky Boat Inlet	1.5	R
Osmiridium Beach	1	T4
Access tracks from forestry roads to Sth Cape Bay	2-3	X

Area	Length (km)	Classification
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## Southeast

### Southern Ranges

Lune River - Pindars Pk	20	T3
Hippo	3	R
Hill 4 - Reservoir Lakes	0.75	T4
Pigsty Ponds - Reservoir Lakes	0.8	T4
Pigsty Ponds - Arndell Falls	1.2	R
Mt La Perouse	1.5	T3
Pindars Pk - Precipitous Bluff	13	T4
Precipitous Bluff summit track	0.5	T4
Prion Beach - New River Lagoon campsite	7	R
New River Lagoon campsite - Precipitous Bluff	4	T4
Vanishing Falls	-	R

### Adamsons-Esperance

Hastings Cave track	0.5	W1
Hot Springs NT		W2
Adamsons Peak Track	8	T3
Adamsons Falls Track	3	T2
Duck Hole Lake Track	2	T2
Adamsons Falls to Duck Hole Lake via Creekton Falls	4.25	X, T2
Adamsons Peak - Moores Garden	-	R

### Hartz Mts

Waratah Lookout	0.15	W2
Keoghs Pimple	0.4	W2
Arve Falls	0.7	W2
Lakes Osborne & Perry (former tracks now closed)	2.5	X
Lake Osborne	1	W2
Lake Osborne - Devils Backbone lookout (proposed)	1.5	W2
Car park - Ladies Tarn	3	T1
Ladies Tarn - Hartz Peak	1.5	T2
Hartz Lake	0.7	T3
Kermandie Track (aka Hartz Track - upper section)	5	T4, T2
Hartz Pk - Adamsons Pk	-	R

Area	Length (km)	Classification
<b>Bobs-Boomerang</b>		
Lake Sydney Track	5.5	T4
Other routes	-	R
<b>Picton Valley / Huon Valley</b>		
Picton River (below Farmhouse Ck)	N/A	Riv 1
Huon River (below Tahune bridge)	N/A	Riv 1
Huon River (below Cracroft junction)	N/A	Riv 2
<b>Western Arthurs</b>		
Traverse (Mor A - Lk Rosanne Tk)	40	T3
Moraine E	6.5	X
Moraine K	6	T3
<b>Arthur Plains-Huon Track</b>		
Arthur Plains Track	21	T3
Huon Track	20	T3
<b>Picton Range</b>		
Mt Picton (from Blakes Opening)	8	T4
Mt Picton (from Picton forestry roads)	?	T4
South Pictons	-	R
Wargata Mina (from E. Arthurs Track)	2	T4
<b>Eastern Arthurs</b>		
Traverse (Farmhouse Ck - Cracroft Crossing)	40	T3
Hanging Lake Track	0.6	T3
Rock Chute/Forest Chute	4	T4
<b>Lower Weld-Mt Weld</b>		
Dozer track	3	T4
Mt Weld	3.25	T4
Riverside track (up Weld River)	10	R
Cavers tracks	4	X, R
<b>Upper Weld-Styx</b>		
Weld arch route	8	X, R
Mt Mueller	8	T4+R
Old Port Davey Track	12	T4, T2
Mt Bowes from Old Port Davey Track	1.25	X, R

Area	Length (km)	Classification
<b>Snowy Range</b>		
Lake Skinner Track	4.5	T3
Lk Skinner - Snowy South	2	T4
Nevada Peak track (to scrubline)	3	T4
Woolleys Tarn route	2	T4
Nevada Peak traverse	4	T4*
Snowy North	4	T4
Snowys traverse	-	R
<b>Frankland Range</b>		
Mt Sprent	3	T3
Traverse (Frankland Pk - Mt Sprent)	30	R
<b>Anne Range</b>		
Mt Eliza Track	4	T2
Mt Anne Track (Mt Eliza - Mt Anne)	3	T2
Anne Circuit (Mt Anne - Lk Judd)	11	T3
Lake Picone - Lots Wife	1.5	T4
Lk Judd	7	T2
NE Ridge track (Gelignite Ck - Mt Anne)	10	T4
Lk Timk (from NE Ridge track)	7	T4
<b>Schnells Ridge</b>		
Various routes	-	R
<b>Gordon Road-Scotts Pk Road</b>		
Tim Shea	1.5	R
Needles	1	T4
Adamsfield Track	6.5	T4, T1
Creepy Crawly NT	0.4	W2
Boyd NT	0.5	X
Wedge NT	0.5	T1
Mt Wedge	3	T3, T1
Sentinels	2.5	X, (R or T4)
Old Lake Pedder Track	-	T4, R

Area	Length (km)	Classification
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## Gordon-Franklin

### Rasselas-Denisons-Spires

Timbs Track (to Florentine R)	4.5	T2
Rasselas Track (to Lk Rhona)	25	T3
Gordon Range access routes	1.2	T4+T4*
Thumbs	-	R
Mt Wright	-	R
Bombadier trail to Gordon Gorge	-	R
Lk Rhona - Reeds Pk	2	T4+T4*
Other routes in Denison Range	-	R
Denison Range - Lk Curly	9.5	R
Lk Curly - Spires	7	R
Spires traverse	-	R
Outlet creek of Font - crest of Spires	0.5	T4
Spires - Gell River	14	R
Prince of Wales Range	-	R

### Upper Gordon-King Williams

Wylds Craig track	7	T3
Darkes Pk	-	R
Mt King William 1 dozer track	3.5	VT
Mt King William 1 walking track	1	T4
Other tracks and routes in King Williams	-	X, R
Gell River dozer track	24	T4,R
Wayatinah Tall Trees (proposed)	?	T3/2, W2

### Hamiltons-Splits

Eastern ascent of Hamilton Range	5	T4
Splits Track	11	T4+R
Truchanas Pine Reserve	4.5	R

### Frenchmans-Raglans

Frenchmans Cap Track (Highway - Franklin R)	0.25	W2
Frenchmans Cap Track (Franklin - Cap)	23	T2
Other destinations in F. Cap area	-	R
North Col - Irenabyss	5	T3; X?
Irenabyss - Raglan Range	10	T4+R
Irenabyss loop track (proposed)		T2

Area	Length (km)	Classification
Raglan Range VTs	-	T4, R
Fincham Track	13.5	T4
Jane River Track	20	T4, R
Franklin River (downstream of Collingwood Junc.)	N/A	Riv 2
Collingwood R (downstream of Lyell Hwy)	N/A	Riv 2
<b>Lyell Highway</b>		
Franklin River NT	1.1	W1
Alma-Collingwood Junction track	0.25	X
Nelson Falls	0.6	W2
Donaghys Hill NT	1.2	W2
Donaghys Hill - Franklin/C'wood junction	0.6	T4
Linda Track	15	R
<b>Lower Gordon-Macquarie Harbour</b>		
Perched Lake	0.5	T4
Eagle Creek Track	9	T4
Sir John Falls walkway	0.3	W2
Angel Cliffs track	7	R
Heritage Landing Track	0.5	W1
Sarah Island	1	W2
Bird River Vehicular Track	-	VT
Darwin Crater Track	4	T3
Kelly Basin Track (Bird River to East Pillinger)	5	T2
Kelly Basin Track (East Pillinger to West Pillinger)	1.5	T4
Mt McCall Rd south of Bird River turnoff	18	VT; T4, R
Lower Gordon River (below Seal Rapid)	N/A	Riv 2*

\* Special conditions may apply for recreational usage because this is a Mechanised Access Zone.

## West Coast

### Tyndall Range

Mt Geikie (from Basin Lake)	5	T4
Lk Huntley (from north)	4	R

### Eldons-Rocky Hill

Traverse (Eldon River - Pidgeon House Hill)	45	R
Other routes	-	R

Area	Length (km)	Classification
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## Reserve-Plateau-Tiers

### Rufus-Hugel-Cuvier-Lake St Clair

Watersmeet NT	1.7	W1
Lakeside Track	15	T1
Lake Oenone route	2	R
Cuvier Valley Track	16	T2
Mt Byron	-	R
Gingerbread Track	7	T3
Shadow Lake Track	4.5	T1
Rufus circuit (ex Shadow Lk Track)	7.5	T2
Shadow Lake - Forgotten Lake	1.6	T2
Little Hugel Track	0.75	T3
Hugel traverse	6	R
§ Mts Manfred, Cuvier	-	R
Proposed loop track	-	T1?

### Upper Franklin-Cheyne

Hugel Range - Lake Hermione	2	R
Lake Hermione - Lake Petrarch	6.5	R
Cheyne Range routes	-	R
Lake Dixon Track	1	T4
Lake Dixon - Lake Undine	3.5	R
Goulds Sugar Loaf	-	R
Goulds Sugar Loaf - Pyramid Mt	-	R

### Du Canes area

Overland Track (Narcissus - Kia Ora)	22	T1
Pine Valley Track	5	T1
Northern cross-track (to Pine Valley)	2.75	X
Labyrinth: Pine Valley - Lake Elysia	4	T3
Labyrinth: Lake Elysia - Slope north of Lake Selene	2	T4
Labyrinth: Slope north of Lake Selene - Geryon Ridge	1.5	X, R
Walled Mt track	2.5	T4
Mt Geryon North (from north)	1.5	X, R
Geryon North from Geryon Campsite	1	R
Geryon South from Geryon Campsite	0.75	R
Southern Spur	0.75	R

Area	Length (km)	Classification
Geryon Campsite Track	3.5	T4
Geryon Campsite - Pool of Memories	0.6	R
Mt Acropolis	4	T3
Kia Ora - Mt Massif	-	R
Mts Eros, Hyperion	-	R
Du Cane traverse (Geryon Ridge - Du Cane Gap)	-	R
Gould Plateau track	3.5	T4
Gould Plateau - Mt Gould summit	2	R
Gould summit turnoff - Labyrinth	2.5	R
Lake Marion	5.5	T3
Hartnett Falls	1	T2
Track to Fergusson Falls, D'Alton Falls and Cathedral Falls	0.8	T3
Hartnett Falls - Fergusson Falls	0.8	R; T3?
Du Cane Gap - Traveller Range	0.5	X, R
<b>Pelion area</b>		
Overland Track (Kia Ora - Windermere)	25	T1
Arm River Track	10	T3
Mt Pillinger	1.7	T3
Lees Paddocks Track (Mersey Rd - Lees P.)	7	T3
Reedy Lake Track	4	T3
Lees Paddocks - Kia Ora	6.5	T4
Forth Valley Track (Road - Overland Tk)	7.5	T3
Mt Ossa	2.3	T2
Pelion East	1.5	T3
Mt Oakleigh	3.5	T3
Mt Pelion West	2.5	T4
Pelion traverse (Pelion W - Mt Ossa)	13	R
Thetis Track (OT - moorland NW of Ossa)	3.75	X, R
Pelion Falls track	0.4	T3
Forth River	N/A	Riv 1
<b>Cradle Mt area</b>		
Overland Track (Waldheim - Windermere)	17	T1
Waldheim NT	0.25	W2
Weindorfers Forest - section of loop	1.5	X
Maryland Track/Hounslow Heath circuit	6	T4 or X
Lake Dove Circuit	5	W2

Area	Length (km)	Classification
Lake Wilks Track	1.6	T3
Lake Lilla	1.75	T1
Wombat Pool	1.0	T1
Marions Lookout	0.75	T2
Face Track	1.75	T2
Cradle Mt summit	1.0	T2
Weindorfers Tower	0.25	X, R
Little Horn	0.2	T4 or X
Lk Dove carpark - Mt Campbell turnoff	0.6	T2
Twisted Lakes	1.75	T2 or T4
Hansons Peak traverse	1.75	T2 or T4
Mt Campbell	0.7	T2
Riggs Pass	1.2	X
Kitchen Hut/Horse Track	3.75	T1
Crater Lake Track	1.0	T1
Suttons Tarn	1.5	T3
Rodway Track (Ranger Hut - Scott Kilvert Hut)	2.5	T2
Rodway Track (Scott Kilvert Hut - Cradle Cirque)	2.25	T3
Barn Bluff	3.5	T3
Waterfall Valley Falls track	1.25	T4
Lake Will track (Overland Tk to Innes Falls)	3	T3
Info Centre rainforest walk	0.6	W1
Reynolds Falls	10	T4, T3
Dove Canyon Track (Pencil Pine Lodge to Knyvet Falls)	1	T1
Dove Canyon Track (Rest of track)	3.5	T2
Enchanted Nature Walk	0.9	W2
Waratah Track	0.9	*
Speeler Track (incl King Billy Track)	3.7	T1
Campground Track	1.7	T1
Pencil Pine Track	4.5	T2

\* Unclassified because track is on private land. Recommended for closure in draft Cradle Daywalks Plan (Department of Parks, Wildlife & Heritage [Tasmania] 1990)

Area	Length (km)	Classification
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### Walls of Jerusalem

Main access (Car park to Pool of Bethesda)	9	T1
Main access (Pool of Bethesda to Dixons Kingdom)	1.6	T2
Jaffa Gate to Pool of Bethesda via Gate of the Chain	1.5	R or T4
Mt Jerusalem route	1.25	T3
Direct ascent of Solomons Throne	0.3	T4
Other routes on West Wall	-	R
Dixons Kingdom to Lk Ball	1.6	R
Eastern end of Lake Ball to Lake Adelaide	3	T4
Ampitheatre to Golden Gate	2.5	T4+T4*
Golden Gate to George Howes Lake	1	T4+T4*
Trappers Hut - George Howes Lake	2.75	T4
George Howes Lake to Solitary Hut	0.75	T4
Direct access to Trappers Hut (from Fish River)	1	X
Northern shoreline of Lk Salome	1	X
Temple ascent	0.75	T4
All other routes	-	R

### Upper Mersey

Moses Creek Track	10	T4
Jacksons Creek Track	4.5	T4
Lake Myrtle Track (Mersey Forest Road to Lake Meston)	10	T3
Junction Lake Track	20	T3
Never Never route	6	T4
Junction Lake - Lake Artemis	2	T4
Lake Artemis - Lake Merope	2.5	R
Lake Merope - Scarp above Du Cane Gap	5	R

### Plateau-Tiers

Little Fisher Track	5.5	T4
Clumner Bluff route	-	R
Western Bluff Track	2.5	T4
Devils Gullet lookout track	0.5	W2
Blue Peaks Track	5.5	T3
Explorer Creek Track	3	T3
Yeates Track (a.k.a. South Mole Creek Track)	12	*

\* Classification: VT if track remains open to vehicular use; otherwise T3

Area	Length (km)	Classification
Parsons Track (ascent to plateau)	2	T3
Parsons Track (traverse of plateau)	3	T4
Sentinel Rock Track	?	T4?
Hills Hut to plateau	?	T4?
Marakoopa Forest Walk	0.5	W2
Marakoopa karst walk (proposed)	3.5	T1 or W2
Higgs Track (ascent to plateau)	2	T3
Higgs Track (traverse of plateau to Lake Nameless)	7	T4
Ritters Track (Lk Nameless - Lk Fanny)	-	R
Zion Gate - Lake Fanny (SE end)	8	R
Western Creek Track	3	T3
Syds Track	4.5	T4
Mother Cummings Peak (nthn peak from Westrope Rd)	2	T4
Scotts Track (Mother Cummings Peak from Scotts Rd)	1.5	T4
Mother Cummings Peak (from M.C. Rivt)	2.6	T3
Mt Ironstone (Smoko Ck) Track	5	T3+T4
Dell Track	3.25	X+T4
Bastion Bluff Track	1	T4
Stone Hut Track	2.5	T3+T4
Bastion Cascades Track	1.5	X
Croft Track	0.75	T3?
Split Rock Track	4.75	T3+X
Meander Falls Track	3.5	T3, T1
Meander Falls to Lk Meander	1.25	T4?
900 metre contour track (proposed)	6	T3
Dixons Track	2	T3
Meander Picnic Ground Nature Trail	0.5	W2
Staggs Track	0.8	T4
Johnstone's Track	1	X
Old Powerline Track	-	X
Pine Lake vehicular track	-	X, R
Pine Lake nature trail	0.3	W1
Warners Track: Main ascent	2.5	T4
Warners Track: Alpine traverse	1.7	X, R
Projection Bluff Track	0.6	T3
Liffey River Track	6.5	T3, T1

Area	Length (km)	Classification
Liffey Bluff Track	2	T4
Liffey Falls (from top picnic area)	0.6	W2
Liffey Falls to lower picnic area	3	T1
Drys Bluff Track	3	T4, T3
Pillans Lakes / Lake Field	21	VT
Lake Fanny	11	VT+T4
Lake Antimony	3.5	T4
Pine River	-	VT
Olive Lagoon	-	VT
Lake Ina VT (inside WHA boundary)	-	X
Travellers Rest Lagoon	-	VT
Clarence Lagoon	4.5	VT
Stony Creek - Orion Lakes	-	R